PHOTOGRAPHY
production and appreciation

SECOND EDITION

SANDRA JANE

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Contributing authors

BRIAN GILKES

KARRA REES

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All activities have been written with the safety of both teacher and student in mind. Some, however, involve physical activity or the use of equipment or tools. All due care should be taken when performing such activities. Neither the publisher nor the authors can accept responsibility for any injury that may be sustained when completing activities described in this textbook.

This textbook contains images of indigenous people who may no longer be living. The publisher appreciates that this inclusion may distress or sadden some indigenous communities. These images have been included so that the young multicultural audience for this textbook can better appreciate the richness of indigenous culture and history, and recognise the significant contribution that indigenous individuals have made for their people and their land.

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ACKNOWLEDGEMENTS

INTRODUCTION

Introduction for students

This second edition of *Photography production and appreciation* is designed to provide students with an exciting and relevant resource to enhance their studies in photography. The information is presented in a clear and precise manner to ensure that it is straightforward and easy to understand.

The material in this book provides students with a starting point for their own research and encourages experimentation in areas of photography that they might find particularly interesting. Students are encouraged to explore and develop their own individual photographic style, in addition to increasing their appreciation of the history of photography and its artistic qualities.

Please note that the book assumes that students will be working with 35 mm black and white and/or digital photography.

Introduction for teachers

This text is an ideal resource for all students studying photography. It assists teachers to meet the curriculum needs of the art, media, photography and digital media courses for Years 7 to 10 students in the various states and territories. It is also an ideal reference for students in Years 11 and 12 studying art, visual art, media and studio art. *Photography production and appreciation, second edition* is also a valuable resource for tertiary students studying introductory units in photography.

The content is not intended to act as a curriculum, but rather as an aid for teachers to use within their own program. *Photography production and appreciation* acknowledges that teachers approach the instruction of photography in a variety of ways.

The book is divided into seven parts:
1. Making
2. Creating
3. Presenting
4. Art criticism and aesthetics
5. Past and present context
6. Gallery of student photographs
7. General information about photography.

The book is not structured with the expectation that a student will work sequentially from chapter 1 to chapter 14. The intention is for students to tackle a section from each part of the book within the course of a term or semester. Ideally, the intentions of the various state requirements would be best met if teachers structured their courses through the integration of the different sections using a common theme or approach. For example, if students are given the task of taking creative portrait photographs, then they should look at and analyse portrait photographs, in addition to developing an understanding of the history of portraiture.

Students may begin the study of photography at different year levels and ages. Therefore, teachers will need to select tasks and activities that are appropriate for their group, while taking into consideration the requirements of their particular course. The book also allows for more advanced students to extend themselves with more difficult and challenging tasks.

Teachers should keep in mind that they will need to select activities according to the amount of photographic experience of their class. For example, if a class commences its photographic education in Year 10, it will need to integrate the development of basic skills with appropriate activities directed towards meeting the appropriate learning outcomes.

Please be aware that most of the information and activities relating to learning outcomes and course requirements within this text overlap, both from section to section and from chapter to chapter.

It is recommended that, while covering the different course requirements, the possibilities for well-structured assessment could be formulated under the following assessment tasks:

Workbook / Journal: contains all exercises, experimentation, negatives, test prints, proof sheets, inspiration, motivation and general material relating to the subject (this could be practical and theoretical, and may take the form of a sketchbook).

Folio: contains all minor photographs completed during the course.

Research project: relates to an aspect of the history and appreciation of photography.

Major piece of artwork: reflects a creative and technical understanding of photography.

Refer to the assessment and evaluation sheets at the end of the text to assist with your assessment requirements.

Curriculum grids for teachers

Various Australian state curriculum grids can be found online at the JacarandaPLUS website (www.jacplus.com.au). These grids can help teachers select relevant chapters and sections to use with their students. The grids can be used as an initial guide to achieve learning outcomes and course requirements.

About eBookPLUS

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Troubleshooting

- Go to the JacarandaPLUS help page at **www.jacplus.com.au/jsp/help.jsp**.
- Contact John Wiley & Sons Australia, Ltd.
  Email: support@jacplus.com.au
  Phone: 1800 JAC PLUS (1800 522 7587)

PART 1

MAKING: USING SKILLS, TECHNIQUES AND PROCESSES

1.

The camera and taking photographs

1.1 THE CAMERA

The camera was developed from the principles of the *camera obscura*. The *camera obscura* (dark chamber) was first used by artists as an aid to creating an exact likeness of a subject. It worked on the principle that an image can be created by placing a subject in front of a light-tight box that has a small hole at one end. Light rays reflect off the subject and move through the hole, creating a reversed image on the opposite side wall of the box. Artists traced this image to help them record a detailed likeness of the subject (see figure 1.1A).

No-one can be certain exactly how long the principles of the *camera obscura* have been known; however, they are mentioned as far back as the writings of Leonardo da Vinci (1452–1519). Around 1860, a scientist named Joseph Niépce created a light-sensitive material that captured and recorded the full image and produced the first photograph.

Today, new technologies have placed cameras within the reach of everyone, whether it is to capture family snapshots or to produce creative and imaginative **artworks**. Nowadays, most people have access to some kind of camera. There is a large variety of camera sizes, designs and models on the market.

Types of camera

The two most common types of camera are the single lens reflex (SLR) and the compact camera. These cameras can be 35 mm, requiring film to record the image, or digital, which records the image on an imaging sensor and then stores it on a memory card. Modern cameras tend to offer a variety of settings options such as fully automatic, specialised for different subject matter, and fully manual. Some older types of 35 mm SLR cameras can be fully manual, requiring the user to ensure correct focus and light exposure. A fully automatic camera is easier to use, with some allowing the photographer to select from a range of manual and creative options (see figure 1.1H, page 6). Using a manual setting can allow greater control over the photographs taken.

All cameras work on the same principles and contain similar devices, the main features being the viewfinder, lens, focus, aperture and shutter speed.

Single lens reflex cameras allow the photographer to see (through the viewfinder) the exact image being photographed. This is achieved by means of a hinged mirror between the lens and the film (see figure 1.1C).

Figure 1.1A Example of a *camera obscura*
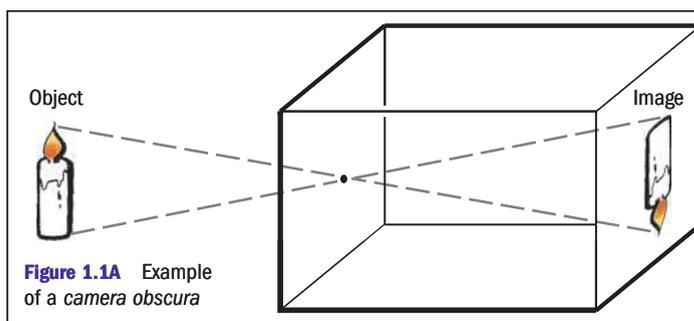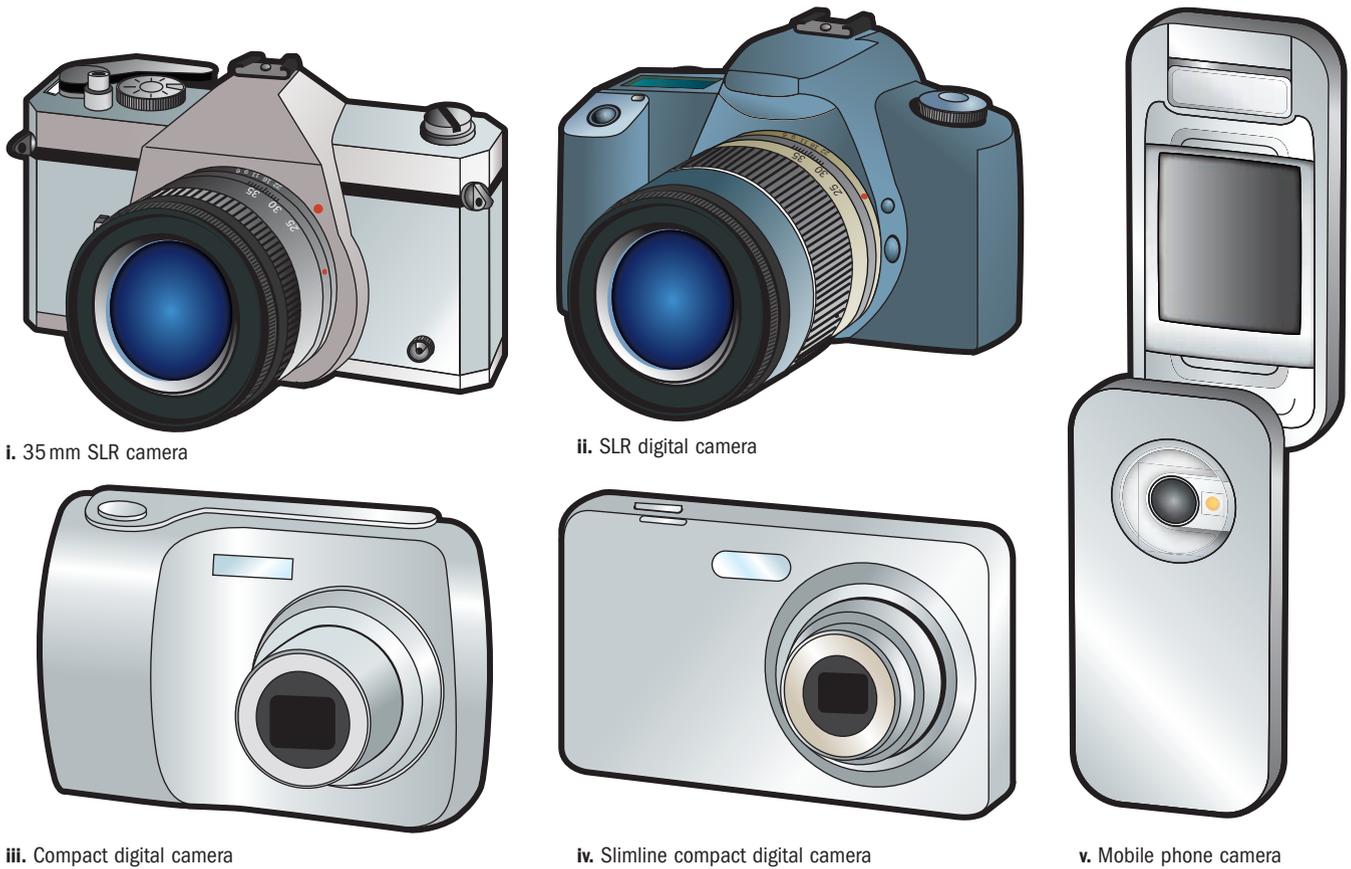
i. 35 mm SLR camera

ii. SLR digital camera

iii. Compact digital camera

iv. Slimline compact digital camera

v. Mobile phone camera

Figure 1.1B Different types of cameras

The SLR (single lens reflex) camera

The SLR camera is very popular and is ideal to use when developing your photographic skills. These cameras include the 35 mm and the digital, and vary from those that are automatic (with basic, creative and manual options) to those that are fully manual.

The manual and creative options allow greater control over the photographs taken. They also give the photographer a chance to develop an understanding of how the camera works. After selecting the image to be photographed, the user is at liberty to direct the focus and choose how light enters the camera by means of the aperture and the shutter speed.

All SLR cameras contain some type of light meter. It is essential to use this meter to ensure that the aperture and shutter speed are working together to create a correctly exposed photograph (see section 1.5, pages 20–26).

A mirror mechanism has been designed for SLR cameras to ensure that what is seen through the viewfinder is what is photographed through the lens. Most SLR cameras are also very versatile. The photographer can choose to interchange lenses for close-up (macro), wide-angle or telephoto shots. Special effect filters and flash mechanisms for taking photographs under poor light conditions (for example, inside or at night) may also be added to SLR cameras.

Light path

Mirror in viewing position

Film plane or imaging sensor
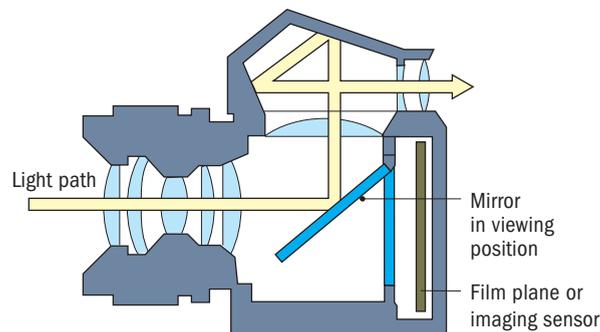
i. How the image is viewed by the photographer

Light path

Mirror in taking position

Film plane or imaging sensor
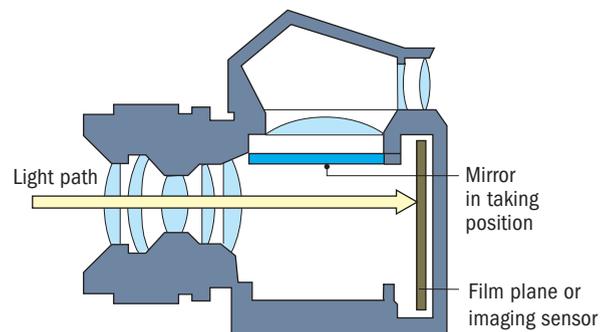
ii. How the image is recorded onto film or imaging sensor when the shutter release is pressed

Figure 1.1C The light path (viewing system) of an SLR camera

Light

Negatives

Developer

Stop bath

Fixer

| The image is recorded on black and white film. | The image is stored in the unprocessed film cassete. | Film is placed on a reel in a light-tight tank and processed with chemicals (see page 253). | The processed film emerges with the images as negatives. | In the darkroom the image is projected onto light-sensitive paper. | The paper is processed through a number of trays of chemicals (see page 253). | The final print |

Figure 1.1D Outline of how an image is created using a 35 mm SLR camera

35 mm SLR cameras

All 35 mm SLR cameras use film. They are called 35 mm because this is the size of the film that they use. Within these cameras the light travels through the camera's lens and is recorded directly onto light-sensitive film. Once the film is processed, the impression of the image (what was taken) can be seen on the film strip, generally as a negative image. The film image can then be projected onto light-sensitive paper in the darkroom and processed through a range of chemicals to produce a photograph of the image (see figure 1.1D and chapter 2).
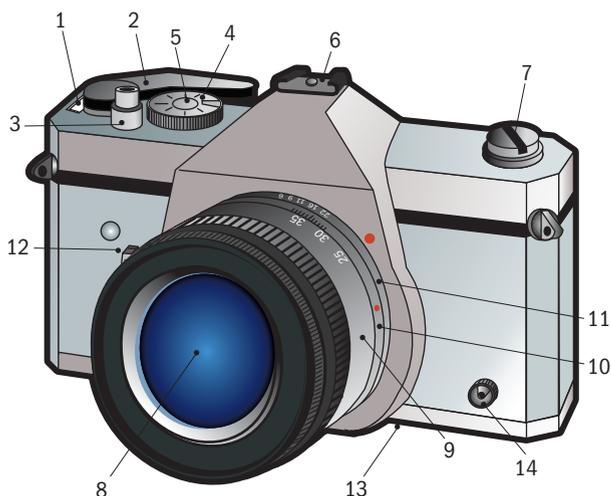
Figure 1.1E The working parts of a standard 35 mm SLR camera

WORKING PARTS OF A STANDARD 35 MM SINGLE LENS REFLEX CAMERA

1. *Frame counter:* records how many photographs have been taken. The frame counter will always go back to zero whenever the camera is opened.
2. *Transport lever:* moves the film from one frame to the next. This lever must never be forced. If it is difficult to move, the film may be near the end. Most contemporary SLR cameras will transport the film automatically.
3. *Shutter release:* the button pressed to take a photograph. Some automatic SLR cameras will focus automatically when the shutter release is pressed halfway down.
4. ***ISO*** *setting:* tells the camera what film speed is being used. Film speed refers to the measurement of the film's sensitivity to light. (ISO stands for International Organization for Standardization. Their standard, ISO 5800:1987, defines the scale for measuring film speed.)
5. *Shutter speed:* controls the speed at which the shutter opens and closes. A shutter speed slower than $\frac{1}{60}$ of a second should not be used without a tripod because the film will generally be affected by hand movements. The correct shutter speed should be checked on the camera when using a flash (it is generally $\frac{1}{60}$ and is indicated by a star, cross or lightning bolt next to the speed number on the dial).
6. *Hot shoe for attaching flash:* the electrical contact or connection between the flash and the camera, which ensures synchronisation. The flash is attached to the camera through the hot shoe, where it becomes mechanically connected to the rest of the camera. The flash emits light when the shutter release is pressed.

   Ensure that the flash is on and charged before use. Also, check for the appropriate shutter speed and aperture setting.
7. *Camera opener and rewind lever:* will normally open the camera and rewind the film back into the canister after the shots have been taken. Most contemporary SLR cameras will rewind the film automatically.

   Do not force any lever on the camera. If the film is hard to rewind, the sprocket release button may not have been pressed (see point 13).

8. *Lens:* controls the way light enters the camera and records the image. Lenses come in a variety of shapes and sizes, with the standard lens being 40 to 50 mm. Always check that the lens is clean on both sides, as it can collect grit and dust that will ultimately appear (out of focus) on the photographs. The lens can be removed and changed while there is film in the camera without damaging the film.

9. *Focus ring:* controls and sharpens the clarity of the photograph. The focus scale will also show the distance from the focused subject, usually in both feet and metres.

    Be fully aware of how the focus works. Most beginners initially find it difficult to achieve correctly focused photographs (see section 1.2, pages 11–13).

10. **Depth of field** *scale:* shows the depth of field (focus) for each shot. Be aware of the f number (aperture). Look at the scale and read the distance of focus in feet and metres from the focus ring (see section 1.4, pages 16–19).

11. **Aperture** *ring:* controls the size of the hole in the lens through which the image and light enter the camera. The size of the hole is indicated by an f-stop number. This number indicates a fraction of the hole size (for example, f.11 = $\frac{1}{11}$ of the diameter of the lens). The smaller the lens hole, the larger the f-stop number. The image becomes sharper as the hole gets smaller. The distance of focus (depth of field) increases as the f-stop number becomes higher (see section 1.4, pages 16–19).

12. *Self-delayed timer:* triggers the shutter release button to go off automatically after a set period of time (normally about ten seconds). This allows photographers to take photographs of themselves by placing a camera on a tripod, setting the timer and moving in front of the camera in time for the photograph to be taken.

13. *Sprocket release button:* to rewind the film, this button must be pressed to release the film from the grooves or sprockets that move the film forward. If a user tries to rewind the film without pressing this button, they will find it very difficult. Forcing the film will generally tear and ruin it. Many beginners forget to push the button and their film is torn. Contemporary SLR cameras will generally rewind the film automatically.

14. *Flash cable socket:* allows the flash to be connected to the camera in a place other than the hot shoe (see point 6) and still have the mechanical connection between the camera and the flash. This is normally used when a photographer chooses to use a large-format flash. Some contemporary SLR cameras have a built-in flash to allow the user access to extra light when required.

Digital cameras

Digital cameras do not use film. Instead, they record images in digital form, in the same manner as all computer files. With digital cameras, light travels through the lens and is recorded on a sensor, consisting of a panel of assorted light-sensitive pixels. The colours and tones within the image are then converted into a series of numbers that can later be read by a computer or printer to recreate an accurate record of the image. The image is then converted into a digital signal and stored on a memory card. The image can be viewed directly on the colour monitor LCD screen at the back of the camera. Alternatively, the camera or memory card can be connected to a computer to view the image. Ultimately, the image can be sent from the camera or computer to a printer to produce a hard-copy photographic image.

Light

The image is converted to a digital signal.

The image is stored on a memory card.

The camera can be connected to a computer and the image can be downloaded, viewed and stored.

The image is recorded on an imaging sensor where colour and tones are transformed into a sequence of numbers. These numbers stand for specific colours and tones.

The image can be viewed instantly on a colour monitor at the back of the digital camera.

or

The memory card can be placed in a computer to download, view and store the image.

The computer can be connected to a printer where the image can be printed.

Figure 1.1F How an image is created using a digital camera

Digital SLR cameras

Digital SLR cameras are the preferred device of the photographic industry and are used by most contemporary professional photographers. In the early years of digital photography, many photographers did not believe that the quality of the digital image could meet the high standard achieved by film. This is no longer the case. The quality of a digital image now matches that achieved by film. Digital cameras tend to be a lot more forgiving than their older counterpart. This is because you can review your photograph instantly and you have the opportunity to enhance or alter it once downloaded on the computer (see section 3.4, pages 80–88). When using a 35 mm camera, you need to process the film yourself or send it out to a lab to be processed before you have the opportunity to view your images.
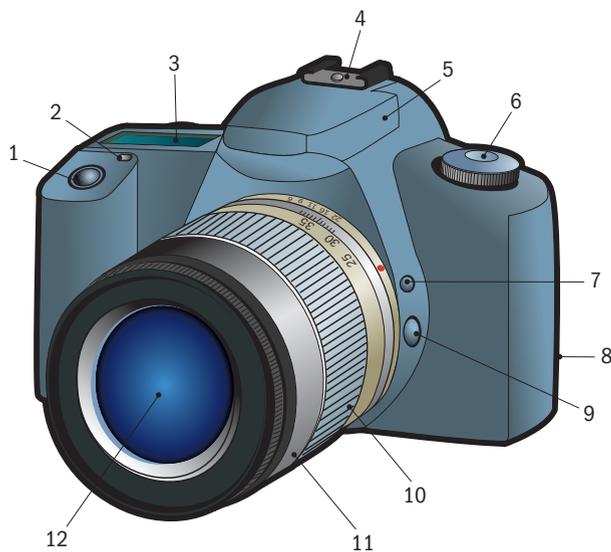
Figure 1.1G Front view of a digital SLR camera

WORKING PARTS OF A DIGITAL SLR CAMERA

1. *Shutter release:* the button pressed to take a photograph.
2. *On/off button:* switches the camera on and off. Most digital cameras will switch off automatically after a given or chosen period of time.
3. **LCD** *panel:* provides information about the camera, such as the number of shots/space remaining on the memory card, shutter speed and aperture settings, dive mode, image recording quality, white balance, ISO and battery check. Not all digital SLR cameras have this panel. Some provide this information on the LCD screen at the back of the camera.
4. *Hot shoe:* for attaching an external flash. This provides electrical contact or connection between an external flash and the camera, which ensures synchronisation. The flash is attached to the camera through the hot shoe, where it becomes mechanically connected to the rest of the camera. The flash emits light when the

shutter release is pressed. Before selecting a flash, ensure that it will work well with the type of camera you are using. Digital flashes only tend to work well with a digital camera.

5. *Built-in flash:* provides an extra burst of light to allow photographs to be taken under poor lighting conditions. In most cases, if the camera is set to an automatic option, the flash will go off as required. On other settings the photographer has the choice of whether or not to use the flash.
6. *Mode dial:* provides a range of basic and creative zone settings (see figure 1.1H). The modes on this dial can vary considerably from camera to camera.
7. *Depth of field/preview button:* allows the depth of field for a particular setting to be seen through the viewfinder.
8. *Memory card slot cover:* the memory card is under this cover.
9. *Auto focus or manual focus option:* the switch will allow you to choose between both options.
10. *Zoom ring:* most digital cameras will have some type of zoom or wide-angle lens option. These lenses provide an option to get a close-up, distant- or wide- angle view of the subject.
11. *Focus ring:* controls and sharpens the clarity of the photograph.
12. *Lens:* controls the way light enters the camera and records the image. Lenses come in a variety of shapes and sizes, with the standard lens being 40 to 50 mm. Always ensure that the lens is clean on both sides, as it can collect grit and dust that will ultimately appear on the photographs. A lens can be removed easily and changed at any time without affecting any photographs already taken.
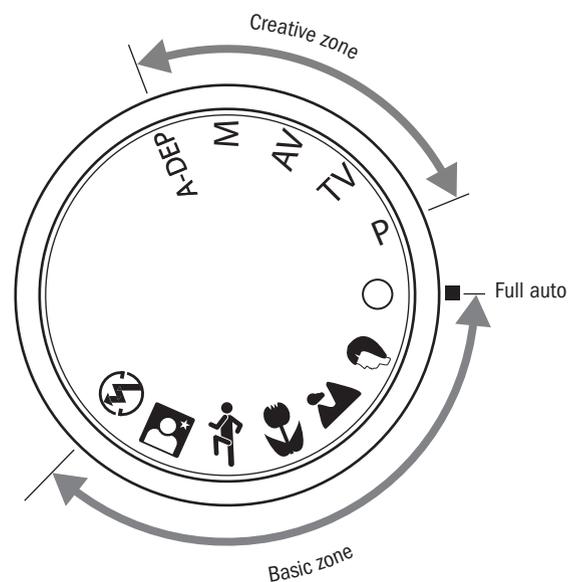
Figure 1.1H Close-up view of a mode dial

SYMBOLS FOUND ON A MODE DIAL

- ![portrait icon] is best for photographing portraits. It provides a small depth of field, ensuring a highlighted facial focus.

- ![landscape icon] is ideal for photographing landscapes. It provides a large depth of field, ensuring a broad and extending focus zone.

- ![macro icon] is best for photographing objects close up and allows photographers to move closer to their subject matter while maintaining a clear focus. It also tends to provide a very small depth of field.

- ![sports icon] is best for photographing a moving subject and presents a very fast shutter speed. This ensures that the subject is captured frozen in motion.

- ![night portrait icon] is ideal for photographing people in night settings. It allows the flash to go off, achieving correct exposure for the portrait. At the same time, it selects a slow shutter speed to ensure the background is adequately lit.

- ![flash off icon] ensures that the flash does not automatically go off.

- **P** program allows you to create and save your own choice of camera settings. So when you switch to this mode it will convert to your saved settings.

- ![auto icon] is Auto. The camera will automatically select what it considers to be the most appropriate settings for each individual shot.

- **TV** or **S** is shutter speed priority. This allows for a choice of shutter speed. When a fast shutter speed of $\frac{1}{2000}$ is selected, it allows for a frozen motion shot. The selection of a slower shutter speed of $\frac{1}{15}$ can capture a blurred movement shot (see section 1.3 on shutter speed, pages 13–16). The camera will automatically set the aperture to ensure correct exposure of the image. It will also generally alert the user by flashing the aperture setting if there is not enough or too much light for the chosen setting.

- **AV** or **A** is aperture priority, which will allow for a choice of aperture setting. A small-numbered aperture such as f.2.8 creates a small depth of field, while an aperture of f.22 can be selected to implement a large dept of field (see section 1.4 on aperture, pages 16–19). The camera will automatically set the shutter speed to ensure correct exposure of the image. It will generally also alert the user by flashing the shutter speed setting if there is not the appropriate light for the chosen setting.

- **M** is manual setting. This allows the selection of shutter speed and aperture, but a light meter will need to be used to ensure correct exposure (see section 1.5, pages 20–26).

- **A-DEP** maximises the depth of field and focus range within a photograph.
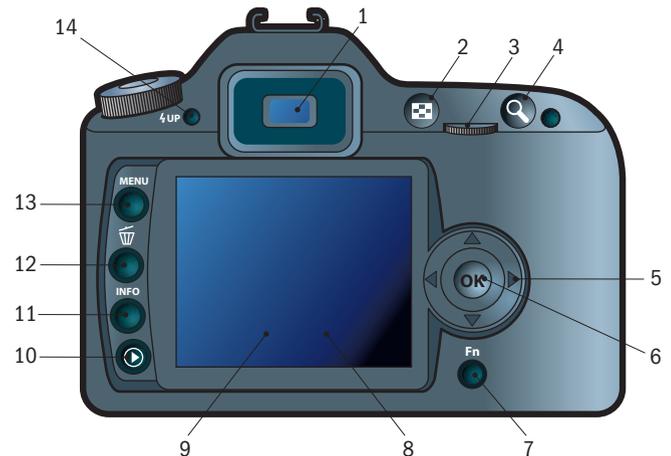
Figure 1.1I Back view of a digital SLR camera

PARTS FOUND ON BACK OF A DIGITAL SLR CAMERA

1. *Viewfinder:* the small glass window used to frame and view the image to be recorded.

2. *Index display:* used in combination with the playback button, allows up to nine thumbnail images from the memory card to appear on the LCD screen.

3. *Dial:* used to select the preferred setting from looking at the LCD panel or through the viewfinder. It is commonly used to select shutter speed or aperture settings on TV or AV modes.

4. *Magnified view:* when viewing an image on the playback option, this can be used to gain a magnified view of the selected image.

5. *Cursor:* used to manoeuvre around the LCD screen menu, enabling the selection and refinement of camera settings.

6. *OK command:* activates selected settings.

7. *Function:* will highlight ISO, flash, WB and shooting modes on the LCD screen for selection and modification. (The appearance and location of this option will vary from camera to camera.)

8. *Coloured monitor/LCD screen:* used to play back images and to access function and menu options.

9. *Function and menu options:* by pressing the function or menu buttons (see points 7 and 13), the setting options appear on the LCD screen. The cursor and OK command can then be used for selection and modification.

10. *Image playback:* enables the images previously taken to appear on the LCD screen for viewing.

11. *Info:* provides an overview of all current camera settings.

12. *Rubbish bin:* provides the option to delete previously taken images.

13. *Menu:* displays on the LCD screen a variety of options for modifying camera modes and settings.

14. *Flash up:* will pop the flash up.

Digital compact cameras

The compact camera was developed to allow everyone the opportunity to take photographs. Digital compact cameras are fully automatic, with most having basic mode settings to allow some control over the photographs taken. They record images quickly and efficiently, and are generally very easy to use. They are ideal for beginners or people who are mainly interested in recording snapshots of family, friends, events and holidays. There is a great variety of compact cameras on the market, and with technical development they will continue to become more sophisticated and easier to use.
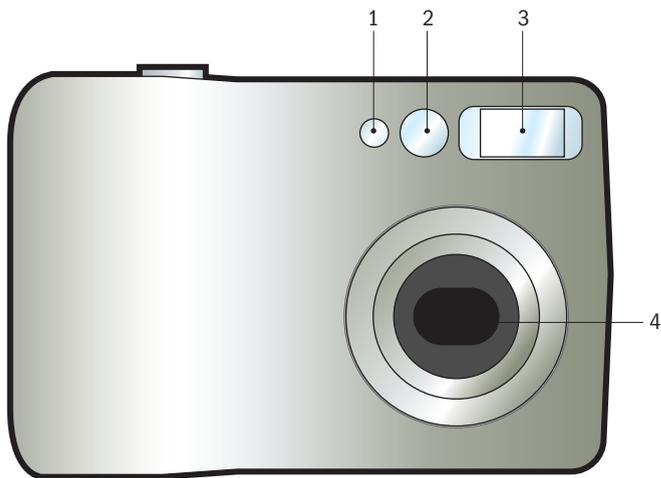
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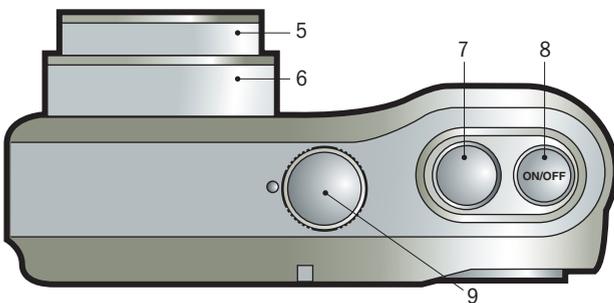
ii. Top view
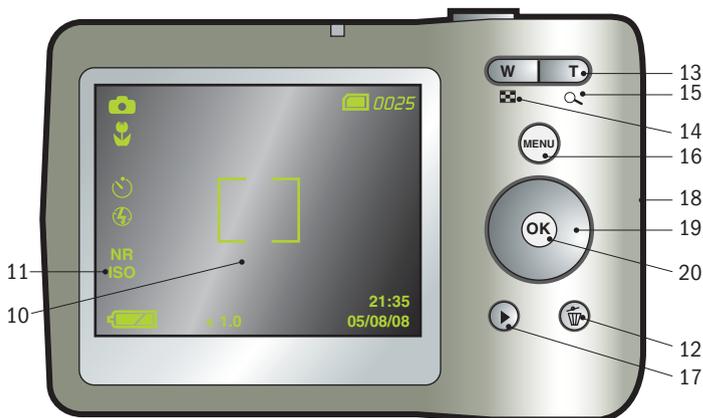
iii. Back view

Figure 1.1J The working parts of a compact digital camera

THE WORKING PARTS OF A COMPACT DIGITAL CAMERA

1. *Light sensor:* helps record the amount of light that will enter the camera.
2. *Viewfinder:* the small glass window used to frame and view the image to be recorded.
3. *Built-in flash:* produces an extra burst of light to allow photographs to be taken under poor lighting conditions (for example, inside). On most automatic cameras, the flash will come on automatically as required.
4. *Lens cover:* helps protect the lens. Generally, when you switch your camera on, the lens cover will automatically open.
5. *Lens:* controls the way light enters the camera and the clarity (focus) of the image.
6. *Zoom lens:* most compact digital cameras have zoom and/or wide-angle lenses that can be used as required by the photographer.
7. *Shutter release:* the button pressed to take a photograph.
8. *On/off button:* switches the camera on and off. Most digital cameras will switch off automatically after a given or chosen period of time.
9. *Mode dial:* provides a range of basic zone settings that allow the camera to be placed on a shooting mode that will correspond directly to the subject matter, thus ensuring the image is captured in the most effective way. The modes on this dial can vary considerably from camera to camera.
10. *Coloured monitor/LCD screen:* used as a viewfinder to compose the image and then to play back captured photographs. It is also used to access the function and menu options and to display the current camera set up (such as shots remaining, battery level, image quality and ISO).
11. *Function and menu options:* enable the modification and refinement of settings.
12. *Rubbish bin:* provides the option of deleting images previously taken.
13. *Wide-angle/telephoto option:* activates the zoom lens, providing the option to gain a close-up view of the subject or a more distant view of the subject.
14. *Index display:* by combining this option with pressing the playback button, up to nine thumbnail images from the memory card will appear on the LCD screen.
15. *Magnified view:* when viewing an image on the playback option, this setting can be used to gain a magnified view of the selected image.
16. *Menu:* will display on the LCD screen a variety of options to enable the modification of camera modes and settings.
17. *Image playback:* enables the images previously taken to appear on the LCD screen.
18. *Memory card slot cover:* the memory card is positioned in the camera under this cover.

19. *Four-way cursor:* used to manoeuvre around the LCD screen menu, enabling the selection and refinement of camera settings.
20. *OK command:* activates selected settings.

BASIC ZONE SETTINGS

A choice of basic zone settings is often found on compact digital cameras as well as SLR digital cameras. Zone settings allow for quick access to capture ideal settings for a variety of situations. Different setting options are available on different cameras. Below are some of the most common.

- ⬛ Auto shooting mode is best for photographing general subject matter.

- 🎩 is best for photographing portraits and provides a small depth of field, which ensures a highlighted facial focus.

- ⛰ is best for photographing landscape and provides a large depth of field, which ensures a broad and extending focus zone.

- 🏃 is best for photographing a moving subject and provides a very fast shutter speed, which ensures that the subject is captured frozen in motion.

- 👤 is ideal for photographing people in night settings. The flash will go off, achieving correct exposure for the portrait, while at the same time selecting a slow shutter speed to ensure the background is adequately lit.

- **SET UP** provides a menu on the LCD screen of various options, including change of date, monitor brightness, language and so on.

- 🎥 provides the option of taking short moving images at times with sound.

- **SCENE** provides a series of settings options for a number of different popular photographic situations:

  - 🎈 captures superior indoor lighting when only a minimum of light is available.

  - 🏖 This captures the vibrant atmosphere of light-filled snow and beach scenes.

  - 🌅 captures the large array of vivid colours in a sunrise or sunset (NB: slow shutter speed).

  - 🌃 captures night lights and cityscapes (NB: slow shutter speed).

  - 🔍 captures a close-up view of objects, with the background blurred.

  - 🏛 captures indoor objects, exhibits and pictures without the use of a flash (NB: slow shutter speed).

  - 🎆 captures expanding bursts of fireworks (NB: slow shutter speed).

- ⌣ captures an expansive, wide view of a scene.

- 🌅👤 captures a correctly lit subject when the light is coming from behind.

Be aware that slow shutter speed is linked to some of these settings, so the camera needs to be held firmly with some kind of support (see figure 1.6F, page 29). Ideally, a tripod should be used to prevent blurring.

Not all of these scene modes may be available on your camera; on the other hand, you may find that your camera has additional modes and settings.

QUALITY OPTION

Most digital cameras will allow you to choose the quality of the images that you photograph. If you select a high quality image, it will take up a large amount of memory and will be of a high **resolution**. This means that the quality of the image will be maintained even when printed to a large format. Lower resolution images take up much less space on the memory card but the image quality is compromised and pixilation will be evident if the image is printed in large format.

◢L / ◢L / ◢M / ◢M / ◢S / ◢S

Highest quality ← → Lowest quality

Figure 1.1K Common symbols used to indicate the file size and quality of the image being recorded

- Large format, 2272 × 1704 pixels, is appropriate for large-format printing.
- Medium format, 1600 × 1200 pixels, is appropriate for large prints.
- Medium 2 format, 1024 × 768 pixels, is appropriate for standard-size prints and email attachments.
- Small format, 640 × 480 pixels, is appropriate for very small-size prints and posting on the web.
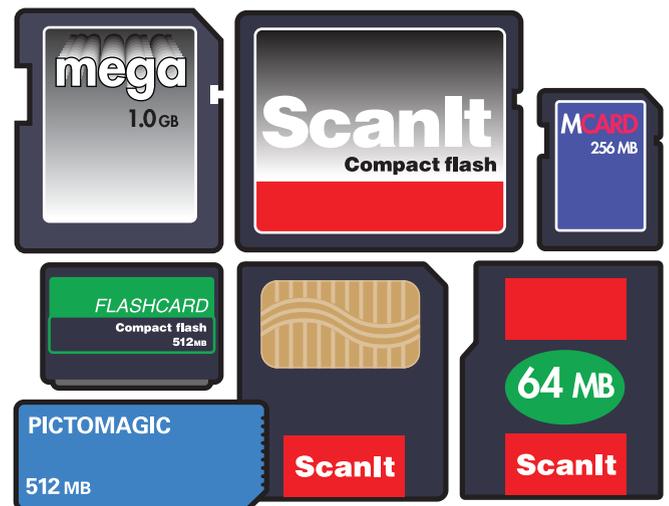
Figure 1.1L Different types of memory card

IMAGE CAPACITY OF A MEMORY CARD

The amount of memory on a memory card will vary. The number of photographs that the memory card can hold is determined by the image quality you select and the storage space on the card (a 32 MB memory card will hold half as many images as a 64 MB memory card). If you choose to take high quality images (which will be large files) then you will not be able to take as many photos as if you choose low quality images (which are small files). Most cameras will calculate and display the number of shots you have remaining, but this figure will change if you choose to increase or decrease the quality of the image you are taking.

DRIVE MODE

Most digital cameras have a variety of drive mode options. The location of these option settings can vary from one camera model to the next. The most common options allow you the choice of taking a single shot or taking a series of continuous shots. Continuous shots are ideal when photographing moving subjects. They can also record a sequence of shots that could be used in an animation. A further choice is a self-timer that triggers the shutter to go off automatically after a set period of time — normally about 10 seconds.
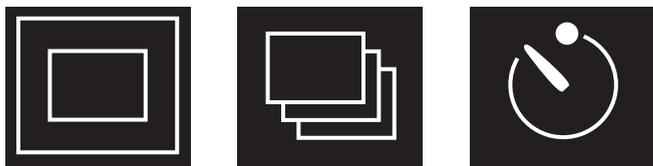
i. Single shot mode   ii. Continuous shot mode   iii. Self-timer mode

Figure 1.1M Symbols used for drive modes

BUILT-IN FLASH

Most digital cameras provide a series of options for using the built-in flash. If the setting is on 'auto' the flash will pop up in poor lighting conditions. The common options are shown below.

- **AUTO** The flash will pop up whenever there is not enough light. If there is enough light, the flash will not go off.

- The flash will go off whenever a picture is taken. Even if there is enough light, you may consider using this setting to even out the light or to highlight your subject.

- Prevents a person's eyes from appearing red in a photo, which occurs when the subject's retinas reflect the light from the flash (see figure 1.1N). This option works well, but there is often a small delay from the time the trigger is pressed on the camera to when the shot is taken, which can be a problem if the subject moves during the delay.

- This manually combines the red-eye reduction and flash mode.

- The flash will not go off even in poor light.

- Combines the flash with a slow shutter speed. Ideal for photographing people in night scenes when some exposure of the background is desired.

Figure 1.1N i. A photograph of a subject with red eyes   **ii.** A photograph of the same subject without red eyes

ACTIVITIES

1. In your workbook or journal, complete a drawing of the camera you will be using. Alternatively, you could photograph or scan it. Label and list all the major parts of the camera as described in this section. Remember that, although all cameras have very similar devices, they are not always in the same place. Some cameras have additional features and, if this is the case with your camera, it is important that you understand what they are and how to use them correctly. If you are not sure about a particular part of your camera, look at the manual or ask someone to explain what it is and record it on your diagram.

2. Define the following terms: *camera obscura*, 35 mm SLR camera, SLR digital camera, and digital compact camera.

3. Form small groups and, using a digital camera, take a series of photographs exploring the mode settings. Start with the most common basic modes — portrait, landscape, runner and close-up — and then use the unique aspects of your camera to explore others. These could be the creative zone modes on a digital SLR camera or the scene modes on a compact camera. Once you have completed the shoot, download the images onto a computer and print out a proof sheet for each member of the group. In your workbook or journal, analyse the results. Next to each image, write down the mode you used to take the photograph and discuss the results achieved.

4. Answer the following questions in your workbook or journal.
   a. What do you think Joseph Niépce (who created the first photograph — see page 2) and other early photographers would have thought about digital photography?
   b. What do you think is better: traditional film photography or digital photography? Why?

1.2 FOCUS

The **focus** on a camera controls the clarity of the photographs that are taken. In order to gain a clear, sharp image, such as that in figure 1.2A, it is very important to understand how the focus works on the camera being used. As with most things in photography, there are many different kinds of systems. To gain the best results, photographers must have a thorough understanding of their own camera's focusing system and how it works.

Figure 1.2A A clear, sharp, focused image. *Hope*, Samantha Daou, Year 12, digital photograph

Figure 1.2B
Image demonstrating selective focus. *Dandelion*, Jacob de Weger, Year 10, digital photograph

Manual focus

Older style 35 mm SLR cameras are often fully manual, with no auto option, so the photographer must focus every photograph. Most contemporary 35 mm and digital SLR cameras tend to have both auto and manual focusing systems. With these types of cameras, the photographer needs to ensure that they have switched the camera onto the desired setting. The manual setting allows the photographer to have full control over the focusing of the image; however, they need to physically focus every photograph. Manual focusing is achieved by turning a focusing dial on the lens of the camera to achieve a sharp image.
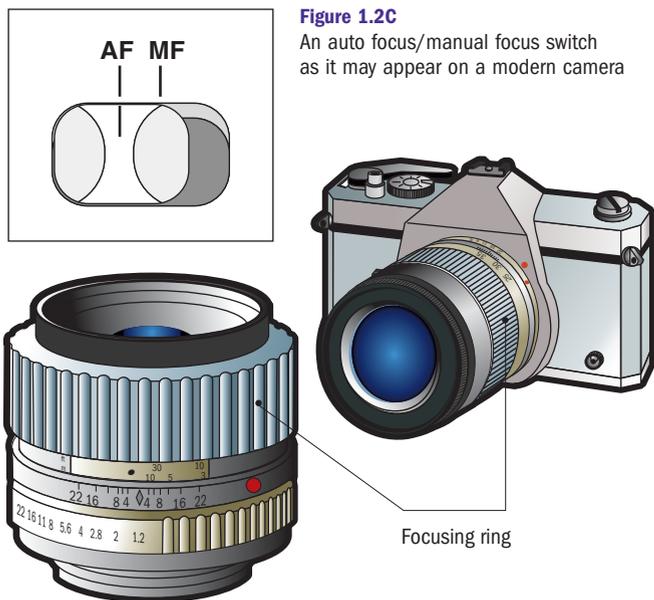
Figure 1.2C
An auto focus/manual focus switch as it may appear on a modern camera

AF MF

Focusing ring

Figure 1.2D   Focusing ring on a standard 35 mm SLR camera. The focusing ring on digital SLR cameras is located in the same position.

Many SLR cameras have what is known as a split focusing system, whereby a small dissected circle appears on the screen when looking through the lens. To achieve correct focus, the focusing dial needs to be turned until the image comes together within the circle (see figure 1.2E (i)). Another system shows a central grid of miniature crystals on the screen. The crystals shimmer and appear unclear when the shot is out of focus. In order to achieve correct focus, the focus ring needs to be turned until the crystals appear clear and sharp (figure 1.2E (ii)).
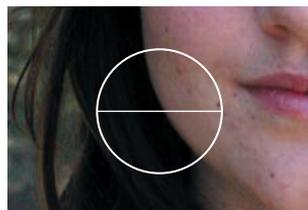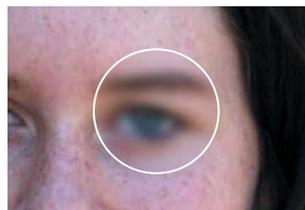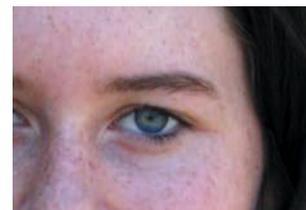
Auto focus

Modern SLR 35 mm, SLR digital and compact digital cameras have fully automatic focusing systems as well as a manual focus option. When the camera is set on a basic auto focus setting, it will assume that the most important part of an image is placed in the centre of the frame and will therefore focus on this zone. This focus zone is often indicated by two brackets. Many digital cameras also allow the photographer to set the camera on different modes, such as portrait, landscape or close-up (see symbols on pages 7 and 9), which further help with maximising the desired focus. More advanced cameras allow greater control over the focusing zones and provide the option of selecting which part of the image the photographer wants focused (see figure 1.2F(ii)).

Focusing points
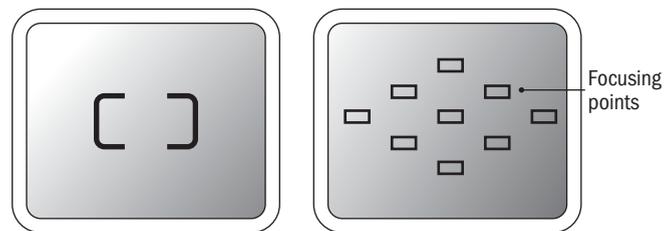
i. Basic auto focus zone. The camera automatically focuses on the closest object between the brackets.

ii. Advanced auto focus zone. The camera automatically focuses by considering all the auto focus points, or the camera will allow you to manually select particular points for focusing. This is important if your main subject is not in the centre of the frame.

Figure 1.2F   Auto focus zones

When using a basic auto focus zone, a problem can occur if the main subject is not exactly in the middle of the frame (see figure 1.2G). Once the shutter release is pressed halfway down, the camera will lock in the focus on what appears between the two brackets. A small beep will generally sound to indicate this. If the main subject is not in the centre of the frame, the photographer needs to move the camera to place the main subject between the brackets, press the shutter release button halfway, listen for the beep (not on all cameras) and then reframe the shot before compressing the button the rest of the way to capture the image.

Out of focus image
i. Split focusing system

Focused image

Out of focus image
ii. Crystal focusing system

Focused image

Figure 1.2E   Focusing systems

Figure 1.2G Example of an auto focus photograph in which the major subject has been placed at the side of the frame and the camera has focused on the central object

Figure 1.2H Example of an auto focus photograph taken correctly

POINTS TO REMEMBER

- If you are taking a portrait, it is a good idea to make sure that you focus on the eyes of the subject. This is because people who are viewing a portrait will generally look at the eyes first.
- The aperture setting has a direct effect on the depth of field in a photograph (see section 1.4, pages 16–19).

1.3 SHUTTER SPEED

The shutter on a camera is like a blind that is situated between the lens and the film. The shutter opens and closes to allow light to enter the camera and reach the film. The **shutter speed** is the amount of time that the shutter remains open. This time is normally indicated as a fraction of a second and can vary from as fast as $\frac{1}{8000}$ of a second to as slow as half a second or even a second (see figure 1.3A). Some cameras also have a choice of 'B' on the shutter speed dial. This allows the shutter to remain open for as long as the shutter release is pressed.

Shutter speed dial

i. Shutter speed dial on a standard 35mm SLR camera
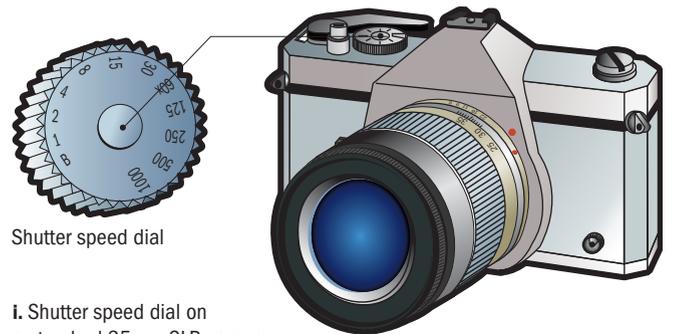
Mode dial can be set on TV shutter speed priority.

Dial can be moved to change shutter speed.

ii. Shutter speed indicator on an SLR digital camera
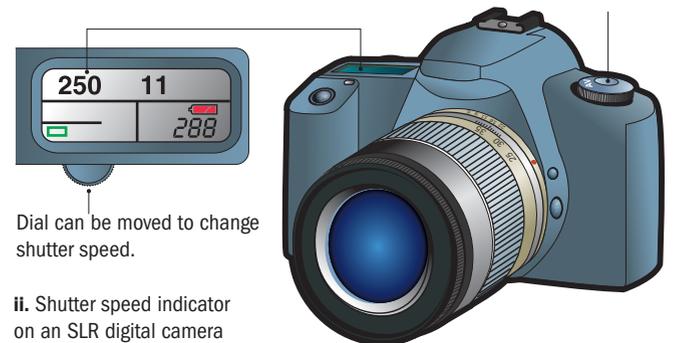
Figure 1.3A Shutter speed dials

On some SLR 35 mm cameras, the shutter speed setting can be viewed when looking through the viewfinder. It will often appear at the bottom of the view frame (see figure 1.5F, page 22). On most digital SLR and compact cameras the shutter speed setting is indicated on the LCD screen on the back or the LCD panel on top of the camera (see figure 1.3A(ii)).

The shutter speed on SLR cameras and some compact cameras can be adjusted to suit a variety of lighting conditions and to capture different kinds of movement shots. The length of time the shutter remains open has a direct bearing on the amount of light that reaches the film or digital sensor. If the shutter remains open for too long, too much light will enter the camera. If the shutter is not open for long enough, insufficient light will enter the camera.

What shutter speed to use

Shutter speed on manual SLR 35 mm cameras

On older 35 mm SLR cameras, the shutter speed may need to be set manually (see figure 1.3A(i)). A standard shutter speed to use is $\frac{1}{125}$ or $\frac{1}{250}$ of a second. These speeds are appropriate for a normally lit outdoor shot using 125 ISO film (see page 20). If photographs are being taken in bright, sunny conditions where there is excessive light, a faster speed, such as $\frac{1}{500}$, may be needed. This prevents too much light entering the camera and overexposing the film. Alternatively, a smaller aperture could be used, which may also prevent excessive light entering the camera (see section 1.4, pages 16–19).

If it is overcast or late in the afternoon, a slower speed, such as $\frac{1}{60}$, may be needed to ensure that enough light reaches the film. It is always desirable to look at the light meter to guarantee the correct exposure (see section 1.5, pages 20–26).

The aperture also has a direct bearing on the amount of light that enters the camera, so it is very important that the shutter speed and aperture work together in order to create a correctly exposed photograph (see section 1.4, pages 16–19).

A shutter speed slower than $\frac{1}{60}$ of a second should, as a general rule, only be used in conjunction with a tripod. This is because at slow shutter speeds the film will generally record the effect of camera shake caused by hand movements.

When using a flash it is important to set the shutter speed on the appropriate setting. This is generally $\frac{1}{60}$ and it is indicated by a star or lightning bolt next to the shutter speed number on the dial.

Shutter speed on digital cameras

On digital cameras the shutter speed can be set on auto for taking general photographs or it can be automatically adjusted by the camera to suit the various mode and scene settings (see symbols on pages 7 and 9). Alternatively, most digital SLR cameras provide a shutter speed priority setting, often indicated by the abbreviation TV or S on the mode dial (see figure 1.1H, page 6). This option allows the selection of a desired shutter speed and automatically adjusts the aperture to ensure the correct exposure. If the aperture setting starts to flash, this tends to indicate that the correct exposure can not be achieved under the current lighting conditions.

The shutter speed controlling movement

The shutter speed controls the exact amount of time that a subject is exposed to the film or imaging sensor. Photographers can choose how they wish to capture a moving subject — in frozen motion, blurred motion, or frozen subject with blurred background. If the subject is moving, it is important to select the appropriate shutter speed to capture the image. If the subject is moving quickly, a fast speed ($\frac{1}{500}$ or $\frac{1}{1000}$ or $\frac{1}{3000}$) can be used to capture the image frozen in motion. Alternatively, a slow speed can be selected so the subject moves through the frame to capture blurred motion.

FROZEN MOTION

By using a very fast shutter speed ($\frac{1}{3000}$ to $\frac{1}{500}$ of a second), the camera can capture a fast-moving subject and freeze it (see figure 1.3B). The shutter works so quickly that the subject barely moves while the shutter opens and shuts. Frozen motion photographs are normally taken of subjects in midair (such as a high jumper going over the bar) or a split second of an event (such as a close race finish or a swimmer mid-stroke).

Figure 1.3B   Example of a frozen motion photograph. *Joy*, Anthea Sidiropoulos and Jessica Calvert, Year 11, digital photograph

BLURRED MOTION

By using a slower shutter speed ($\frac{1}{60}$ or $\frac{1}{30}$ or slower) and a tripod, a camera can create the illusion of movement by capturing a sharp background and a blurred moving subject (see figure 1.3C). The tripod will hold the background still as the shutter opens, and the moving subject is captured before it closes again. Blurred motion photographs are often used to convey the impression of speed (a racing bike) or movement (a hand waving). Sometimes photographers use this technique at night to record a city scene with car lights moving through it (see figure 1.3D).

Figure 1.3C   Example of a blurred motion photograph. *BMX*, Sandra Purssey, digital photograph

Figure 1.3D   Example of a blurred motion photograph taken at night using a tripod. *Lost*, Bianca Koffman, Year 12, digital photograph

At night, with limited light, the camera can be set on shutter speed B. A tripod can be used to prevent camera movement, and the image is exposed to the film or imaging sensor for approximately five seconds by keeping a finger on the shutter release. This creates very interesting and exciting night-time photographs.

FROZEN SUBJECT WITH BLURRED SURROUND

By selecting a slow shutter speed ($\frac{1}{30}$ or $\frac{1}{60}$) and panning (moving) the camera with the moving subject, the photographer can capture a frozen subject with what can appear to be a moving (blurred) background (see figure 1.3E). By moving the camera at the same speed as the subject, and allowing the shutter to open and shut slowly while the camera is moving, the film or imaging sensor will freeze the moving subject and the background image will be blurred. These types of photographs are often taken to create the impression of movement and, in particular, speed. For example, a racing car might be shown driving past a blurred crowd in the background.

Figure 1.3E   Example of a photograph of a frozen subject with blurred surrounds. Lynne Beck, gelatin silver photograph

1. Experiment with movement by taking a series of photographs in which you:
   a. take photographs of the same fast-moving subject using the three different movement techniques (record your shutter speed and apertures for each shot on a copy of the proforma on page 30)
   b. take photographs of different moving subjects, aiming to capture the best qualities of each technique (keep a log of shutter speed and apertures used)
   c. develop the film or download your images and print a proof sheet. Paste it into your workbook or journal and comment on the outcome of your shots.
   d. select the three best photographs that demonstrate movement (preferably demonstrating each technique), and then print them and submit them as part of your folio.
2. Define each of the techniques available to record movement in photography.
3. Make a list of all the important things to remember when selecting your shutter speed (include at least three).
4. Look through some magazines and search the internet to find good examples of photographs that demonstrate frozen motion, blurred subject and blurred background. Photocopy or print and paste these examples into your workbook or journal, and comment on how you think the shots were taken. Write a short review of each, explaining what features you like and dislike, and why.

1.4 APERTURE

The aperture is a small hole in the lens through which light travels into the camera and onto the film or imaging sensor. The aperture controls the amount of light that enters the camera and the depth of field in your photograph (see figures 1.4A, and 1.4F, page 18). The hole size is indicated by what is known as an f-stop number. These numbers indicate a fraction of the hole's size in relation to the focal length of the lens. Some or all of the following **f-stop** numbers may appear on the aperture: 2, 2.8, 4, 5.6, 8, 11, 16, 22, 25, 29, 32 and 36 (see figures 1.4A, 1.4B and 1.4C). Each f-stop number allows half as much light as the f-stop number before it. For example, f.4 allows half as much light to enter the camera as f.2.8. In other words, f.2.8 allows twice as much light to enter the camera as f.4. Note that the larger the f-stop number, the smaller the hole in the lens.

The size of the hole can be altered by turning a narrow ring on the lens of a 35 mm SLR camera. On digital cameras the aperture can be set on auto when taking general photographs or it can be automatically adjusted by the camera to suit the various mode and scene settings (see symbols on pages 7 and 9). Alternatively, most digital SLR cameras provide an aperture priority setting often indicated by the abbreviations AV or A. This option allows the selection of a desired aperture and automatically adjusts the shutter speed to ensure the correct exposure. If the shutter speed setting starts to flash, this tends to indicate that the correct exposure cannot be achieved under the current lighting conditions.

Aperture control ring
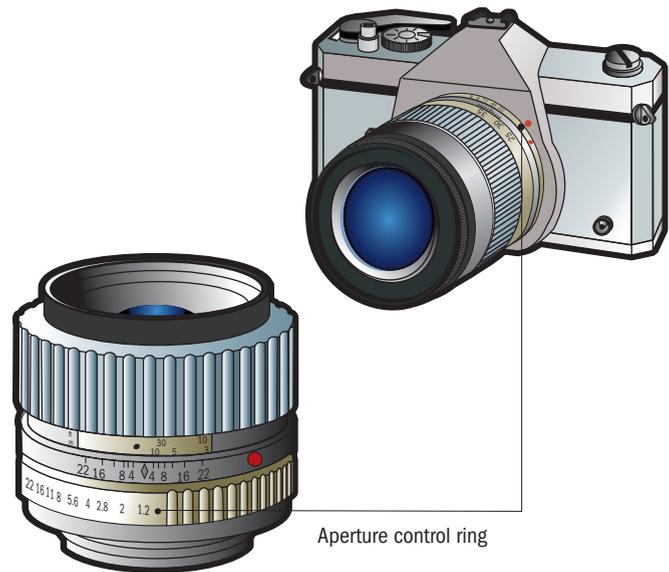
Figure 1.4A Aperture ring on a 35 mm SLR camera

Dial can be moved to change aperture.

Figure 1.4B Aperture indicator on an SLR digital camera

On some SLR cameras the aperture setting (f-stop) can be viewed when looking though the viewfinder. It will often appear at the bottom of the viewing frame (see figure 1.5F, page 22). On most digital SLR and compact cameras the aperture setting (f-stop) is indicated on the LCD screen on the back or the LCD panel on top of the camera (see figure 1.4B).

f.2.8 f.4 f.5.6

f.8 f.11 f.16
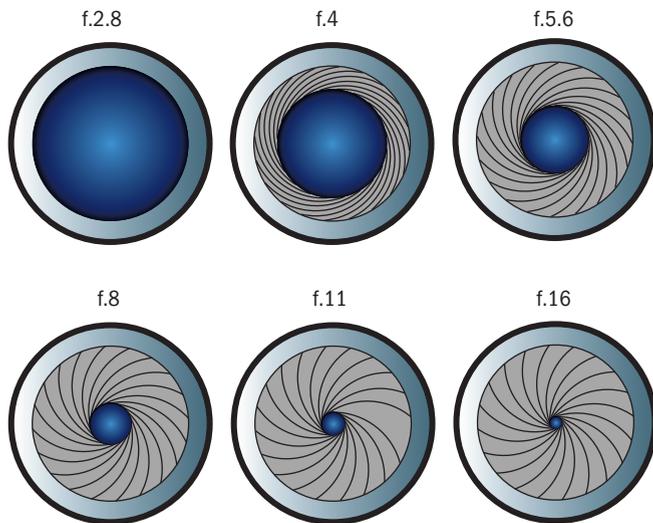
Figure 1.4C   Aperture settings

ACTIVITIES

1. List the f-stop numbers that appear on your camera. Then, using figures 1.4E, 1.4F, 1.4G and 1.4H to assist you, discuss the f-stop settings that you could use to achieve a small and large depth of field.
2. Using a 35 mm SLR camera with a detachable lens, take the lens off the camera body. Hold the lens towards a light and, looking through the back of the lens, rotate the aperture ring through the range of f-stop numbers. Take note of what happens and record this information in your workbook or journal.

What aperture to use

A standard aperture is around f.8 or f.11. This should give a reasonable depth of field and an adequate shutter speed ($\frac{1}{125}$ or $\frac{1}{250}$) under normal outdoor lighting conditions. However, it is important to check the light meter to determine the correct setting.

Controlling focus — depth of field

The size of the aperture has a direct effect on the distance of focus within a photograph. This zone of focus

is commonly called the depth of field. In most cases, by selecting the appropriate aperture, a totally focused shot should be achieved; that is, everything in the photograph should be clear and sharp. This is called a large depth of field. Selecting another aperture enables you to choose to have only a small part of the photograph in focus; that is, only the main subject is clear and sharp, with everything in front and behind it out of focus. This is called a small depth of field.

Think of depth of field as selective focusing. By understanding its possibilities you will have another tool at your disposal for creating interesting and imaginative photographs.

CONTROLLING THE ZONE OF FOCUS

The easiest way to understand how to control the zone of focus in a photograph is to remember the following:
- large f-stop number (for example, f.22) = large depth of field
- small f-stop number (for example, f.4) = small depth of field.

DEPTH OF FIELD SCALE

A variety of levels of focus are at your fingertips. Every f-stop number will give you a different depth of field.

Manual 35 mm SLR cameras have a **depth of field** scale next to the focusing ring that allow you to read what your depth of field is (see figure 1.4D). This is indicated by the f-stop number appearing twice on the scale. By drawing an imaginary line through the depth of field scale from where the selected f-stop appears, you should be able to see the distance your photograph will start and finish being in focus.

Figures 1.4E, 1.4F, 1.4G and 1.4H further illustrate the concept of depth of field and the use of apertures and depth of field scale.

Depth of field scale
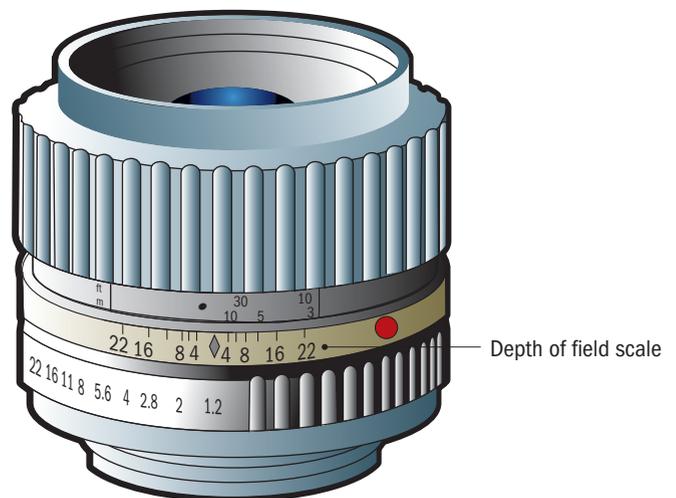
Figure 1.4D   Depth of field scale on a 35 mm SLR camera

The distance between the subject and the lens also affects the depth of field. It is much easier to produce a clear, sharp picture when everything that is being
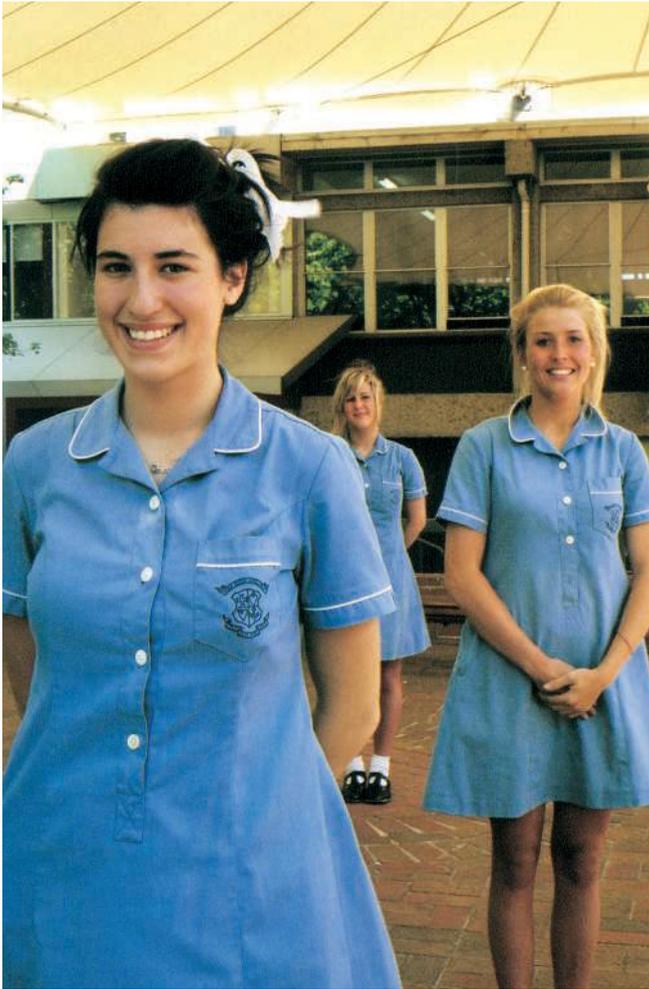
i. In this photograph of three girls, the photographer has focused on the first girl at a distance of two metres and has used an aperture of f.22. This photograph is an example of a large depth of field.

ii. This shows the aperture at f.22. If you look at the depth of field scale, you will see that 22 appears twice. By drawing an imaginary line up from both numbers (22) through the focusing scale, the depth of field is shown by reading the distance on the focusing scale from the first imaginary line through to the second. In the case of f.22, when focused on a subject two metres away, the depth of field will be from approximately 1.25 metres to 6.5 metres, making a total of 5.25 metres.

Figure 1.4E   Example of large depth of field

i. A photograph of three girls, using the same setting as figure 1.4E. The photographer has once again focused on the first girl at a distance of two metres, but this time has used an aperture of f.2.8. This photograph is an example of a small depth of field.
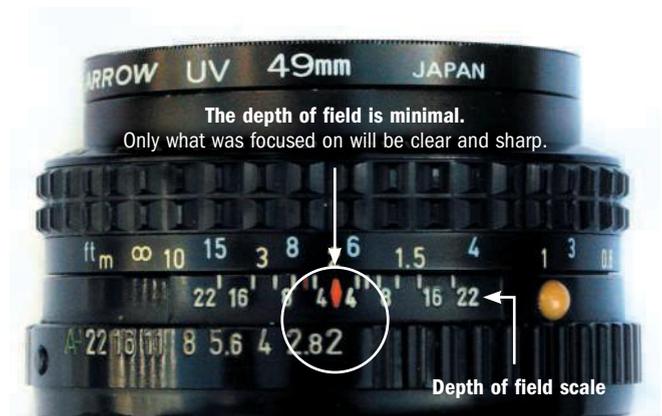
ii. This shows the aperture at f.2. If you look at the depth of field scale, the lowest number you will see is 4, which again appears twice. If you draw two imaginary lines up through the focusing scale, and read the distance of focus from the first 4 to the second 4, it will indicate that the depth of field is approximately 0.25 m. In the case of f.2, it is correct to assume that the depth of field is so small that it does not appear on the scale. If you were to focus on an object two metres away, only the image that you focused on would be in focus.

Figure 1.4F   Example of small depth of field

Distance (m)
0   1   2   3   4   5   6
f.2
f.22
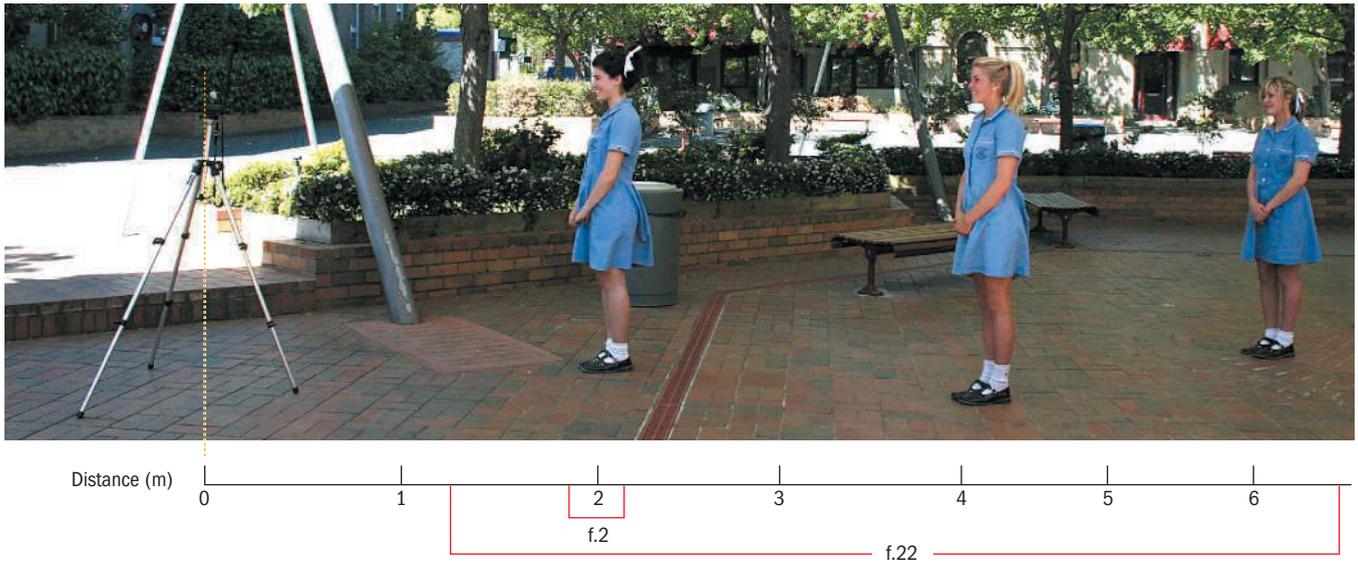
Figure 1.4G   This photograph shows a side view of how the three girls in figures 1.4E and 1.4F were placed in front of the camera, which was positioned on a tripod. The scale below the photograph indicates the approximate depth of field at the two different aperture settings.

photographed is a long way from the lens. If all the objects being photographed are close to the lens it is a lot more difficult to focus all parts of the composition.

Figure 1.4H   Depth of field can be used to create interesting and imaginative photographs. In this example, a small depth of field has been selected to enhance the quality of the image. *Hitching*, André DiMingo, gelatin silver photograph

Digital SLR cameras work on the same principle as 35 mm SLR cameras. Many have a depth of field preview button that when pressed will adjust the diaphragm of the lens to match the chosen aperture setting, allowing you to see the current depth of field range through the lens (see figure 1.1G, point 7, Depth of field/preview button, page 6).

1.5 LIGHT

Light is the most important element in any photograph. It is more important than most people think. In order for you to become a successful photographer, it is important to develop a comprehensive understanding of light and how it affects your photographs. Too often, people take photographs without considering how light affects the images that they are taking (see figures 1.5A and 1.5B). Before you take a photograph, it is wise to:

- work out where the main light source is coming from
- look at how it is affecting your subject
- check for any strong shadows that may distract from the subject or affect the look of the subject
- consider how the whole photograph will be lit
- work out how to judge the correct exposure settings for the camera.

A photographer must learn to see light and to judge how it is going to affect their photographs. The secret is to be aware of light. With time and practice you should be able to master its use.

It is important to be aware not only of how light is affecting your subject, but also of how it is affecting your film or imaging sensor. The amount of light that enters your camera and acts on your film or imaging sensor is called **exposure**. The way, and the degree to which, light exposes the image is governed by three things:

1. *The shutter speed:* how long the shutter remains open.
2. *The aperture:* the size of the hole through which light enters the camera.
3. *The ISO:* the sensitivity of the film or imaging sensor to light. The ISO can vary considerably and, as a result, can have a direct impact on exposure. It is possible to purchase films with different ISOs that provide a range of sensitivities to light. The ISO is often referred to as **film speed**. The faster the film speed, the higher the sensitivity of the film to light. On most digital compact cameras, the ISO is set automatically, while on SLR digital cameras it is generally possible to manually selected your ISO.

The ISO is normally indicated by a number, such as 125 or 400. The higher the number, the higher the degree of sensitivity. Higher numbered ISO settings and film are best used when there is poor lighting available — for example, when taking photographs indoors without a flash.

Figure 1.5A   This photograph has captured harsh, distracting shadows on the face.
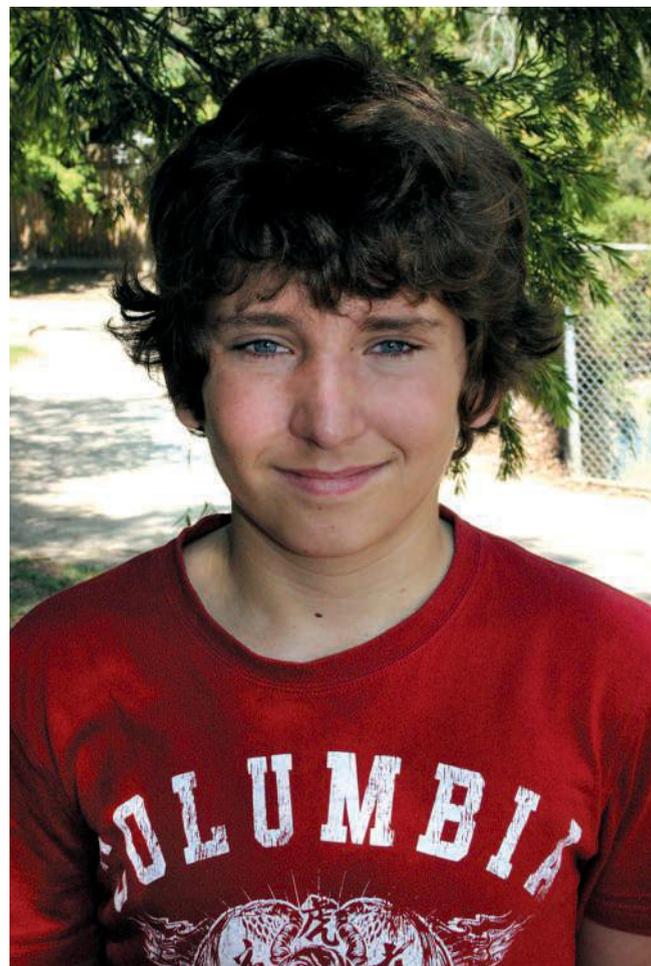
Figure 1.5B   This photograph enhances the qualities of the face through correct use of light.

'Best kept below' temperature — Make and type —

Size — Expiry date — Number of exposures — ISO —
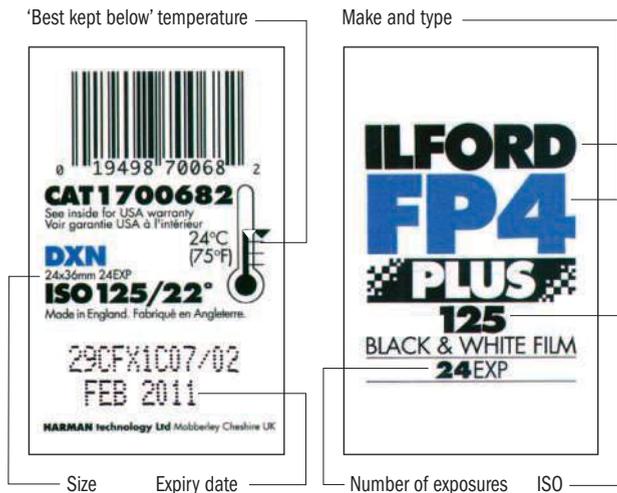
i. Decoding the film box
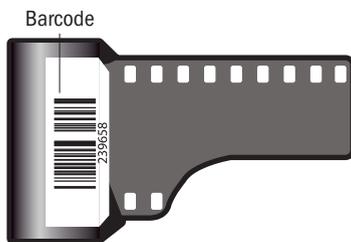
Barcode

ii. Standard 35 mm film with barcode

Figure 1.5C
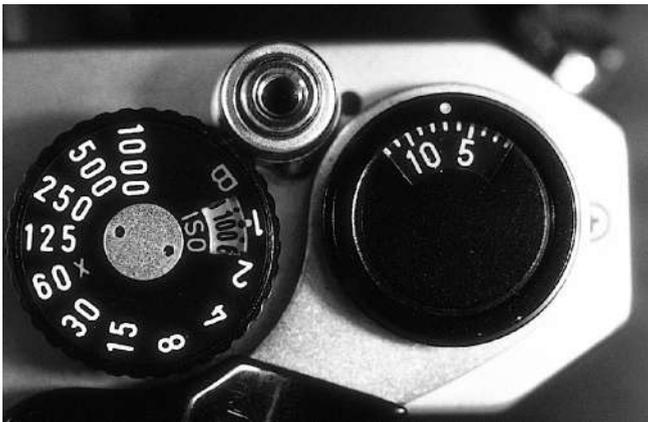
Figure 1.5D The ISO window on the shutter speed dial of a 35 mm SLR camera

ISO on 35 mm cameras

When using a 35 mm SLR camera, you need to ensure that the camera is set up for the ISO you are using in order to gain the correct exposure. The film speed is normally indicated by the number that appears on the film and on the film box (see figure 1.5C). When using an older style 35 mm SLR camera, you need to manually set the ISO, generally on the shutter speed dial (see figure 1.5D). On some automatic and modern SLR 35 mm cameras, the film speed is automatically set by the camera. The camera scans a barcode on the film and sets the ISO accordingly.
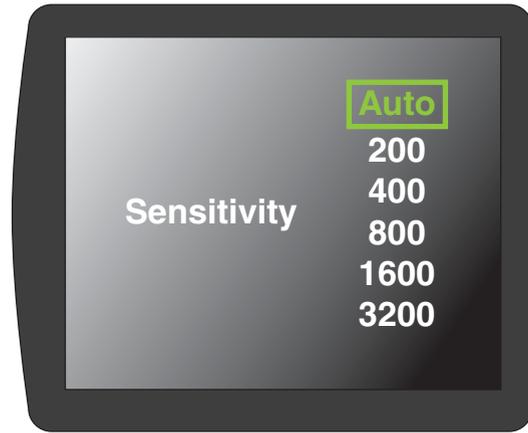
Figure 1.5E ISO options as they may appear on the LCD screen of a digital camera

ISO on digital cameras

When using a digital SLR or compact camera, you can generally select your **ISO** through the menu or function setting on your LCD screen or possibly by the settings on your LCD panel.

On automatic zone and program settings, digital cameras mechanically set a standard ISO for the camera and then adjust the shutter speed and aperture to provide a correct exposure reading. This also occurs if you select your own ISO setting — the camera adjusts itself to provide an accurate exposure reading on all auto, basic and creative zone settings. On a manual setting it is necessary to use a light meter to ensure correct exposure.

Light meters

Light meters measure light and enable photographers to achieve the correct exposure for their photographs. A correctly exposed image will have a good range of tones, with the main subject matter appearing neither too dark nor too light.

When using a manual camera or a manual exposure setting, you need to have access to a light meter to ensure the correct exposure for every shot. The two main types of light meters are built in or hand held. Most modern cameras, including digital, have built-in meters. Built-in meters are by far the most convenient and, if used correctly, can achieve efficient readings. Most contemporary built-in meters are called coupled meters or through the lens (TTL) meters. With these types of meters you can gain the correct setting by looking through the viewfinder and adjusting your aperture or shutter speed until the correct exposure is indicated. This is shown in various ways on different types of cameras. Sometimes an indication of correct exposure is achieved when a lever on the right-hand side of the viewfinder frame is positioned between a − sign and + sign, or by a green light or numerical display (see figure 1.5F).
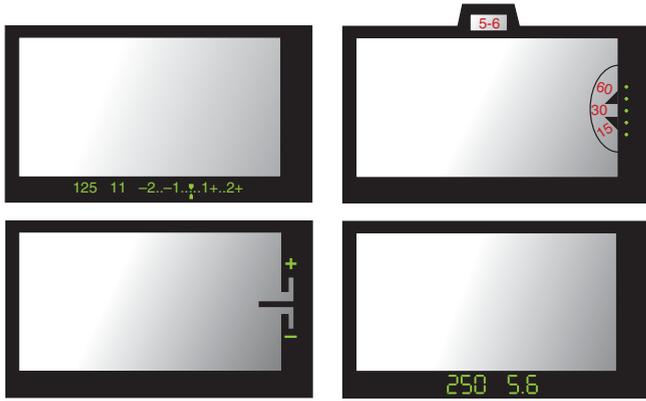
Figure 1.5F   Common types of light meter as seen through a viewfinder

It is important to understand that different cameras take their readings from different parts of the frame. As a result, it is important to consider what part of the frame your camera is taking its reading from. It is a common mistake to take the reading from the wrong section of the frame, making the chosen subject incorrectly exposed. This often occurs when the subject is small and does not fill the frame, or is positioned to the side of the frame, or when there is a bright light behind the subject. Always ensure that you are taking the reading from your main subject (see figure 1.5H). Some digital cameras provide a range of options on where the light reading is taken from (see figure 1.5G).

i. *Average metering:* takes readings from the entire image and calculates an average; commonly used in 35mm SLR and compact cameras.

ii. *Centre weighted average metering:* similar to average metering yet pays more attention to what is in the centre of the frame.

iii. *Spot metering:* takes a reading from a small circular area in the centre of the frame.

iv. *Evaluative metering:* the most high-end and complicated of all the systems. It takes readings from a number of different points throughout the frame and then compensates for darker or lighter elements to gain a global exposure reading.

Figure 1.5G   Standard metering modes

Older style 35mm cameras are fully manual and require the use of a built-in light meter to gain the correct exposure for every shot. These cameras will generally have average metering systems (see figure 1.5G (i)), taking the light reading from the entire frame. This is a problem if the subject is not taking up the entire frame and light is coming in from behind the subject. In order to rectify this problem, point the camera directly towards the main subject when taking the reading. If the subject is small and does not take up the entire frame you may need to move in until the subject fills the frame, take the reading then move back

before taking the shot. By doing this, you will gain a correct reading from the subject. However, make sure that you are not creating a shadow by blocking any light that would otherwise be shining on the subject (see figure 1.5H).
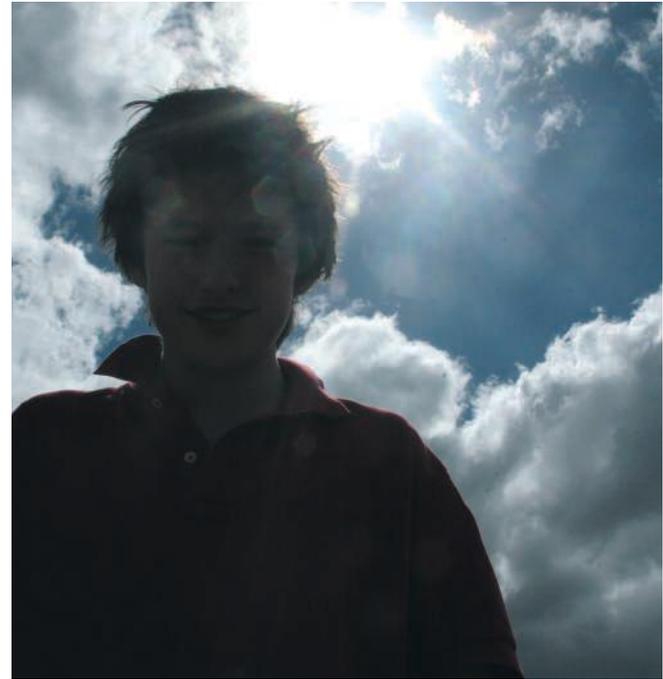
Figure 1.5H   It is very common for beginners to forget to take the light reading directly off the subject. In this photograph the reading was taken from the sun in the background.
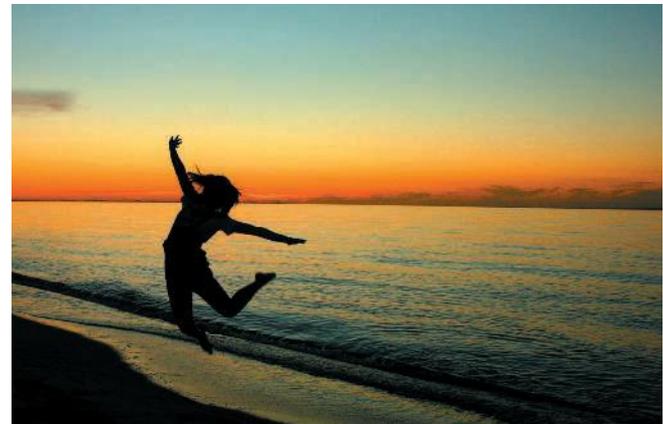
Figure 1.5I   Silhouettes can be easily created during a sunset, when all the light is coming from behind the subject. The light reading is taken from the sky and not the figure, resulting in the figure turning black. *Sunset Joy*, Anthea Sidiropoulos, Year 11, digital photograph

Grey cards

Light meters are built to read all subjects as grey. Therefore, if you are photographing something basically white (bright) or basically black (dark), the light meter will probably give you an incorrect reading. To ensure a correct reading, place a grey card (which reflects 18 per cent of light) in front of the subject before taking your reading. You can purchase these from photographic shops or you can improvise with some normal grey card.

Alternative combinations of aperture and shutter speed setting

When you have worked out the correct exposure reading using the light meter, you can then decide what aperture and shutter speed options you have. In most cases you should have a choice of settings, with different combinations of shutter speed and apertures equalling the same exposure. Decide what is your priority — the aperture size or shutter speed — and select your setting accordingly. For example:

f.5.6 (aperture size) by $\frac{1}{250}$ (shutter speed) = correct exposure

f.8 (aperture size) by $\frac{1}{125}$ (shutter speed) = same correct exposure

f.11 (aperture size) by $\frac{1}{60}$ (shutter speed) = same correct exposure.

Automatic cameras tend to choose the best average aperture and shutter speed available. On some cameras these settings will appear when you look through the viewfinder, either at the side or bottom of the viewing frame (see figure 1.5F). In most cases you have some control over these settings; for instance, if you want a faster shutter speed, you can move the aperture to a smaller f-stop number. Alternatively, if you want a larger f-stop number, you can slow down the shutter speed.

Hand-held light meters

Many professionals use hand-held light meters to gain correct exposure readings. They find these easier to use because they tend to be more accurate and are more convenient for taking a reading directly from the subject, particularly if they are using a tripod. Having taken the reading, a hand-held light meter will give a full range of possible aperture and shutter speed settings appropriate to the lighting conditions and the ISO.

Power
Select mode
Mode setting
Aperture f-stop setting
Select ISO
Set light meter for reading
Select shutter speed and ISO
Shutter speed setting

Figure 1.5J Hand-held light meter

Bracketing

If you are ever in doubt about your reading, you should 'bracket'. Bracketing is taking the same photograph three times: once using the recommended aperture setting, once using the f-stop below the recommended aperture setting, and once using the f-stop above the recommended aperture setting (for example, f.5.6, f.8 and f.11). This should guarantee at least one shot will be correctly exposed. (See figure 1.5K for an example of three photographs of the same subject, each taken with a different exposure.)

Some digital cameras have a bracketing setting, which sets the camera to automatically bracket each shot for you,

i. Underexposed   **ii.** Correct exposure   **iii.** Overexposed

Figure 1.5K Three photographs of the same subject taken with different exposures

ensuring that at least one correct exposure will be achieved from the three images taken (see figure 1.5L).

Figure 1.5L Example of a bracketing symbol on a digital camera

White balance

The colour and tone of objects and their surroundings are affected by the light source that illuminates them, yet the human eye often does not see these effects. When we look at something under everyday household electric lights (tungsten globes rather than fluorescent), things do not appear with an orange tinge. However, if you have ever taken a photograph indoors without a flash and the tones have turned out orange, this is because of the tungsten light. The effective elements of a light source are referred to as the colour temperature and different lights have different temperatures. The white balance system has been put into digital cameras to correct this imbalance in light temperature. Most digital cameras will be set on AWB (auto white balance), with many providing the option to select from a menu of different light conditions. If you find that your photographs are maintaining correct colour, you do not need to change to a select setting — this is only necessary if the colours of your photographs are turning out unnatural or artificial.

AWB	**i.** Auto white balance
	ii. Daylight
	iii. Shade
	iv. Overcast, early morning or late afternoon
	v. Tungsten light
	vi. White/fluorescent light
	vii. Flash

Figure 1.5M Common white balance settings

i. An image taken inside under tungsten light without a WB setting

Figure 1.5N

ii. The same subject taken on a tungsten WB setting

1. Study your camera and, if possible, its manual to work out how the camera's light meter works. In your workbook or journal, write a brief outline in your own words of how to use your light meter correctly, including diagrams and illustrations as appropriate.

2. Take a light reading of a chosen subject and record the recommended aperture and shutter speed. Using the same subject under the same lighting conditions, give three alternative combinations of aperture and shutter speeds that would allow you to achieve the same correct exposure.

3. Record a light reading taken from a piece of white card, a piece of black card and a piece of grey card, all under the same lighting conditions. Outline the suggested settings and comment on the results.

Digital cameras only

4. Outline the ISO options available on your camera and explain how you would go about selecting a particular setting.

5. Using a digital camera, take a series of images exploring bracketing and white balance. Take the same subject matter in the same location but use three different exposure settings and at least three different white balance settings. Download the images and print a proof sheet of your results. Glue the proof sheet into your workbook or journal and analyse the various results achieved using different settings.

Studio lighting

An exciting way to learn how light works and affects its subject matter is to take photographs under controlled lighting conditions. The easiest way to do this is by using a studio and studio lighting. If you do not have access to a studio or studio lighting, you can improvise by using any room in which the lighting can be controlled. However, the lights you use must be a lot stronger than standard globes.

By using studio lights, you have total control over how your subject is lit. You can experiment and be creative by lighting your subject from different angles, such as from one side only, from behind, from in front, from below or from above (see figures 1.5P and 1.5Q). You can also create an evenly lit subject by placing your lights at angles, allowing the light to fall evenly onto the subject.

Direct light can be harsh, particularly in portraits, so specially designed equipment can be used to bounce and diffuse the light. A studio light can be filtered and diffused through a partly transparent white silk or umbrella, for example. Alternatively, the light can be directed away from the subject and bounced back using a reflecting surface.

i. A diffusing umbrella **ii.** A reflecting umbrella

Figure 1.50 Lighting umbrellas

Figure 1.5P A three-point lighting system

The three-point lighting system is one of the most popular studio lighting setups. It consists of a key light, a fill light and a back light. The key light is the main light source and is usually positioned at a $\frac{3}{4}$ angle to the left of the subject. It is pointed directly at the subject and often filtered through a diffuser. The fill light is the secondary light source and is used to fill in the shadows created by the key light. It is generally positioned at a $\frac{3}{4}$ angle to the right of the subject. This light is generally softer and can be diffused in a soft box (see figure 1.5P). Alternatively, a reflecting umbrella can be used (see figure 1.5O) or a bounce board. The back light tends to be quite bright and is placed behind the subject to create a rim of light around its exterior.

It is possible to use many different lights within a studio setting. One direct light source can produce dramatic effects; two lights over the subject can produce a balanced light source; and a third light source behind the subject can further illuminate it. You may also want to consider using different strengths of light on your subject, particularly when using two or three lights, as indicated above. This will create a range of tones over your subject matter.
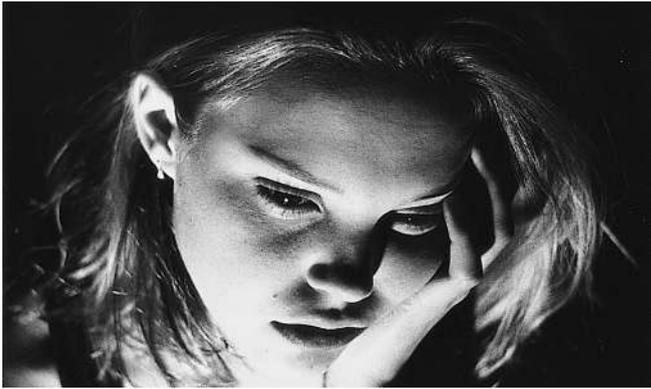
Figure 1.5Q This photograph was taken using studio lighting. *Distress*, James Ballarin, Year 12, gelatin silver photograph

Figure 1.5R This photograph was taken using available light. *Silence*, Johanna McCubbin, gelatin silver photograph

ACTIVITIES

1. Take a series of portrait photographs using a studio and studio lighting. Be as creative and imaginative as you can with the way you light the subject. Try a number of different types of lighting setups. You may also use some props, such as musical instruments, sporting equipment, hats and sunglasses.
2. Develop the roll of film or download the images and print a proof sheet. Glue the proof sheet into your workbook or journal and comment on the outcome of the photographs.
3. Select your best two shots, print them and submit them as part of your folio.
4. Make a series of comments on what you have learnt from the experience.

1.6 TAKING PHOTOGRAPHS

Taking photographs can be an enormously exciting and rewarding experience. Most of us at some stage have had the opportunity to take photographs, whether of family and friends at Christmas or of holiday scenes. Usually, our primary aim in taking these kinds of photographs is to capture and record a moment. In these situations we rarely consider using photography to be creative, to express ourselves or to reflect our views of society
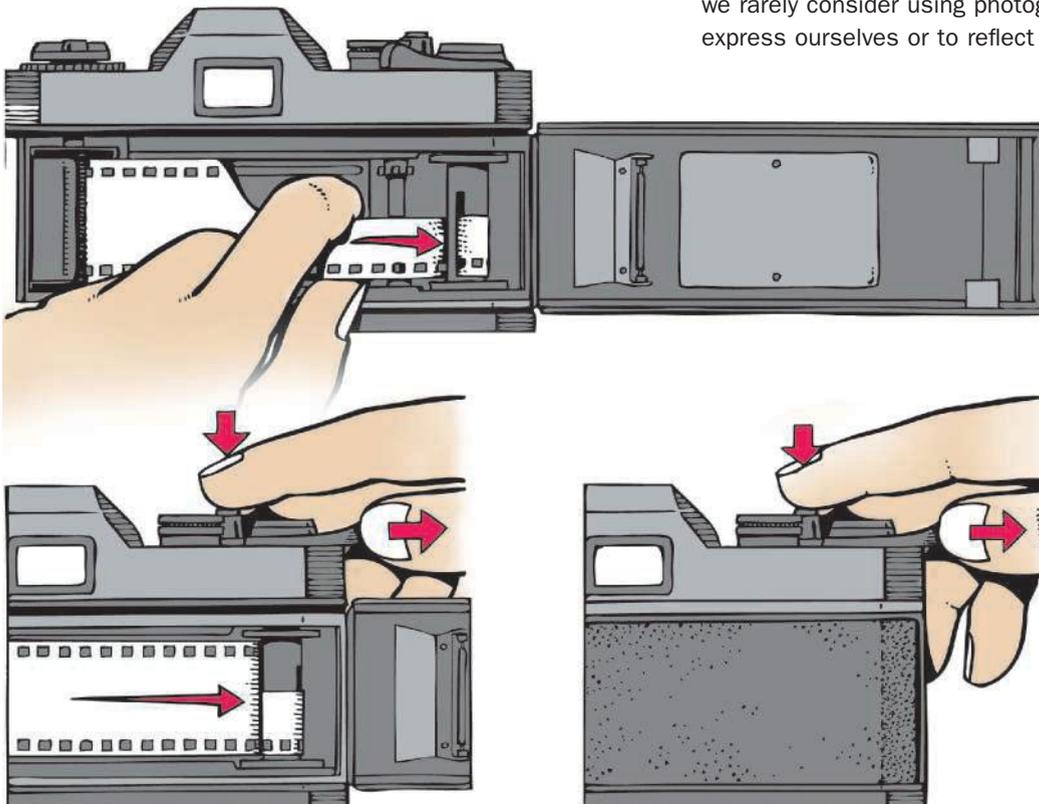
Figure 1.6A Loading film into a traditional 35 mm SLR camera. Most modern 35 mm SLR cameras have automatic film loading systems.

and the world around us. However, photography can be all these things and more.

Once you have mastered the art of taking photographs, you are free to take a photograph of your friend's birthday party or a personal interpretation of a chosen subject or theme. You can develop your photographic skills to express ideas and feelings about things that are of interest or concern to you. The possibilities are endless.

When you have developed a good understanding of how your camera works, you should be ready to take your first roll of film or take your first digital shoot as a serious photographer. To do this successfully, apply the following procedure.

Steps in taking photographs

- *Step 1:*
  - *All cameras.* Ensure that your camera lens is clean (wipe over the lens with a soft, dust-free cloth) and that the battery in the camera is charged.
- *Step 2:*
  - *35 mm SLR*. If using a manual camera, make sure that you have checked the film's ISO and have adjusted the film speed dial accordingly. On older SLR cameras you will need to do this manually; modern automatic cameras read the film speed (ISO) directly from the barcode on the film cassette (see figure 1.5C (ii), page 21), so there is no need to set the film-speed dial.
  - *Digital SLR and compact cameras*. Press the 'info' button on the back of the camera (see figure 1.1I, page 7) or check your LCD for all your settings. Ensure that your image size, AF, ISO, AWB, battery level, and remaining shot space settings are all appropriate.
  - *Older style 35 mm SLR cameras*. Load the film into the camera (see figure 1.6A). If you are using a manual 35 mm camera, in most cases you will need to pull up the rewind lever in order to open it. Some cameras have an opening switch on the side of the camera's body. Once the camera is open, place the film in the space provided on the left. Then pull a small section of film from the cassette and place it in the slot on the film take-up spool at the right of the camera. When you thread the film, ensure that you keep it tight and thread it back towards the film cassette. Using the transport lever, wind the film on to ensure that it has gripped onto the sprockets and is therefore loaded correctly. Close the back of the camera and then take two shots to clear the exposed film and give you an unexposed frame to commence taking your photographs. Use the film rewind lever to check that the film is loaded correctly. Once the film is loaded, wind back the film just enough to make it taut. When the frame is advanced, the rewind lever should turn against the direction of the arrow. If it does, the film is loaded correctly.
  - *Modern 35 mm SLR cameras*. On most modern cameras, loading your film tends to be quite easy. All you normally need to do is open the camera back, place the film in the slot on the left, pull the film over until it sits evenly on the sprockets, then close the camera. The camera should then automatically wind the film on two frames to remove the exposed film and set it up for your first shot.
- *Step 3:*
  - *All cameras.* Select your subject and think of how it would be best placed within the camera's frame. Try to be creative. You may wish to photograph your subject from an imaginative viewpoint, such as above the subject so you can look down on it, or below the subject so you can look up at it. Do not restrict your awareness to the main subject; everything else in the frame is important too. The way you compose the objects and elements within your photograph is called **composition** (see section 8.1, pages 142–7). Figures 1.6B and 1.6C are examples of good and bad composition. Also remember that you have a choice about the way you hold the camera (see figure 1.6F).

Timing is often a very important element in capturing the perfect image. Be patient and prepare yourself for the right moment to press the shutter release.

Figure 1.6B   A portrait demonstrating bad composition

Figure 1.6C   A portrait demonstrating good composition

- *Step 4:*
  - *All cameras*. While structuring the composition of your photograph, you will need to check how the subject is lit; that is, where the light is coming from and how it will affect your photograph.
- *Step 5:*
  - *35 mm SLR camera*. When you have decided on composition, you can take a light reading and set your aperture and shutter speed accordingly. Remember to take the reading from the subject and not the background (refer again to figure 1.5H, page 22).
  - *Digital cameras*. At this point you may consider switching your camera to a creative or basic zone setting (see symbols on pages 7 and 9) or possibly a scene setting (see symbols on page 9) if your camera has this option.
- *Step 6:*
  - *All cameras*. Focus the image. Ensure that your main subject is in focus and that you are aware of the depth of field.
- *Step 7:*
  - *All cameras*. Hold the camera steady and take the photograph. It is important to always hold the camera with two hands and to ensure that nothing is obstructing the lens (such as hair, a finger or a camera strap). Figure 1.6F demonstrates ways to hold the camera.
- *Step 8:*
  - *Digital cameras*. To ensure correct focus, composition and exposure, play back the image once it has been taken. You may also want to check that you have not taken a photograph of a person in the middle of blinking and that no other unforeseen element has affected the quality of your shot.
- *Step 9:*
  - *All cameras*. Repeat the process described in steps 4 to 8 until you finish your shoot.
- *Step 10:*
  - *Older style 35 mm SLR cameras*. When you come to the end of the film, never force the transport lever. If it becomes difficult to wind on, you may be at the end of the film. Although some films indicate that they have a certain number of exposures (for example, 12 or 24), you may get an extra one or two exposures if you load the film carefully. Press in the sprocket release and rewind the film. You will know that you have all the film back in the cassette when the film loosens and becomes very easy to wind. You can also hear a click as it releases from the film take-up spool.
  - *Modern 35 mm cameras*. These will automatically rewind the film back into its cassette at the end of the film.
  - *Digital cameras*. Depending on the size of the memory card in your digital camera and the file size of the images you are shooting, you may be able to shoot hundreds of images. When the memory card is full, you will be unable to take any more photographs unless you delete some or all of the shots.

Ensure that you download and save any desired images before deleting them from the camera.
- *Step 11:*
  - *Older style 35 mm cameras*. At this stage, open your camera and take out your film. It is now ready for processing. Keep your film in a cool, dry, dark place until it is processed.
  - *Digital cameras*. Download your images onto a computer and review the outcome of your shoot.
- *Step 12:*
  - *All cameras*. When you are developing skills in taking photographs, it is a good idea to record the subject, f-stop and shutter speed that you use for each shot. This information will be helpful when you have developed the film or downloaded the images, because you can then use it to interpret the outcome of each photograph (see figure 1.6G, page 30).

35 mm SLR checklist	COMPLETED
1. *Check the lens is clean and the battery is charged.*	
2. *Check that the ISO is set correctly.*	
3. *Load the film and check that you have done it correctly.*	
4. *Select your subject matter, composition and viewpoint. (Consider moving in closer to your subject, creating a tighter composition.)*	
5. *Take a light reading from the subject and ensure correct exposure by setting your aperture and shutter speed accordingly.*	
6. *Focus the subject.*	
7. *Hold camera steady and take the photograph.*	
8. *Record subject, f-stop and shutter speed.*	
9. *Repeat steps 4 to 8 until the film is finished.*	
10. *Older 35 mm SLRs will require you to press in the sprocket release button before you manually rewind the film. Modern 35 mm SLR cameras will automatically rewind the film when it is finished.*	

Figure 1.6D   Checklist for taking photographs using a 35 mm SLR camera

Digital SLR checklist	COMPLETED
1. Check the lens is clean and the battery is charged.	
2. Press the info button on the back of the camera to check your AF, ISO, WB, shot space and image quality settings.	
3. Select your subject matter, composition and view point. (Consider moving in closer to your subject, creating a tighter composition.)	
4. Consider selecting an appropriate mode or setting on the camera to enhance the quality of your photograph (e.g. portrait setting if you are taking a portrait).	
5. Examine how your subject is lit and where the camera is taking the light reading from.	
6. Check the aperture and shutter speed settings.	
7. Focus the subject.	
8. Hold camera steady and take the photograph.	
9. Record subject, f-stop and shutter speed.	
10. Play back the image to ensure it has been taken correctly.	
11. If you need to, reshoot the image; if not, consider other angles, viewpoints and compositions for the same subject matter — these may add interest and creativity to the photograph.	
12. Repeat steps 4 to 11 until you have explored all options for the subject matter that you had intended to explore.	
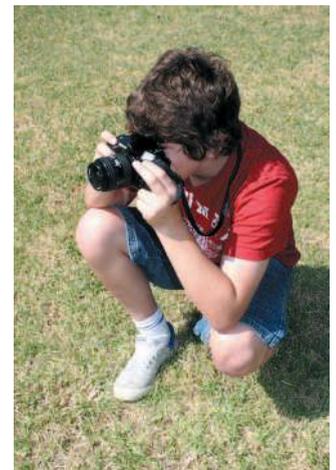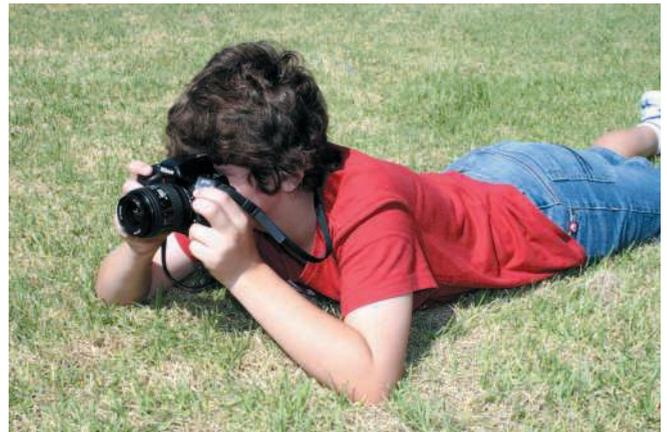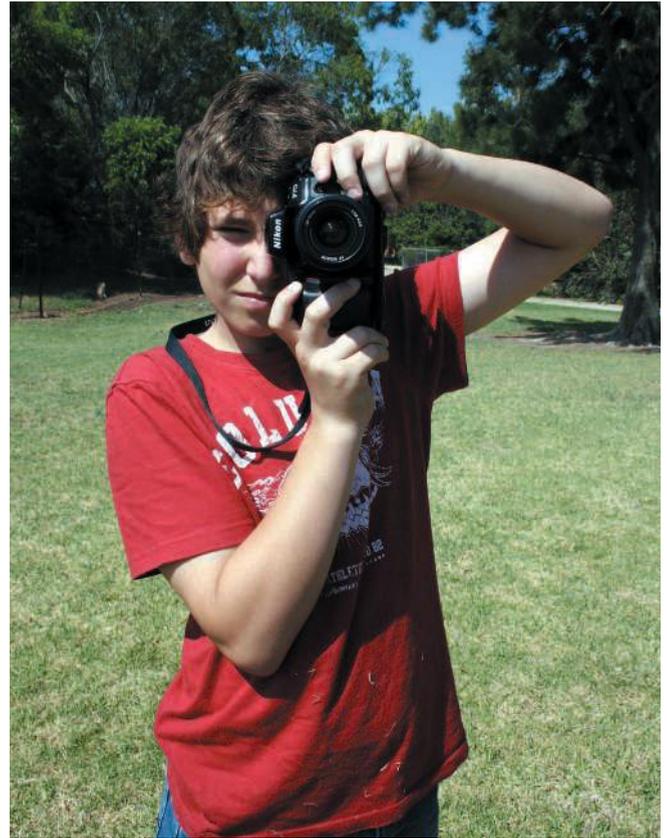
Figure 1.6E Checklist for taking photographs using a digital camera

Figure 1.6F Ways you should hold a camera

Assignment: ....

Camera used: ....

Film, memory card used: ....

Date: .... *Lens:* ....

Frame number	f-stop	Shutter speed	Subject	Notes
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

Figure 1.6G Proforma to use when taking photographs for different assignments and tasks

In pairs or in small group, complete the following tasks.

1. You must follow the directions carefully to complete this task successfully. Always remember to focus every shot, check your light meter, and be aware of the aperture, shutter speed and composition. Record your settings on a copy of the proforma at figure 1.6G. Using a roll of film or a digital camera, take two shots of each of the following subjects:
   a. a close-up of a face (approximately one metre away)
   b. a close-up of another object
   c. a subject at medium range (two to three metres)
   d. a landscape
   e. looking up at a subject
   f. looking down at a subject
   g. from imaginative and interesting angles
   h. a moving subject — use a shutter speed of $\frac{1}{30}$ of a second (remember to check your light meter)
   i. a moving subject — use a shutter speed of $\frac{1}{1000}$ of a second
   j. a moving subject — use a shutter speed of $\frac{1}{3}$ of a second. Move the camera with your subject as you take the shot to blur the background.

In addition, take two shots demonstrating:
   k. a small depth of field, using an aperture of f.2 or f.4
   l. a large depth of field, using an aperture of f.18 or f.22.

2. Develop the film or download the images and print a proof sheet for every member of the group.

3. Paste the proof sheet into your workbook or journal and comment on the outcome of the photographs. Also comment on any problems you had when taking the shots and how you might avoid these problems in the future.

4. Select the best image that you shot and print it as a photograph. Present it as part of your folio.

5. Present your most successful photograph to the class and evaluate it. You need to comment on what you think are the most successful qualities of your image. Then ask other students to comment on what they think of your photograph. Each member of the class should take it in turn to evaluate their photograph.

2.

Darkroom processes and procedures

2.1 DARKROOM SAFETY

The information presented in this section is general advice on ways to improve health and safety in your classroom. However, it is important for your teacher to contact the local education authority for detailed information on health and safety regulations regarding photography and the darkroom.

Developing and processing your own black and white photographs can be perfectly safe if you use the equipment and materials correctly. Commonsense prevails in most situations and it is therefore rational to commence by setting up your darkroom in a way that minimises the possibility of hazardous situations occurring. It is also important to be aware of the possible dangers and how to deal with them in a safe and healthy way.

The following darkroom rules take into consideration health and safety issues:

- no eating or drinking
- no smoking
- no running or playing
- treat all chemicals with respect
- wash your hands at the end of each session.

Setting up the darkroom

The design of your darkroom should be carefully considered. It should maximise the working space and take into consideration health and safety issues.

All darkrooms, large or small, should have separate wet and dry areas. The dry area must provide enough space to house the enlarger, negatives and photographic paper. It should also allow for a clear, clean and dry working space, as well as an electrical outlet for the enlarger. The wet area is where the chemicals, trays and sink will generally be located.

It is important that proper ventilation is installed near and preferably behind the chemical trays, to extract the chemical fumes directly from the trays. The fumes are not considered to be toxic but can irritate and cause headaches and dizziness if not properly extracted. Should this occur, the students affected must be removed from the contaminated area as quickly as possible.

As you will be working mostly in filtered lighting, it is very important that nothing is left on the floor or on benches that you could bump into or trip over. All parts of the darkroom, including chemicals and trays, should be clearly labelled to prevent confusion. It is also important to be aware that the top part of the enlarger becomes very hot if it is left on for an extended period of time. This can cause burning if it comes in contact with skin.
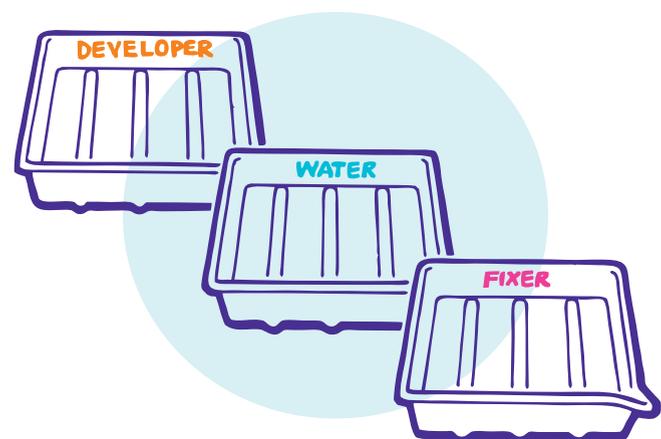
Figure 2.1A Ensure that you label the trays.

Spills

If any spills occur you should clean them up immediately to prevent yourself and other students from slipping or inhaling fumes. Chemical spills are best cleaned with an absorbent such as sand, cleared away, and the area washed with plenty of water.

Chemicals spilled on clothing can cause permanent stains, therefore it is wise to wear protective clothing.

Disposal

Schools and colleges must obtain a waste discharge permit from the local Water Board or Sewerage Authority. This will allow them to dispose of small amounts of chemicals through normal domestic and industrial outlets. The suspended silver in exhausted fixer is of value to some companies and may be sold in bulk (from 25 litres upwards). Your teacher should contact the nearest photographic supplier to find out more details.

Using the chemicals

It is wise to be both sensible and careful when using photographic chemicals. Although they are not considered to be highly dangerous, improper use can be harmful.

The main problems that can occur are generally a result of accidents. If the chemicals are splashed into eyes or swallowed, it is important to be aware of what to do. Always carefully read the manufacturers' instructions and warnings, then adhere to their advice and recommendations.

First-aid advice

This first-aid advice is given for basic black and white Ilford photographic chemicals, including developer, **stop bath** and fixer. If other chemicals are being used it is important that you check the first aid advice from the Safety Standards Association (SSA). In an emergency, contact the Poisons Information Centre in your capital city.

Swallowed: Do not induce vomiting. Give the person a glass of water and seek medical advice.

Eyes: Hold eyes open and flood with water for at least 15 minutes. See a doctor.

Skin: Remove contaminated clothing and wash skin thoroughly.

First-aid facilities: An eye-wash facility is strongly recommended.

In some cases a student may be allergic, or build up an allergy, to the chemicals. A cut on a hand placed in the chemicals may result in stinging. If you have chemicals on your hands and you then place them in your mouth, this can be harmful. For all these reasons it is a good idea to use tongs whenever possible and keep your hands out of the chemical trays. After each session in the darkroom wash your hands thoroughly with hot soapy water.
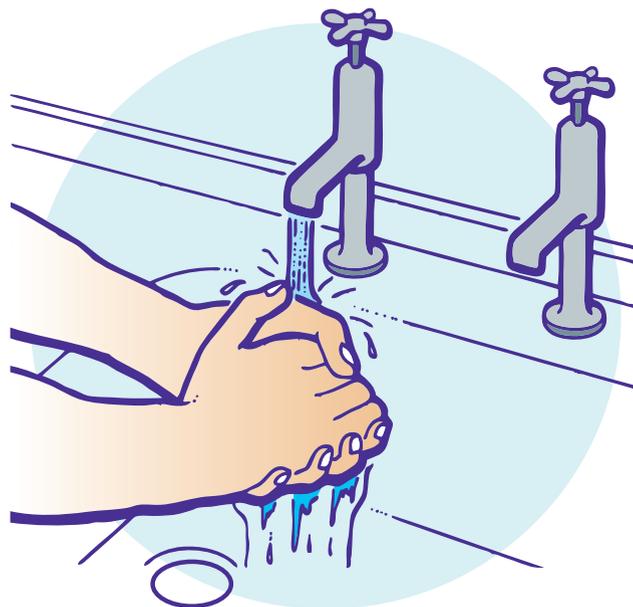
Figure 2.1B   Always wash your hands thoroughly after working with chemicals.

Personal protection

There are a great many precautions that you can take while working in the darkroom. Some listed below may seem a little extreme; however, it is important for you to consider personal protection.

Eyes: wear safety goggles.

Hands: wear rubber (PVC) gloves.

Clothing: wear a rubber (PVC) apron.

Respiratory: where ventilation is inadequate, you could wear an SSA approved air purifying respirator.

ACTIVITIES

1. In your class, discuss all relevant health and safety issues. Consider ways that you could improve the health and safety environment within your darkroom.
2. If the chemicals you are using are not Ilford developer, stop bath and fixer, contact the Safety Standards Association and find out the correct first-aid advice for your brand of chemicals.
3. Make a poster that advertises some aspect of health and safety in the darkroom. Once completed, display the posters around the darkroom and classroom to remind people of the importance of health and safety.

2.2 DEVELOPING FILM INTO NEGATIVES

It is always a very exciting time when you first start to develop your own rolls of film into **negatives**. The process is not difficult but each stage is essential to achieve a successful outcome. Each step must be completed as stated.

EQUIPMENT AND MATERIALS

You will need the following equipment and materials to develop your film into negatives: cassette cap remover; measuring container; thermometer; scissors; exposed film; darkroom or black bag; developing tank, lid, centre support, reel and cap; film developer; stop bath; film fixer; wetting agent (optional); negative file.

Figure 2.2A
The parts of a standard developing tank

PROCEDURE

STEP 1: LOADING THE FILM

1. Collect all of the equipment and materials and place them on a bench in the darkroom. Ensure that you have all parts of the tank, cassette opener, reel, a pair of scissors and exposed film. Make sure that you are comfortable and know where everything is, then turn out the light so that you are in complete darkness. If you do not have access to a darkroom, you can use a **black bag** or a very dark cupboard.

2. In complete darkness, pick up the film and film cassette opener. Using the opener, pry open one end of the film cassette (see figure 2.2D).

3. Take the film out of the cassette and hold onto it tightly with one hand. With the other hand pick up the reel and find the two lugs which indicate the entry to the reel.

Figure 2.2B Ensure that you have all of the equipment you will need for developing the film.
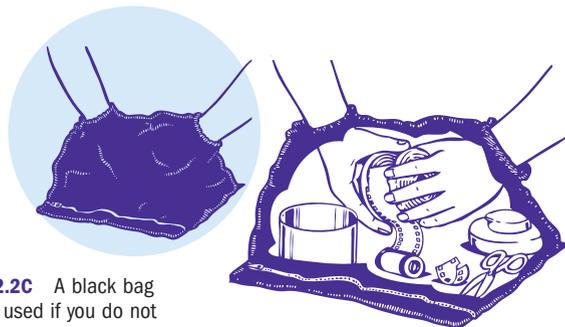
Figure 2.2C A black bag may be used if you do not have access to a darkroom.
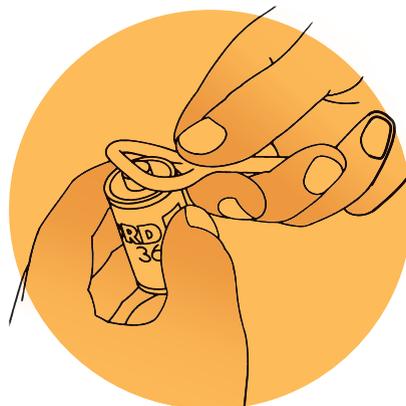
Figure 2.2D Opening the film cassette
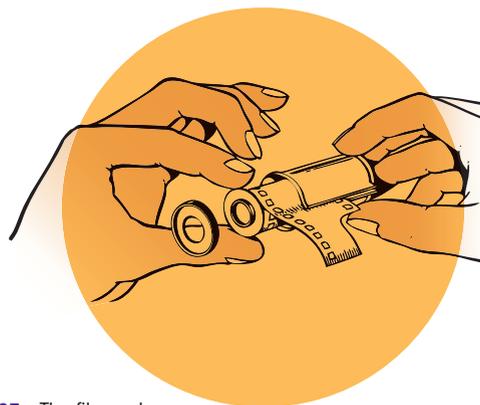
Figure 2.2E The film reel

4. Carefully pull the start of the film through the opening of the reel. Continue pulling it through until it is about halfway around the reel (see figure 2.2F).

5. You may now let go of the film. Place a hand on either side of the reel and rotate your hands back and forth about three to five centimetres at a time. This will wind the film onto the reel. Placing your thumbs on the lugs of the reel will help keep the film on track (see figure 2.2G).

6. When all of the film is on the reel you will feel the end of the film, which is attached to a small plastic spool. Using scissors, cut off the spool and wind on the remaining small section of film.

7. Place the loaded reel onto the centre support and into the tank, ensuring that the lid is secure (see figure 2.2I). You may now turn on the lights.

Figure 2.2F
Pulling the start of the film
through the reel

Figure 2.2G
Winding the film onto the reel
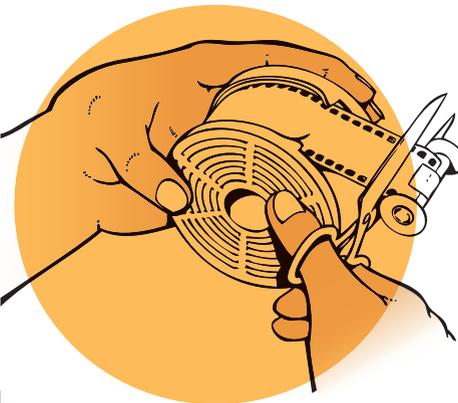
Figure 2.2H
Cutting off the film
at the end of the reel
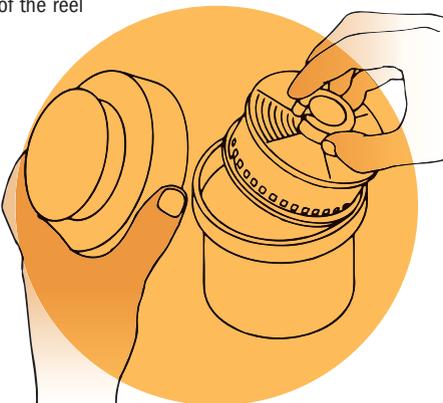
Figure 2.2I
Placing the loaded
film in the tank

STEP 2: THE CHEMICAL PROCESS

1. *Set up all the chemicals, materials and equipment that you will need*. There are a variety of brand names and different types of chemicals available. It is important for you to know which kind and type of chemical you are using, in particular:
   - the water-to-chemical ratio required
   - the correct temperature for use of the chemicals (almost all chemicals operate best at 20 degrees Celsius)
   - the amount of time you need to use the chemical for it to be effective.

   Write this information in your workbook or journal so you will have it on hand at all times.

Figure 2.2J The processing equipment and materials you will need to develop the film

2. *Film developer*. The role of the developer is to develop the negative image onto the film.

   The type of film you use, particularly the brand and ISO, has a direct influence on the required developing time. Developing time can change quite dramatically from one type of film to the next, therefore it is important to use the correct developing time for your film type and ISO. Write the following information in your workbook or journal so you will have it on hand at all times.

   Film brand _____

   Film's ISO _____

   Brand of developer _____

   Water-to-chemical ratio _____

   Temperature _____

   Time _____

If you are required to mix the chemical with water, always ensure that the water is the correct temperature before pouring in the chemical.

When you have mixed the developer and ensured it is the correct temperature, pour it into the tank, place the cap on the lid and agitate it (gently rock the tank upside down and back again) for about five seconds, every 30 seconds. When the developer has been in the tank for the required amount of time, take off the cap and pour it out.
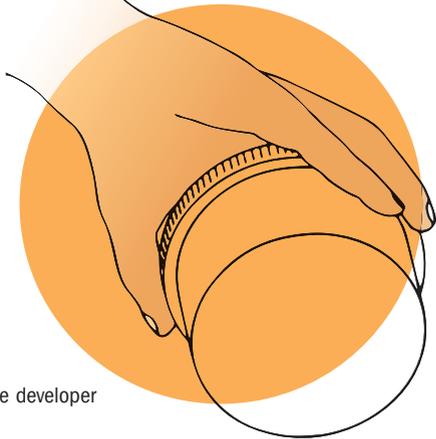
Figure 2.2K Agitating the developer in the tank

3. *Stop bath*. The role of the stop bath is to stop the action of the developer and neutralise the film in readiness for the third chemical, the fixer. The stop bath also prolongs the life of the fixer.

Write the following information in your workbook or journal so you will have it on hand at all times.

Brand of stop bath _____

Water-to-chemical ratio _____

Temperature _____

Time _____

When you have ensured that the stop bath is correctly mixed, pour it into the tank, put the cap on and agitate constantly for the required time. Then take off the cap and pour it into the tank.

Figure 2.2L Pouring the stop bath into the tank

4. *Film fixer*. The fixer works to make the negative image permanent.

Write the following information in your workbook or journal so you will have it on hand at all times.

Brand of fixer _____

Water-to-chemical ratio _____

Temperature _____

Time _____

When you have mixed the fixer and ensured that it is at the correct temperature, pour it into the developing tank. Place the cap on and agitate it for five seconds every 30 seconds, for the time required. Then take off the cap and pour out the fixer. Some fixers can be re-used, so check to see if you can pour the fixer back into a bottle and not down the sink.
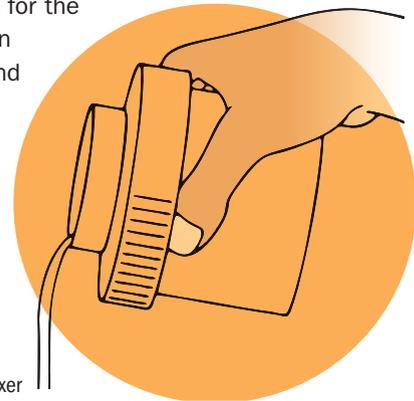
Figure 2.2M Pouring the fixer

5. *Water/wash*. On completing the chemical process use water to wash any remaining chemical from the film. You may do this by placing the tank under running water for five minutes, or you may use the following method which uses less water:

a. Fill the tank with water, secure the cap and shake it for one minute, then tip out the water.

b. Fill the tank with water, replace the cap and shake it for 30 seconds, then tip out the water.

c. Fill the tank with water, replace the cap and shake it for 15 seconds, then tip out the water. This method should clean the film adequately.
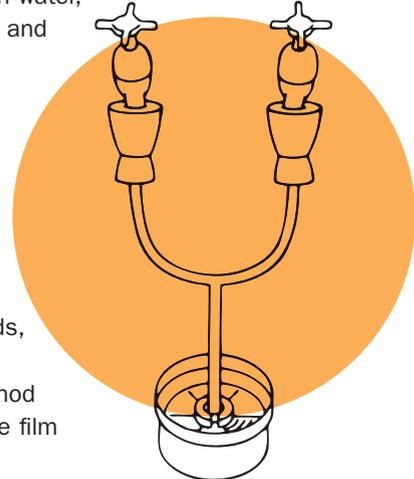
Figure 2.2N Water washing the film

POINTS TO REMEMBER

- During the final rinse you may wish to add a small amount of wetting agent to help ensure the film is clean.
- Ensure that the lid of the developing tank has been put on properly. If the lid comes off accidentally before the film is fixed, your film will be exposed to light and may be ruined.
- Make sure that you follow the chemical times, temperatures and water-to-chemical ratios exactly as stated. It is not difficult to get the chemicals in the wrong order or to lose track of timing.
- If you want your negatives to turn out correctly you must be vigilant during the chemical process.
- Agitating the chemicals is a very important part of the chemical process. You can overagitate and underagitate the chemicals.

STEP 3: DRYING PROCESS

Take the lid off the developing tank and retrieve the film reel. Very carefully pull the exposed edge of the film away from the reel. Be careful not to put your fingers anywhere except on the edges of the film.

Excess water can be removed with a squeegee. Hang the film in a clean, dust-free environment to dry.

When the film is dry, cut it into strips of about five or six negatives and put them in a plastic negative file.
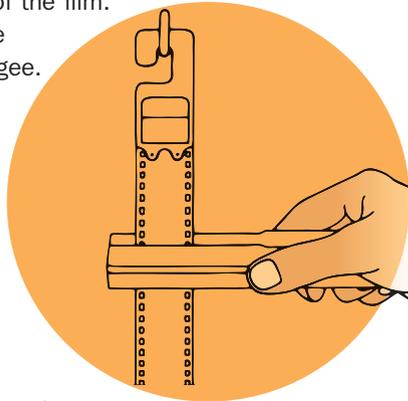
Figure 2.20   Hanging the film using tongs

Common faults in negatives

OVEREXPOSED NEGATIVES

Overexposed negatives occur when you allow too much light onto the film when you are taking a photograph. To prevent this you should ensure that you check your light meter before taking each shot.

UNDEREXPOSED NEGATIVES

Underexposed negatives occur when you do not let enough light onto the film when you are taking a photograph. To prevent this ensure that you check your light meter before taking each shot.

OVERDEVELOPED NEGATIVES

Overdeveloped negatives occur when one or more of the following has happened:
- the developer was left in the tank for too long
- the temperature of the developer was too warm
- too much developer was used.

To prevent the above occurring, you must ensure that you mix the developer correctly, and the time and chemical temperature used is correct.

UNDERDEVELOPED NEGATIVES

Underdeveloped negatives occur when one or more of the following happens:
- the developer was not left in the tank long enough
- not enough developer was used
- the temperature was too cold
- old developer was used.

To prevent the above occurring, you must ensure that you mix the developer properly, the time used is correct and that you check the expiry date of the chemical.

| Overexposed | Underexposed | Overdeveloped | Underdeveloped | Black | Clear |

Figure 2.2P   Common faults in negatives

BLACK NEGATIVES

If all of your film turns out black it means that it has been exposed to light.

CLEAR NEGATIVES

If all of your negatives are clear it means that your film may not have been exposed to light. This means you either did not load the film properly, you did not take any photographs, or you put the fixer in before the developer.

Good quality negatives

A successful negative will have the following qualities:
- a clear sharp image
- a variety of tones from very light to very dark
- be clean and free from dust marks and fingerprints
- be evenly developed.

Figure 2.2Q   Good quality negatives

ACTIVITIES

1. After taking a roll of film, develop the film into negatives and place them in a negative file.
2. In your workbook or journal, complete a comprehensive report on the process and procedures you undertook to develop the film into negatives. Include any specific equipment and materials that you used as well as any problems that you faced.
3. Write a detailed description on the outcome of your negatives in your workbook or journal. Include comments on both the good and bad aspects of your results.

2.3 PRINTING NEGATIVES INTO PHOTOGRAPHS

Having developed your negatives, you are now ready to start printing photographs. A straightforward procedure that must be followed precisely is used.

Developing photographs is really a case of 'practice makes perfect'. The more experience you have, the better you will become at it. In many cases you will start processing your negatives by printing a proof sheet. The proof sheet will enable you to see all of your negatives as positive images. This will make it easy for you to select the negatives you would like to print (see section 2.4, pages 45–46, which explains how to print a proof sheet).

The darkroom

A darkroom is basically a light-tight room: when you turn off the light no other light should be seen. The darkroom must have:
- a dry bench space for exposing the negative onto photographic paper
- a wet bench space for processing the photograph
- easy access to running water
- good ventilation
- a filtered **safelight**
- access to electrical outlets.
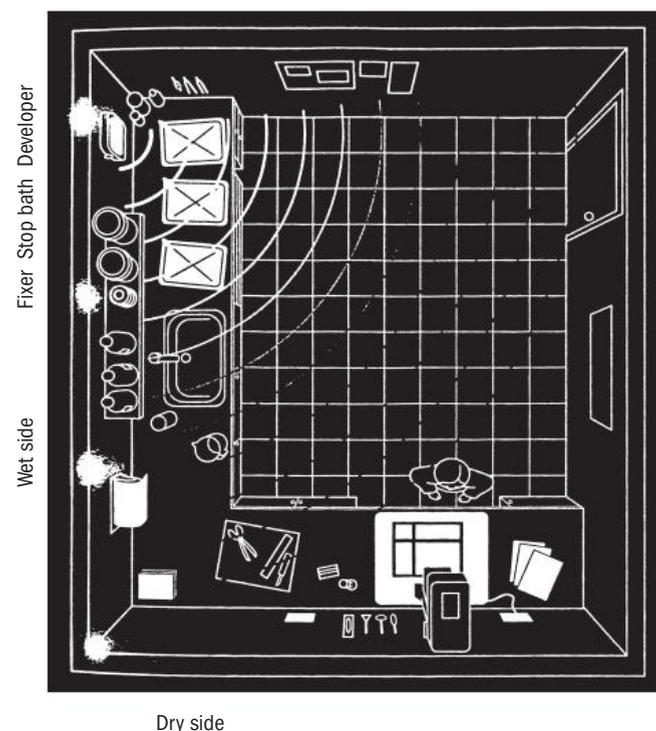
Figure 2.3A   A basic darkroom set up

EQUIPMENT AND MATERIALS

The following equipment and materials are essential in the darkroom: photographic enlarger; three processing trays; baseboard; filtered safelight; tongs; scissors; timer (optional); focus magnifier; paper developer; stop bath; paper fixer; running water; photographic paper; filters (optional).
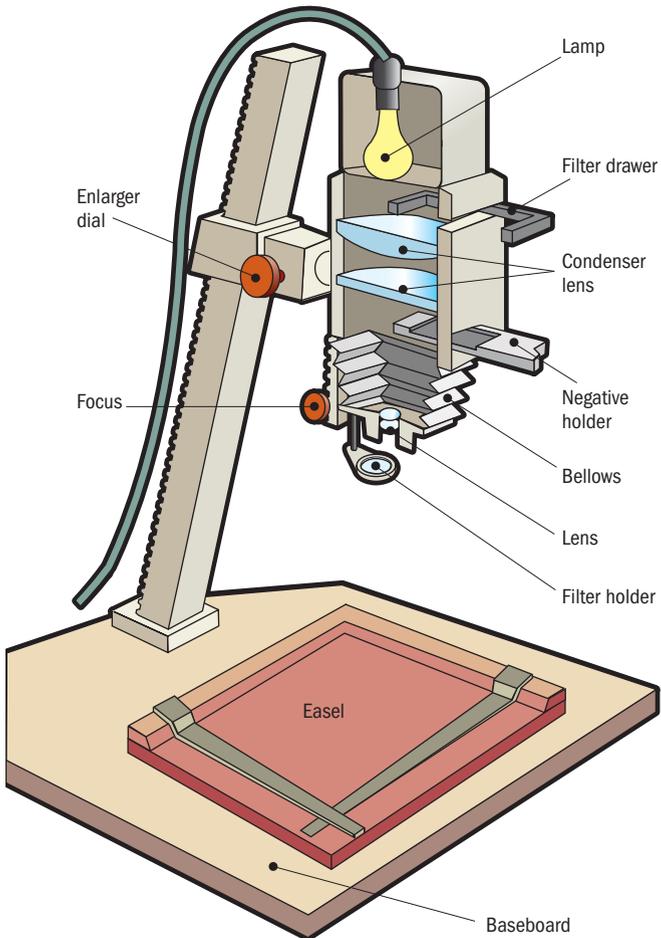
Figure 2.3B Standard black and white enlarger
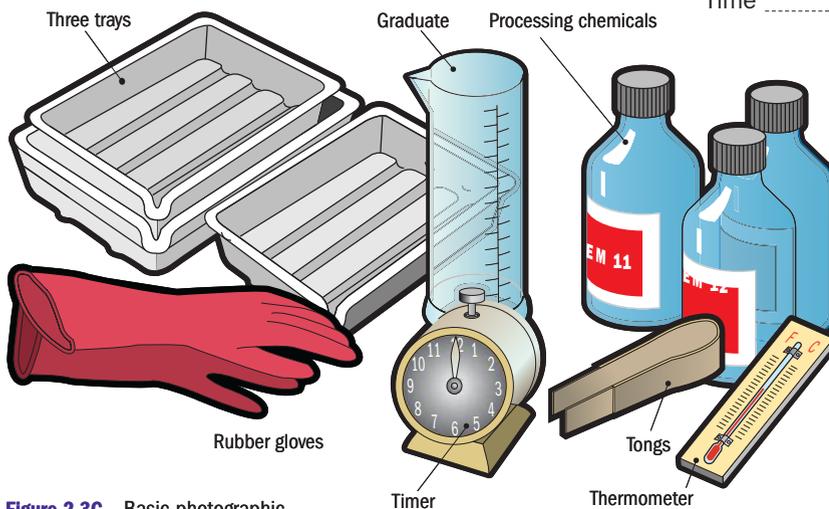
Figure 2.3C Basic photographic developing equipment

PROCEDURE

STEP 1: SETTING UP

Ensure that the darkroom is completely set up. Collect all the equipment and materials that will be required. Set up the three processing trays as indicated in figure 2.3D.

Just as there are different types of chemicals for developing negatives, there are also different types for printing photographs. In your workbook or journal, write the following information about the chemicals that you are using.
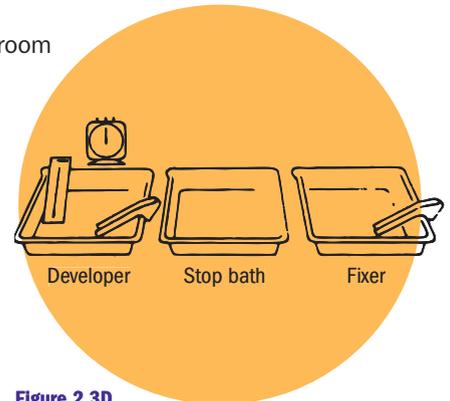
Figure 2.3D
How to set up the three processing trays

Tray one: paper developer

Brand of developer ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Water-to-chemical ratio ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Temperature ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Time ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Tray two: stop bath

Brand of stop bath ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Water-to-chemical ratio ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Temperature ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Time ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Tray three: paper fixer

Brand of fixer ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Water-to-chemical ratio ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Temperature ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯

Time ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯
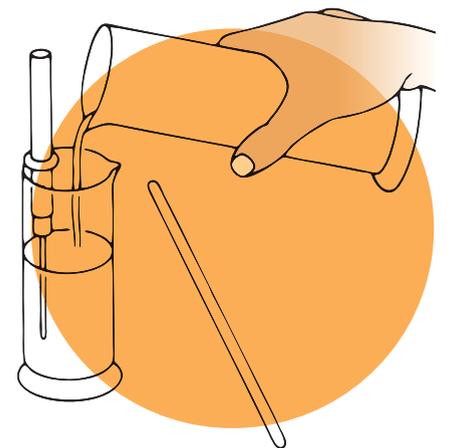
Figure 2.3E Always check the temperature of the chemicals before processing.

STEP 2: SELECTING A NEGATIVE

It is always important to remember that it is very difficult to achieve a good quality photograph from a poor quality negative. When you first start to develop photographs it is wise to select the best quality negatives to print and not necessarily your favourite picture. This will produce successful photographs with a minimum of fuss. As you become more experienced and develop your skills in printing and processing, you can attempt the more difficult negatives.

When you have selected your negative you must ensure that it is clean and completely free from dust. Any marks on the negative will appear on your photograph so it is vital that you treat negatives with the utmost care. If your negatives have any kind of mark on them, you must clean them before processing. Use a blower brush or rewash your negatives to remove dirt, marks or dust.

STEP 3: USING THE ENLARGER

1. Pull the negative carrier out of the enlarger. Place your chosen negative into the carrier shiny side up and upside down, so the negative numbers face towards the back of the enlarger. Slide the negative carrier back into the enlarger (see figure 2.3F).
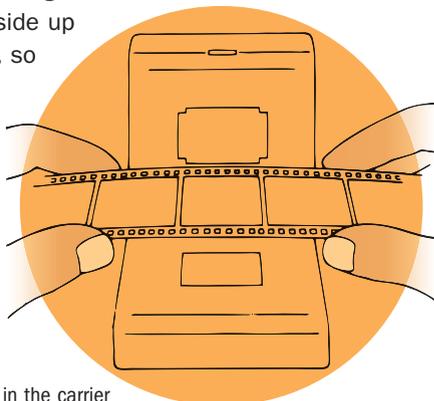
Figure 2.3F   The negative in the carrier of the enlarger

2. Turn the filtered safelight on and the white room light off.
3. Switch on the enlarger and adjust the projected image to the required size.
4. With the aperture fully open, adjust the focus until you achieve a sharp image. If you photographed the image out of focus you will not be able to achieve a sharp image. You may choose to use a focus finder to help you focus (see figure 2.3G).

Focusing can alter the size of your image, so this may need to be readjusted.
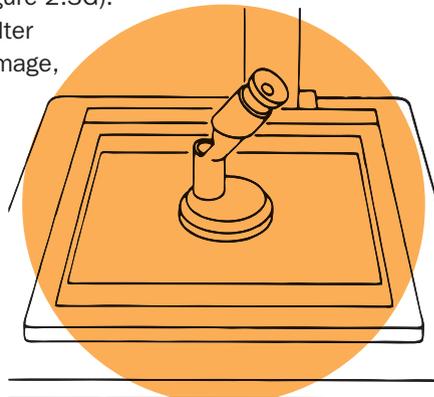
Figure 2.3G   Using a focus finder to focus on the image

5. Turn the lens aperture from full to f.8 to increase the edge sharpness and give more even illumination. Count the number of clicks so you can do it without looking at the lens. The actual aperture can vary, but should give you an exposure time of about 10 seconds. For overexposed (dark) negatives you may select a smaller-number aperture, just as you may select a larger-number aperture for underexposed (pale) negatives.
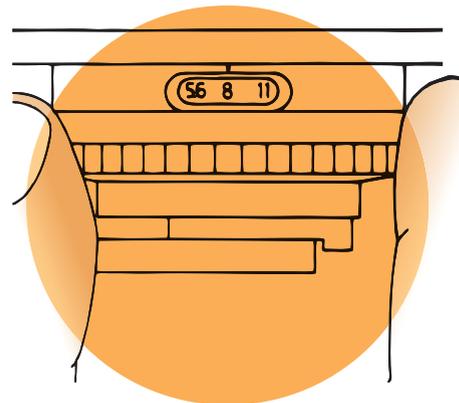
Figure 2.3H   Setting the aperture at f.8

STEP 4: PRINTING A TEST STRIP

1. The negative acts like a filter to the white light being projected on to the photographic paper. When a negative is dark, light struggles to get through. When a negative is pale, light travels through fairly easily. Photographic paper will react and become darkened by white light when it has been placed into the photographic chemicals (such as developer).

With this step you must find out how long you will need to expose light through your negative onto the photographic paper in order to give a correctly exposed print.

a. Cover the white light from your enlarger with a red safelight filter, or turn it off.
b. Cut a medium size piece of photographic paper from your packet.
c. Place the piece of paper, shiny side up if you are using glossy photographic paper, onto the baseboard below the enlarger. If you are not using glossy paper, make sure the emulsion side of the paper faces up. The emulsion side reflects the safelight differently to the reverse side of the paper and tends to be a lot smoother to touch.
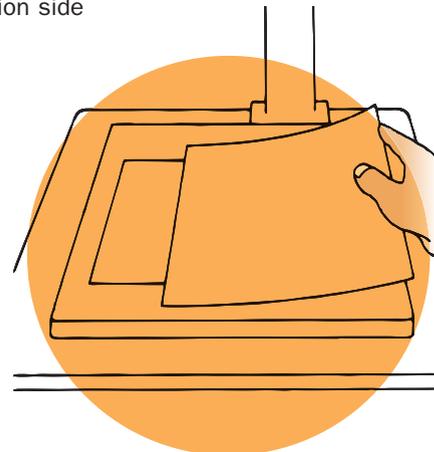
Figure 2.3I   Exposing the photographic paper

d. Expose the whole of the paper to the enlarger light for two seconds. Cover a quarter of the paper with an opaque card and expose the rest for two seconds. Now cover half the paper with the card and expose it for a further two seconds. Finally, cover three-quarters of the paper with the card and expose it for two seconds. You should now have one piece of photographic paper with exposures of two seconds, four seconds, six seconds and eight seconds in each quarter.
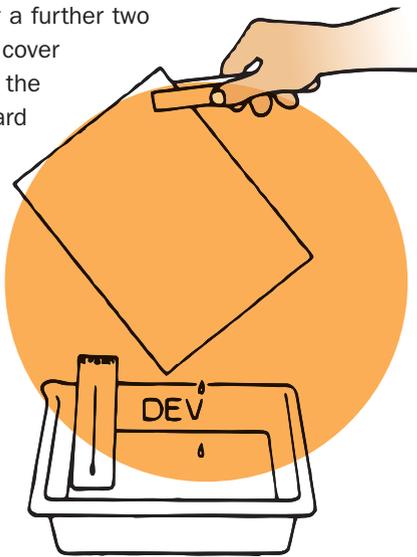
Figure 2.3J Using tongs to lift the paper out of the developer

2. Check the temperature in the developing tray to ensure that it is correct. Slide your **test strip** smoothly and quickly into the developer, ensuring that it is totally immersed.

Rock the developing tray backwards and forwards for the appropriate time (approximately one minute). Using tongs (to prevent the chemicals getting on your hands) lift the paper out of the developer and allow to drain for about 10 seconds.

3. Slide the test strip of paper into the stop bath, ensuring that it is fully immersed. Rock the tray gently for the appropriate time (normally about 15 seconds). Using a second pair of tongs, lift the strip out of the stop bath and drain for 10 seconds.
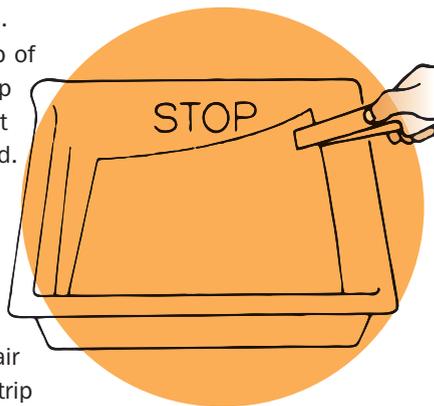
Figure 2.3K Sliding the test strip of paper into the stop bath

4. Slide the test strip into the tray of fixer and rock the tray to get a good flow of chemicals over the surface of the print. Fixing generally takes approximately two minutes in fresh solution (check the requirements for the chemicals that you are using). It normally does not matter if the fixing time is exceeded, but you should not leave a print in the fixer for more than about 10 minutes.
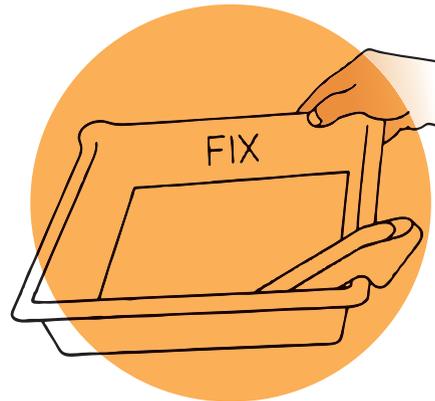
Figure 2.3L The test strip of paper in the fixer

5. Rinse the test strip under water and examine it under a bright light (daylight or room light). It will show four different exposure times ranging from light to dark. The lightest received only a two second exposure; the next, four seconds; the third received six; and the darkest strip received eight seconds. Write these times and the aperture you used on the test strip for future reference.

From the test, estimate the correct exposure for the final print. One exposure section should be about right, but if one strip is too dark and the next too light, the right exposure will be somewhere in between. If all the exposure sections are too light, open the aperture one stop (for example from f.8 to f.5.6) and repeat the test. If they are all too dark, close it by one stop (for example from f.8 to f.11) and repeat the test. When you have worked out the correct exposure you should be ready to print. Although exposure times are normally between 5 and 20 seconds they can vary from one second to more than five minutes, depending on the negative and the **enlargement** size.

Figure 2.3M Example of a test strip

You may decide to use graded filters or graded paper to help improve the **contrasts** in your photograph. The higher the grade of filter or paper the more contrast it will give your photograph (refer to section 2.4, pages 46–47). If you intend to use a filter or graded paper it is always wise to start with a standard grade, such as grade 2. If you are using a strong filter (such as grade 4) you may need to complete another test strip to ensure the correct exposure.
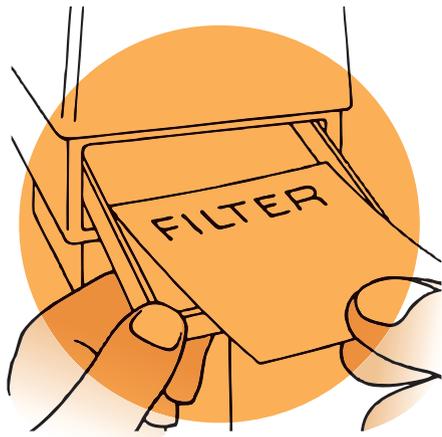
Figure 2.3N   Placing a graded filter in the enlarger

STEP 5: PRINTING A PHOTOGRAPH

1. Switch the white light off and safelight on. Position the photographic paper under the enlarger. Expose the image onto the paper for the amount of time determined by the test print.

   Test the temperature of the developer again and check the developing time. Repeat the chemical processes exactly as before.
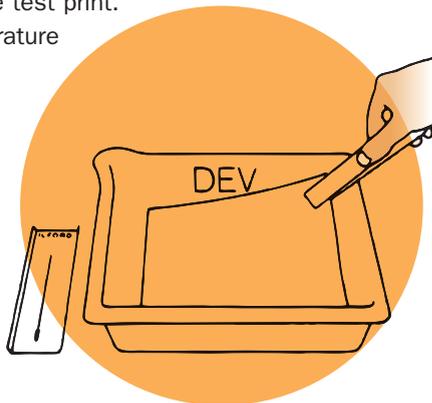
Figure 2.3O   The paper in the developer

2. Wash the print for five minutes in a good flow of water which should be approximately 20 degrees Celsius. If you use photographic paper other than the plastic-coated paper (that is, RC paper) your wash time will be longer. Consult the directions supplied with your photographic paper. RC papers are recommended for first-time users because they are easy to handle.
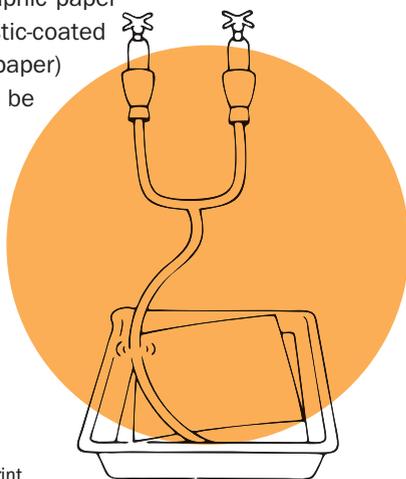
Figure 2.3P   Washing the print

   After the wash, drain the print and use a squeegee or soft clean sponge to remove any excess water. Attach a wooden or plastic clip to one corner and hang the print over a drip tray to dry.

Drying can be speeded up by using a hair dryer on a low setting. Keep the dryer moving about 30 centimetres away from the print. There are also commercial photographic dryers available.
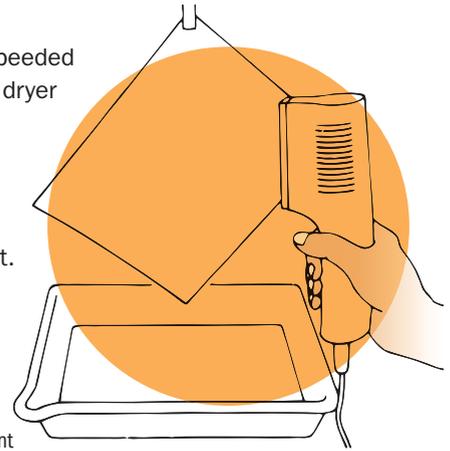
Figure 2.3Q   Drying the print

3. Examine the final print in bright natural light. The picture should contain a full range of tones from small areas of pure white (as white as the paper), to small areas of intense black, with a good range of grey in between. If this is not the case, check that you followed the instructions accurately.

Figure 2.3R   A correctly developed photograph

4. Now that you have made a superb print, why not mount it for display? Mounting a photograph can finish it off and give it a professional appearance (see section 6.1, pages 122–7).
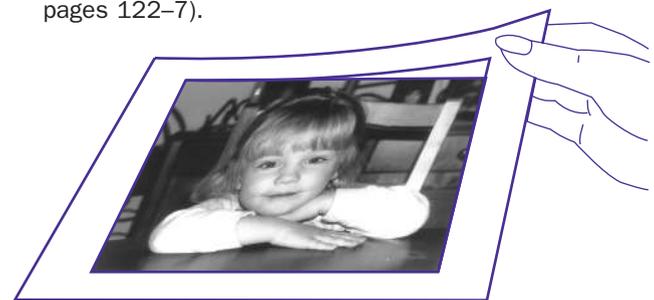
Figure 2.3S   A mounted photograph

Common mistakes made when printing photographs

- You should test the exposure for every negative that you intend to print. Most beginners waste a great deal of paper because they become lazy and do not do test strips.
- Make sure that you follow the chemical procedure exactly. Many beginners become excited and do not leave their photographs in the chemicals for long enough.

The images may look fully developed; however, if they have not been left in the fixer for long enough the image will eventually discolour (discolouration may commence approximately one or two weeks later). This can also happen if the photograph has not been washed for long enough.

- Photographic chemicals can be badly affected by air and age. It is always wise to check the expiry date and replace the lid on the chemicals promptly after use.
- It is very important that you keep your hands clean and dry. It is very easy to mark your photographic paper with chemicals and stains.
- Ensure that you don't move the paper or enlarger during exposure, otherwise your photograph will blur.

Figure 2.3V   A print blurred due to movement during exposure

Figure 2.3T   An unevenly developed photograph. Ensure that you place all of the print under the developing chemical for the same amount of time.

Figure 2.3W   Paper **fogged** while in the developer

Figure 2.3U   A print showing fingerprint marks

Figure 2.3X   The filter used for this photograph was too strong and there is too much contrast in the print.

ACTIVITIES

Complete the following in your workbook or journal.

1. Draw a diagram of your darkroom. Include the developing trays, chemicals, enlargers, safelights and white light. This should enable you to know where everything is placed inside your darkroom.
2. Draw a diagram of the enlarger you will be using. Label the focus, enlarger dial, lens, negative carrier, aperture, lamp and baseboard.
3. Record your experiences of printing your first few photographs. Glue in all your test strips, trial prints and final prints, then comment on their outcomes. Record the aperture, filter or paper grade and exposure time for each print.
4. Outline any problems that you faced while printing your first few photographs.

2.4 DARKROOM TECHNIQUES

Photograms

Photograms allow you to produce creative and imaginative images in the darkroom without having taken a photograph.

By now you know that photography paper reacts to light — the longer you leave the paper exposed, the darker it will become once placed in the developer. If you place an opaque object directly onto the paper and then expose it to light, you prevent light from reaching the paper where the object is. This technique allows you to create outlines and shapes of objects on photographic paper (see figure 2.4A).

Figure 2.4A A photograph showing objects found at school. Some objects have been moved for a second after the initial exposure time of 10 seconds. This creates some grey tones in the image.

EQUIPMENT AND MATERIALS

You will need the following equipment and materials to produce photograms: enlarger; thermometer; three processing trays; timer (optional); tongs; dryer or pegs; paper developer; stop bath; fixer; photographic paper; interesting and imaginative objects to use in the photogram (for example, keys, string, wire, lace, pens).

PROCEDURE

1. Set up the darkroom in the usual way, including safelight, chemicals and enlarger.
2. Manipulate the enlarger so that the light rays will cover the size of paper that you will be using.
3. Turn the aperture on the enlarger to f.8.
4. Switch the safelight on and the white light off.
5. Place the light filter over the enlarger and place a fresh piece of photographic paper under it.
6. Place your collected objects in an imaginative way on top of the photographic paper (see figure 2.4B).
7. Expose the paper to the enlarger light for 10 seconds, then move or remove some of the objects (this will produce a grey tone where these objects have been). Expose the paper for a further one second.
8. Process the photographic paper using the chemical procedure and assess your results.

This is a creative exercise and you can explore and experiment with it to achieve whatever effect you wish. Try exposing the piece of photographic paper for a number of different times while moving the objects slightly (for example, one, two, four and six seconds). If you do this you will produce a number of different grey tones. However, it is always a good idea to leave one major object still, so an area will be left white.

The most common mistake that students make is to expose the photographic paper for too long. If you are having problems reduce the exposure time and/or use a larger **f-stop** number (for example, f.11 or f.16).

Figure 2.4B Setting up the enlarger to print a photogram

Proof sheets and contact prints

Printing a proof sheet of your negatives will allow you to see all of your negatives as positive images. This will enable you to make a valid judgement about which negatives are worth printing as photographs. It is beneficial to get into the habit of always printing a proof sheet of your negatives before you start printing them as photographs as they are a complete record of your film shoot.

Figure 2.4D   A proof printing frame
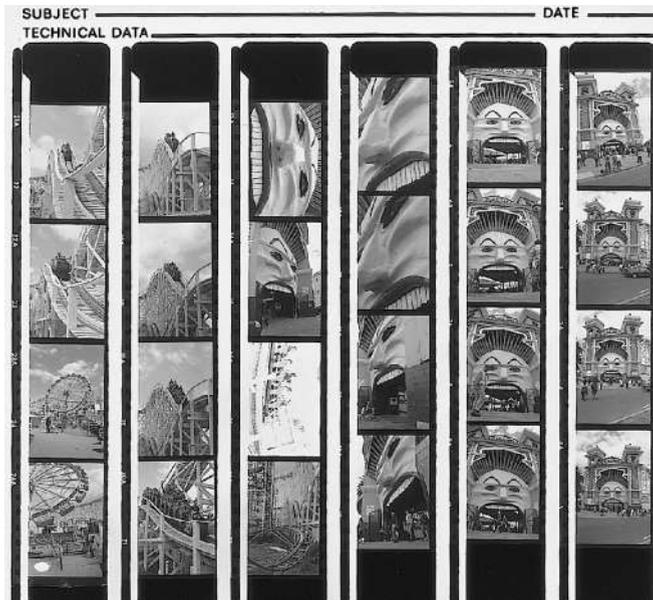
Figure 2.4C   An example of a proof sheet

EQUIPMENT AND MATERIALS

You will need the following equipment and materials to print a proof sheet: proof printing frame (see figure 2.4D) or a sheet of glass; enlarger; three processing trays; thermometer; tongs; timer (optional); print dryer or pegs; paper developer; stop bath; fixer; photographic paper; negative file; negatives.

PROCEDURE

1. Set up the darkroom in the usual way, including safelight, chemicals and enlarger.
2. Using the proof printing frame:
   a. Open the proof printing frame and place your negatives (shiny side towards the glass) in the small slits provided.
   b. Take the proof printing frame into the darkroom. Ensure the safe light is on and the white light is off.
   c. Check the enlarger to ensure that the lamp is high enough to beam rays of light over the entire proof printing frame.
   d. Slide a small fresh piece of photographic paper (as a test) into the proof printer with the shiny side facing the glass. Close the printer (it may need to click shut).
   e. Turn the aperture on the enlarger to f.8 and place a light filter over the lens.
   f. Place the proof printing frame under the enlarger and ensure that all of it will be exposed to the light rays from the enlarger.
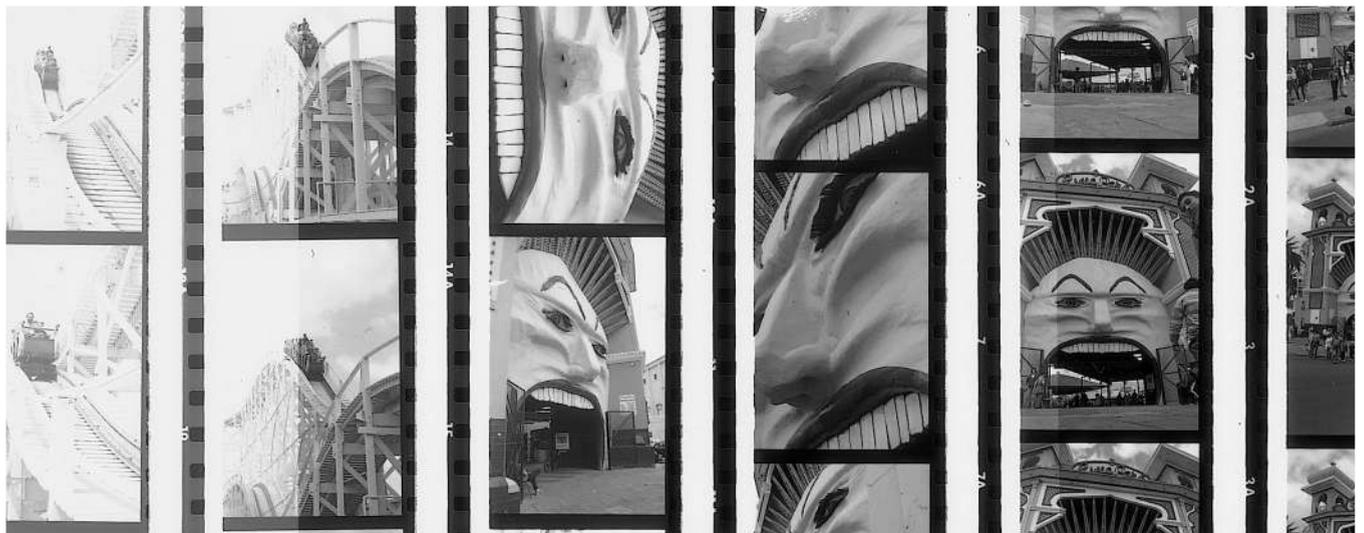
Figure 2.4E   A test strip for a proof sheet

g. Expose the paper to the light for four seconds, then cover a small portion of the paper. Expose the paper for an additional two seconds, then cover a bit more of the paper. Expose the paper for a further two seconds and cover a little more of the paper, then expose the paper for a final two seconds. This will give you a test strip of four, six, eight and ten second exposures.

h. Place the test strip in the developer, stop bath and fixer for the correct times. When it has been in the fixer for about 30 seconds to a minute you can look at the test strip under normal light conditions.

i. Select the best exposure time and then place a fresh piece of photographic paper into the proof printer (shiny side up) to print a full-sized proof sheet.

3. Using glass

If you do not have access to a proof printing frame you can use a small piece of glass instead. Use a similar process to the one described for the proof printing frame, but instead of placing the negatives in the printer, place them under the glass. When you are setting your negatives up to print, put a fresh piece of paper (shiny side up) under the enlarger, place your negatives on top of the paper (shiny side up), then put the piece of glass over the top to hold it all in place. Then proceed as described in step 2.
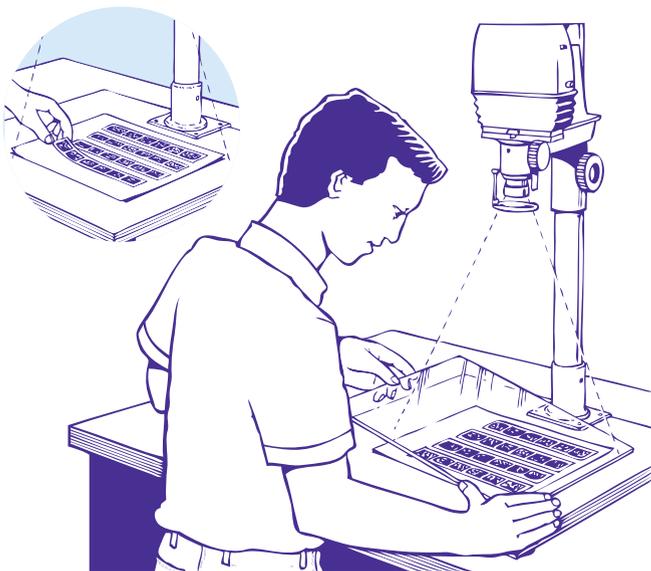
Figure 2.4F Setting up the enlarger to print a proof sheet using glass

POINTS TO REMEMBER

- Always ensure that the glass is clean and free from dust.
- Always produce a test strip first to check exposure times.
- If the negatives that you are using have different exposures, you may need to expose some longer while covering the others with an opaque card.

Filters and graded paper

An ideal photograph will generally have areas that are black, white and many grey tones. By using filters or graded paper it is possible to alter a print's contrast (strengths of blacks and whites) by changing the grade of the filter or paper you are using. This means if you have a negative that has little contrast and is printing a very grey photograph, you can correct this by using a higher filter number or higher grade of paper. This will increase the intensity between the black and white tones in your photograph.

Graded paper

In the past, the only method of changing contrast in a photograph was by using graded paper. This method is still used by some today and is a very straightforward process. The only disadvantage is that you will need a number of packets of different graded paper to use this method successfully. The grades are generally zero, one, two, three, four and five. The higher the number, the more contrast will appear in the image. So if your prints are very grey and you want to give them a lot more contrast you need to use a higher-number graded paper (for example, four or five). If you are after less contrast in your photograph use a lower-number graded paper.

Filters

Most major photographic companies now produce variable contrast paper such as Ilford's Multigrade Paper. By using this paper combined with filters, you can gain an array of different contrasts from the same negative using the same paper. There are up to 12 filters in a set (including half grades), ranging from double zero to five.

Filter 0   Filter 5
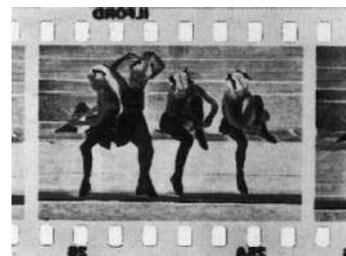
Figure 2.4G Example of a negative, with prints made from it using a filter zero and a filter five. *Evening Standard/* Associated News
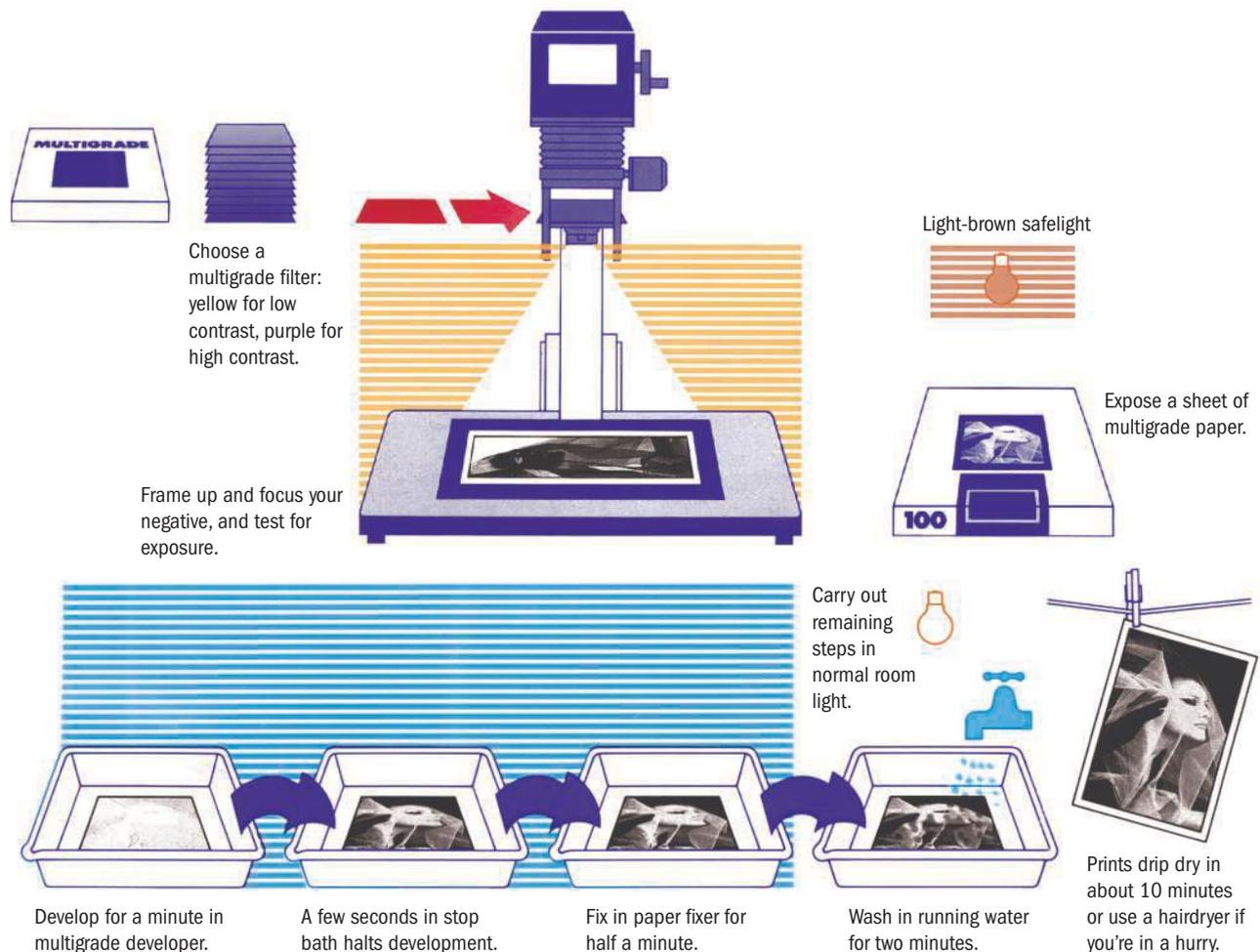
Figure 2.4H The procedure for printing a black and white photograph using graded filters

Choose a multigrade filter: yellow for low contrast, purple for high contrast.

Frame up and focus your negative, and test for exposure.

Light-brown safelight

Expose a sheet of multigrade paper.

Carry out remaining steps in normal room light.

Prints drip dry in about 10 minutes or use a hairdryer if you're in a hurry.

Develop for a minute in multigrade developer.

A few seconds in stop bath halts development.

Fix in paper fixer for half a minute.

Wash in running water for two minutes.

PROCEDURE

- Your enlarger may have a filter drawer in which you can place the filters to change contrast. Alternatively, it may have a universal adaptor under the lens, into which you can slide mounted filters. It is also possible for you to carefully hold the filters under the enlarger lens during processing.
- It is important to be aware that using filters can have an effect on the exposure times of a print. Filters 00 to 3.5 generally require the same exposure time and filters 4 to 5 require double the normal exposure time.
- With practice you will quickly learn to judge the effects the different filters have on your photographs. Using filters and gaining correct exposure times will become second nature to you.

POINT TO REMEMBER

- It is always a good idea to use filter two or grade two paper as a starting point when testing exposures.
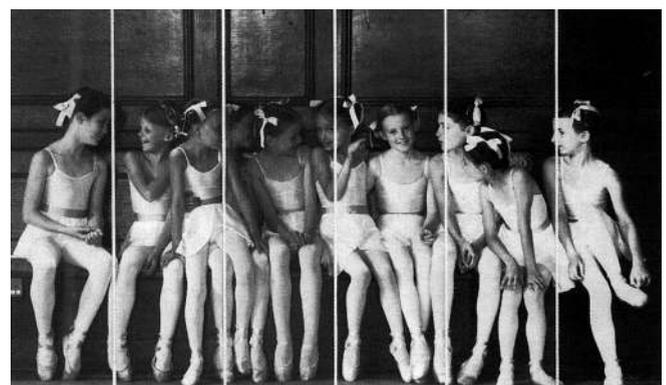
Filter 0   Filter 1   Filter 2   Filter 3   Filter 4   Filter 5

Figure 2.4I The effects different filters have on the same print. *Evening Standard*/Associated News

Dodging and burning in

When you are printing a photograph you may find that a particular part of the photograph will appear too light or dark. By **dodging** and **burning in** your print during exposure it is possible to control the amount of light that reaches the different parts of your photograph.

Dodging

When you have printed your photograph you may find that the exposure is correct except for a small section that appears too dark. By allowing that section of the photograph to be exposed under the enlarger for less time, it is possible to achieve an evenly exposed photograph. This technique is called 'dodging'. To do this you will need to use a dodging tool.

It is quite easy to make your own set of dodging tools out of a few pieces of opaque card, fine wire and sticky tape. The size and shape of the tool should relate directly to the area that you want dodged. However, you can make the shadow you create smaller or larger by moving the tool further from or closer to the enlarger light. The amount of time that you use the dodging tool for will depend on the requirements of the print. It is wise to complete a test strip to work out the correct exposure times. With these times in mind, you are free to start exposing the print. The appropriate tool should be moved constantly over the darker section during the latter part of the exposure time (see figure 2.4J).
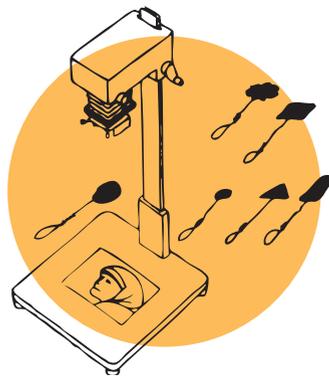
Figure 2.4J Dodging tools and how they are used

Burning in

If a section of your photograph appears too light, it is possible to make it darker. This is done by covering the remainder of the photograph with a piece of opaque card and allowing the lighter part to be exposed for longer. This is called 'burning in' and it enables you to produce a photograph that is correctly exposed. The correct exposure time can be obtained by completing a test strip for the different areas of the print. After exposing all of the print for the general exposure time, select the appropriate tool and wave it constantly over the image. This allows extra light to fall on the lighter areas of the print, exposing these areas correctly (see figure 2.4K).

When burning in, use tools made of opaque cards with holes about one centimetre to about five centimetres in diameter. You can make a range of these tools with various shapes (circles, triangles and squares) for shading, or keep some card on hand and make the tools as you need them.
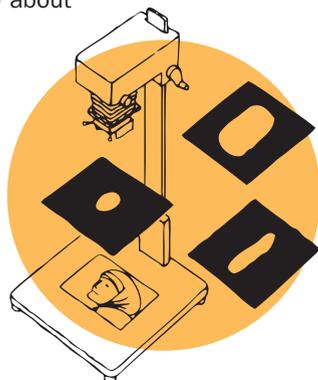
Figure 2.4K Burning in tools and how they are used

i. A single photograph may need a number of different exposure times. In this photograph three different exposure times have been used in order to gain an evenly exposed print.

Figure 2.4L

ii. A photograph demonstrating correct exposure throughout. Alexandra Bostock, Year 12, gelatin silver photograph

Spotting

Marks often appear on photographs during the printing process. These marks may be caused by dust and can be removed by rewashing the negative (using a wetting agent can help). However, some dust, small hairs and scratches cannot be removed from the negative and can leave white marks on your photograph. Spotting eliminates these marks (see figures 2.4O (i) and (ii)).

EQUIPMENT AND MATERIALS

You will need the following equipment and materials for spotting: retouching kit; dyes and/or pigment; good quality sable brush; mixing tray; cotton balls.

PROCEDURE

Spotting kits are available from most photographic suppliers and are generally easy to use. They are normally made from dyes and pigments and can be mixed to make a variety of tints intended to blend with the different tones that appear in black and white photographs. If your resources are limited, inks and watercolours can be used as a substitute when spotting. However, the colours tend to sit on the surface of the print and are therefore more obvious than dyes, which penetrate the emulsion layer.
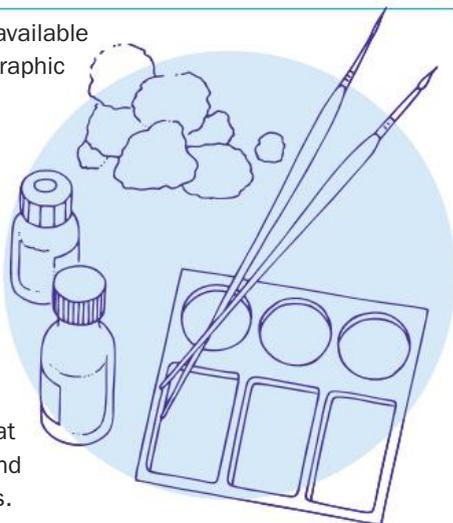
Figure 2.4M The equipment and materials used for spotting

Whether you are using dyes or pigment, the golden rule when spotting is to apply the colour in very small amounts, using an almost dry brush and build up the density gradually. You should always apply the colour with a good quality sable paintbrush which is about size 0. The colour should be placed on the photograph in tiny spots, using only the tip of the brush. Do not overload the brush with colour or you may lose control of the colour.
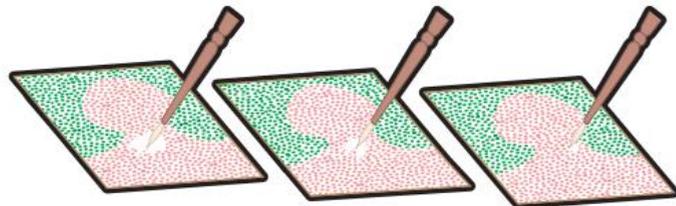
Figure 2.4N You may find that it takes several coats to build up the intensity of colour necessary to make the spot disappear. Have patience!

POINTS TO REMEMBER

- Build the colour up slowly.
- Do not use strong colour, as this will show as a dark spot.
- With large spots work from the centre outwards. This helps avoid a dark ring around the retouched area.

i. A photograph showing scratches and dust marks
Figure 2.4O

ii. The photograph after spotting

SPECIAL EFFECTS IN BLACK AND WHITE PHOTOGRAPHY

Negative image

A negative image will give you a normal photograph that looks like a negative. All the tones will turn out back to front (see figure 2.5B).

EQUIPMENT AND MATERIALS

You will need the following equipment and materials to produce a negative image print: enlarger; three processing trays; thermometer; tongs; timer (optional); print dryer or pegs; piece of glass approximately 40×50 cm; paper developer; stop bath; fixer; photographic paper; a photograph that you have already printed.

Glass

Original photograph face down

Photographic paper face up
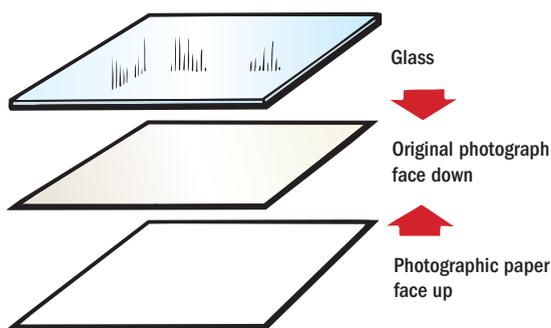
Figure 2.5A   Place the sheet of glass over the top of the paper and photograph to hold them in place.

PROCEDURE

1. Set up the darkroom in the usual way, including safelight, chemicals and enlarger.
2. Manipulate the enlarger so that the light from it will be big enough to cover the size of the photograph you are using.
3. Place the aperture on f.8.
4. Turn the safelight on and white light off.
5. Place a light filter over the enlarger.
6. Put a fresh piece of photographic paper (the same size as the photograph you are using), shiny side up, under the enlarger.
7. Place your printed photograph face down on top of the paper.
8. Place the sheet of glass over the top of your paper and photograph to hold them in place (see figure 2.5A).
9. Expose the paper to the light from your enlarger for approximately one minute (you may need to test the exposure time).
10. Put the piece of photographic paper through the chemical process and assess your results.

POINTS TO REMEMBER

- Exposure times tend to be a lot longer for this process than for printing a positive photograph.
- It is possible to obtain negative images from a number of items other than photographs. Experiment using images from magazines, photocopies and drawing, using the procedure described above (see figure 2.5C).

i. A normal photograph

Figure 2.5B   Andrea Ball, Year 11, gelatin silver photograph
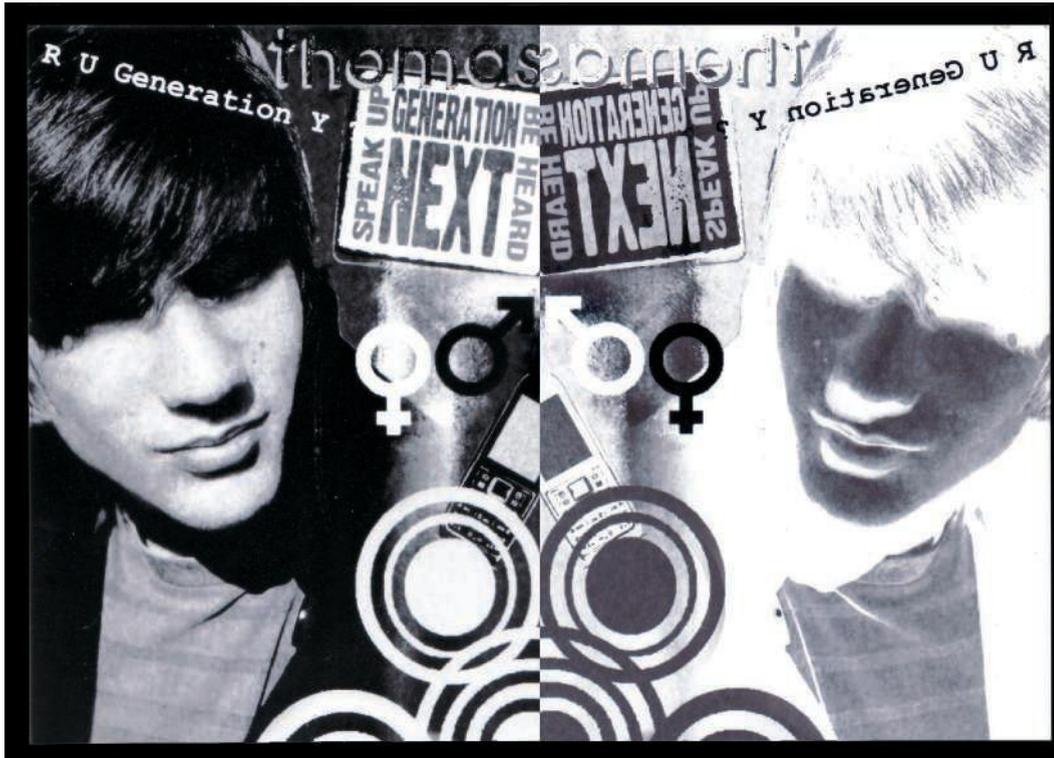
ii. A negative image

Figure 2.5C A negative image produced using a photocopied image. The negative has then been made back into a positive. Anthea Sidiropoulos, Year 12, gelatin silver photograph

Solarisation

By exposing your photograph to light during the developing process, you can achieve a partial reversal of the image. Although achieving a successful result can be fiddly, the final results are normally worth the effort.

EQUIPMENT AND MATERIALS

You will need the following equipment and materials to produce a solarised print: enlarger; three processing trays; thermometer; tongs; timer (optional); print dryer or pegs; paper developer; stop bath; fixer; photographic paper; good quality negative (better results are achieved with high-contrast negatives).

PROCEDURE

1. Set the darkroom up in the usual way, including safelight, chemicals and enlarger.
2. Place your negative in the enlarger and print a test strip of possible exposure times.
3. Study the test strip under normal light conditions. Select an exposure time that will allow your image to appear slightly underexposed. For example, if the correct exposure is 12 seconds, then select approximately nine seconds.
4. Print the image using the enlarger for the selected exposure time.
5. Place the photographic paper in the developer and stop bath for the appropriate time. Do not put it into the fixer.
6. Wash any remaining chemicals from the photographic paper.

i. A standard print

ii. A solarised print
Figure 2.5D

7. Select the f.8 aperture on the enlarger. Make sure there is no negative in the carrier. Check that the light rays from the enlarger will cover the piece of exposed photographic paper.

8. Place the exposed paper under the enlarger and expose it to light for approximately 10 seconds (this can vary; a test strip is advisable).

9. Place the photographic paper back into the developer and follow the chemical process as normal. If your image appears to go black, do not panic; wait until you have seen the image under normal lighting conditions.

10. When the photographic paper has been in the fixer for about 30 seconds you can examine the print under normal lighting conditions. However, do not forget to return it to the fixer for the appropriate amount of time.

11. When you have examined your print you can decide what you may need to do to improve it. As stated earlier, solarisation can be a difficult technique to master and you might need to try two or three times before you get it exactly right.

An alternative method is to expose the image onto photographic paper and then place it into old, exhausted developer. When the image appears, turn on the white light in the darkroom to expose the photograph. If the developer is old enough you may be able to keep the light on and watch the image solarise before your eyes. Alternatively, it may react quickly and, if this is the case, promptly turn off the light and watch what happens. Once you are happy with the result, swiftly place it into the stop bath and then process normally.

POINTS TO REMEMBER

- Initially, the photograph must be underexposed.
- Be careful not to get wet fingerprints on the photographic paper during the process.

Sepia toning

It is possible to change the tone of your prints from black and white to shades of brown. This is a relatively easy technique that you can use to make your prints look older or more earthy (see figure 2.5E).

EQUIPMENT AND MATERIALS

You will need the following equipment and materials to produce sepia prints: two processing trays; tongs; dryer or pegs; measuring jug; sepia toner bleach solution; sepia toning solution; a photograph you have printed.

Figure 2.5E i. *Trees*, Vivienne Balm, Year 12 (taken with infra-red film)

ii. Same image with sepia tone added

PROCEDURE

This process has a tendency to make your print lighter so it is best to use a slightly overexposed print.

1. Set up the bleach and toning solution in each of the two processing trays. You will need to mix the chemicals with water. However, the chemical and water ratio varies with different brands of chemicals. You will therefore need to read the instructions on the chemicals carefully (write in the ratios and chemical times in your workbook or journal so you will always have them on hand).

   Sepia bleach water-to-chemical ratio _____

      Time _____

   Sepia toner water-to-chemical ratio _____

      Time _____

2. Select a print that you have already processed to sepia tone. The best prints to use have a strong range of tones including some black areas.

3. Place the print in the bleach solution. After one to two minutes you should notice the image fading. When only a pale yellow image remains, you are ready for the next step.

4. Using running water, wash the photograph thoroughly.

5. Place the photograph in the sepia toning solution. After two to three minutes you will notice the image reappearing in sepia tones.

6. When the photograph has been in the chemical for the required amount of time, take it out and once again thoroughly wash it in running water.

7. Dry the print and mount it for presentation.

Selected sepia toning

Selected sepia **toning** is also possible. To do this you can use a paintbrush to paint the chemicals onto selected areas of your photograph. However, do not forget to wash the print after each chemical.

POINTS TO REMEMBER

- Prints tend to go a little lighter once they have been sepia toned. It is therefore a good idea to print your photograph slightly overexposed if you intend to sepia tone it.
- The chemicals tend to be harmful, so always make sure that you use tongs and wash your hands afterwards.

Hand colouring

Hand colouring black and white prints is a technique that has existed for almost as long as photography itself. Many professional photographers hand-coloured their prints before colour photography was available to give the appearance of a coloured print. In the 1930s and 1940s nearly every photograph was hand-coloured. With advancements in colour photography, the appeal of hand colouring died down. However, modern photographers use hand colouring as a creative technique to help enhance and highlight different aspects of their photographs (see figure 2.5F).

Figure 2.5F   **i.** A standard print

ii. A hand-coloured print

EQUIPMENT AND MATERIALS

You will need the following equipment and materials to produce hand-coloured prints: artist-quality brushes; a small plate or mixing dish; cotton buds (tufts of cotton on a skewer are ideal — see figure 2.5G); cotton balls; vaseline (if using oil paint); wetting agent (if using dyes or watercolours, as it will help improve coverage and get rid of 'high spots').

THE COLOUR MEDIUM

The most important material in hand colouring is the colour medium. Although it is possible to hand-colour prints with a number of different types of media (for example, permanent markers, paint), the quality of the result will vary greatly, depending on the media used.

Most good photographic shops sell hand-colouring kits, although they can be costly. Alternatives are watercolour sets, oil paints, artist-quality pencils and vegetable dyes.

THE PHOTOGRAPHIC PAPER

When hand colouring, it is important that the photographic paper you use has a matt or satin surface. This surface will allow the colour to adhere to the paper evenly and easily. If you don't have access to matt paper, it is possible to spray your photograph with a matt or satin surface spray or treat the paper with a solution of mineral turpentine and linseed oil (diluted 1:1). Brush this solution over the surface and allow it to dry. These procedures tend to make the photographic paper equally receptive to the different media.
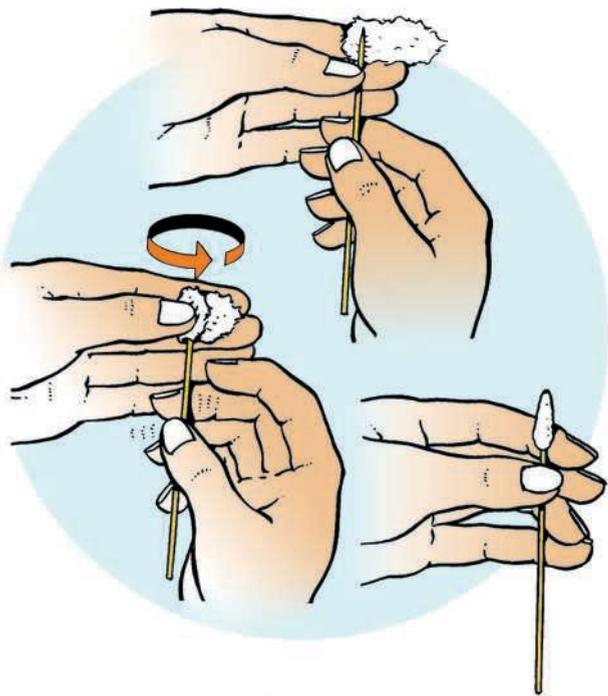
Figure 2.5G How to wrap a skewer

PROCEDURE

It is always tempting to overdo hand colouring on black and white photography. It is therefore important to plan from the start what kind of result you are after. Look at the print to be coloured and imagine how you want the finished work to appear. Remember, this is a creative technique, so you do not have to be conventional — use your imagination and be creative!

COMMERCIAL HAND-COLOURING KITS

Hand-colouring kits are available from most photographic suppliers and come in a variety of sizes and media. The most common are hand-colouring pencils, pens and oil paints. These kits tend to give very good results as long as the manufacturer's instructions are followed carefully.

WATERCOLOURS AND VEGETABLE DYES

These media are diluted using a mixture of water and wetting agent. It is best to build the colour in the selected area gradually using a cotton bud. Apply one coat at a time, allowing each coat to dry before applying the next.

Colour can be removed by washing the print. It is important to be aware that vegetable dyes tend to fade easily.

OIL PAINT

By diluting the oil paint with linseed oil the colour can become transparent. It is best to slowly build the colour in the selected area of the photograph with a good quality paintbrush or fine cotton bud.

Oil colour can be removed with a small amount of vaseline on a cotton bud.

PENCILS

Artist-quality pencils can be used by themselves on matt paper. Pencil lines can be removed by gently rubbing the surface with a cotton bud.

TONING

Large areas of colour can be applied by using a cotton ball dipped in colour and wiped in a circular motion over the print. It is important to build the colour up slowly and allow one coat to dry before applying the next. If you are using watercolours it is best to dampen the print first.

POINTS TO REMEMBER

- Always plan the look of your artwork before you start. Minimal colouring can sometimes be more effective than full colouring.
- Ensure that you have a matt or satin surface to work on.
- Take your time with this technique. It is important that you take care and build the colour up slowly. One of the biggest mistakes students make is to apply too much colour to begin with. Only put a small amount of colour on your brush or cotton skewer at any given time.

Screening and texture

You can create the illusion of a textured print by placing a textured screen between the enlarger and photographic paper while exposing the negative.

EQUIPMENT AND MATERIALS

The following equipment and materials are needed to produce textured prints: enlarger; three processing trays; thermometer; tongs; timer (optional); baseboard; a sheet of glass; print dryer or pegs; paper developer; stop bath fixer; photographic paper; good quality negatives; different fabrics and textured surfaces (for example, lace, fine cotton, calico, flywire — it is best if the fabric is fine and light in colour so that it allows light to travel easily through it).

PROCEDURE

1. Set the darkroom up as normal, including the safelight, chemicals and enlarger.
2. Select a negative that you feel would be enhanced with the appearance of texture and place it in the enlarger. Manoeuvre the enlarger to achieve the correct size and a focused image.
3. It is wise to produce a good quality standard print first; this is useful to compare with the textured print.
4. When you have produced the standard print you will need to retest the exposure time with the texture. Place a test strip under the enlarger with the texture (such as a piece of fabric) placed on top of it. Remember that your fabric will obscure some light from the paper, so the exposure time may need to be much greater than before. In most cases you will need to increase the exposure time between 50 and 100 per cent.
5. When you have determined the correct exposure time, place a fresh piece of photographic paper under the enlarger with the texture over it. It is generally a good idea to place a sheet of glass on top of the texture to hold it flat against the paper. Expose it and process as normal.
6. Compare the final textured print with the original print. You may find that more exposure time is required, or, if you are using filters or graded paper, you may need to increase the contrast.
7. Different textures will create different effects, so it is worthwhile experimenting and trialling a variety of effects and surfaces.

POINT TO REMEMBER

- It is also possible to photograph different textures and combine the developed negative with a standard negative in the enlarger and print them together (see figure 2.5I). This process is similar to sandwiching negatives, which is outlined on page 56.

Figure 2.5H   **i.** A standard photograph

ii. The same photograph printed using a texture screen of calico

Figure 2.5I An example of a photograph which combines a standard negative with a texture, gelatin silver photograph.

Superimposing images

It is possible to print two negatives onto the same piece of photographic paper, making it possible to combine two negatives to create one photograph. The most important element in obtaining success with this technique is to select two negatives that will work well together. The best results can be achieved if the negatives are similar in lighting, size and density. However, the possibilities with this technique are endless. Your only limits are your imagination and time.

EQUIPMENT AND MATERIAL

For this technique you will need the following equipment and materials: enlarger (sometimes this technique is easier with two enlargers); three processing trays; thermometer; baseboard; tongs; timer (optional); print dryer or pegs; scissors; paper developer; stop bath; fixer; photographic paper; two good quality negatives that will work well when printed together; thick cardboard for masking.

PROCEDURE

There are two different ways of approaching this technique. The most straightforward technique is to sandwich the negatives. The other technique is known as double printing.

SANDWICHING NEGATIVES

Place two negatives in the enlarger at the same time and expose them to the photographic paper together.

This method can be very effective; however, it is not suitable for all types of negatives. In this procedure you need to have the subjects in both negatives the correct size and the images will have to be overlapped.

Figure 2.5J Two negatives sandwiched together to form one print, gelatin silver photograph

DOUBLE PRINTING

This technique involves exposing both negatives separately onto the same piece of photographic paper.

To double print, work through the following procedure:
1. Set up the darkroom as usual.
2. Place the first negative in the enlarger. Adjust the enlarger so that the image is focused and the correct size.
3. Place a thick piece of card the same size as the photographic paper on the baseboard.
4. Trace around the projected image, marking the section of the negative you want to keep.
5. Cut the cardboard where you have marked it to obtain two masks. The first mask shows what you want to keep from the first negative and the second mask shows what you want to keep from the second negative.

i. Two separate photographs

ii. The two photographs combined to form one print

Figure 2.5K
Catherine Fonti, Year 12, gelatin silver photograph

6. Using a second enlarger (if possible), place the other negative in the negative carrier and manoeuvre the enlarger to gain a correctly sized and focused image that will fit into the second mask.

7. You now need to test exposure times for each negative. When you have the times, you are ready to print.

8. Start by placing a fresh piece of photographic paper into the baseboard. Using the enlarger light filter, ensure that you place the baseboard in the correct position.

9. Place the mask over the area of the paper you do not want exposed (see figure 2.5L). Expose the other side to the first negative for the amount of time you determined in step 7.

10. Change the negatives. Using the enlarger light filter again, ensure that the baseboard is placed in the correct position for the second negative.

11. Place the other mask over the photographic paper you have already exposed (see figure 2.5L). Expose the second negative for the time determined in step 7.

12. Process the photographic paper in the usual manner.

13. When the photographic paper has been in the fixer for 30 seconds you may turn on the light and evaluate the result.
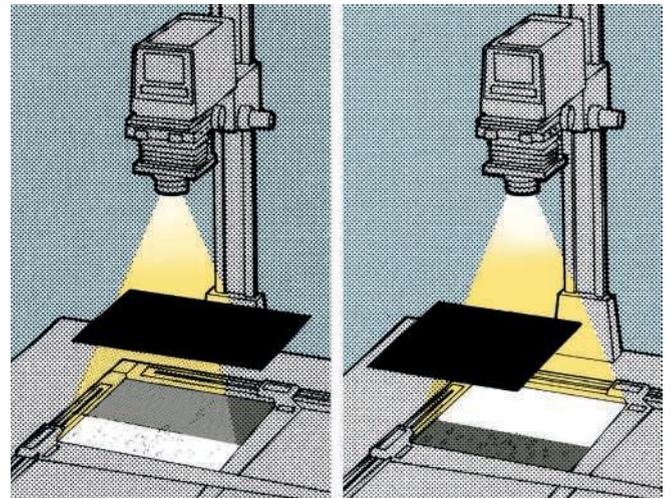
Figure 2.5L   Using a mask when superimposing negatives

POINTS TO REMEMBER

- Double printing requires a very methodical approach. You must be prepared to spend the time organising your masks and setting up the enlargers.
- When holding your masks during exposures, it is wise to move them back and forth slightly to prevent a harsh line developing between one image and the next.

2.6 PINHOLE CAMERAS

Simple pinhole cameras are relatively easy to make and provide an excellent opportunity for you to develop a solid understanding of the basic principles of the *camera obscura* and darkroom processes and procedures.

Making a pinhole camera

EQUIPMENT AND MATERIAL

In order to construct your camera, you will need the following equipment and materials: cartridge paper, boxboard cardboard, black cover paper, black theatrical gaffer tape (black, opaque, cloth tape), masking tape, Blu Tack, rubber bands, solid aluminium foil (available from chemical supply companies), a Stanley knife, scissors, a metal ruler, a cutting mat and a standard sewing needle.

PROCEDURE

1. Very carefully measure out a template for your camera, lid and flap on a large piece of cartridge paper. Use the diagram below to assist you with your measurements and remember that all lines must be drawn parallel.
2. Once you have measured out the design, you may like to cut it out and try putting it together to check that all your measurements are accurate (see figure 2.6B).

3. Once you are sure your measurements are accurate, you are ready to transfer the design onto boxboard cardboard. When this is completed, you carefully cut out your design using a metal ruler, cutting mat and Stanley knife. Also, carefully cut out the small hole in the front of the camera, as indicated on the plan (see figure 2.6A).
4. Once the design has been cut out you may need to score the fold lines of the camera and lid with a Stanley knife to allow them to bend into shape easily and accurately.
5. Using the gaffer tape, stick all the sides of the box and lid together.
6. Line the interior of the camera and lid with black cover paper, this helps reduce unwanted light reflections.
7. From the inside of the camera box, use gaffer tape to stick a piece of solid aluminium foil over the hole.
8. From the outside, use gaffer tape to stick the flap over the hole (see figure 2.6C). This card flap acts as the 'shutter' with a gaffer hinge and a gaffer 'latch' to keep the flap closed when not being used for taking photographs. Gaffer tape sticks to itself repeatedly without losing its adhesive quality.

Figure 2.6B
Mock-up of design
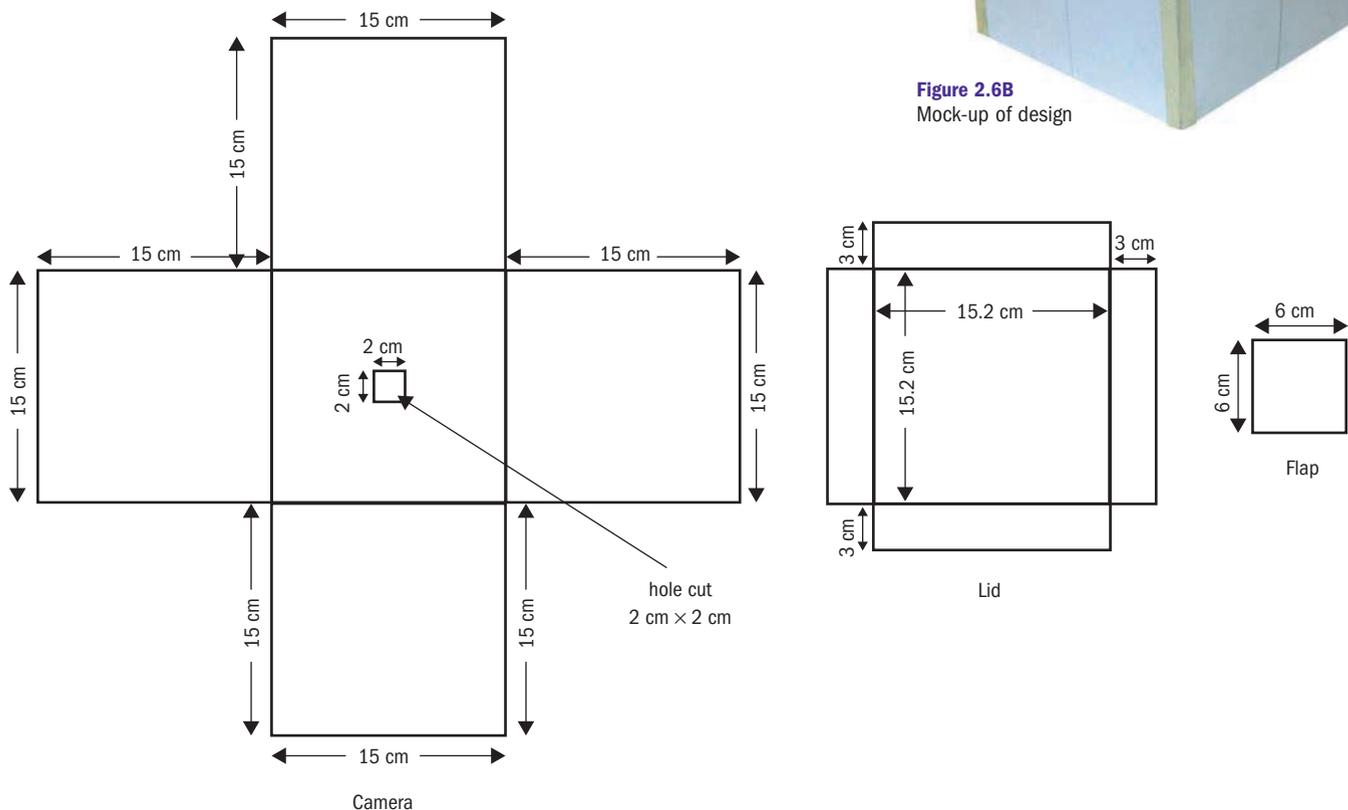
Figure 2.6A　Plan for camera, lid and flap

i. Front of camera

ii. Side of camera

iii. Inside of camera

Figure 2.6C   Pinhole camera

9. Very carefully, using a standard sewing needle, place a small hole in the centre of the solid aluminium foil. Any jagged edges created in the foil can be pressed down with a straight metal edge (for example, a scissor blade).
10. Place four small pieces of Blu Tack onto the inside cover of the lid; this is where you will stick the photographic paper. Your camera should now be ready for use.
11. Large rubber bands can be placed around the lid and box to keep the lid on and to keep the light out. The elimination of unwanted light presents the greatest problem in getting good quality photos.

Creating photographs with a pinhole camera

EQUIPMENT AND MATERIAL

Pinhole camera, darkroom, processing chemicals (developer, stop bath and fixer), small sheets of photographic paper (sheets of 5 × 7 inch, cut in half, are ideal), Blu Tack, two large rubber bands, stop watch, pencil and a copy of the proforma on page 30 to document each shot.

PROCEDURE

1. Collect all your equipment and materials, and move into the darkroom. Ensure that your chemicals are set up correctly (see figure 2.3D on page 39).
2. Turn on the (red/orange) filtered light and get out a fresh piece of photographic paper. (If a number of people are working in the darkroom together it may be a good idea to write your name in pencil on the back of the photographic paper. This way you will be able to recognise your photographs at the end of the lesson.)
3. Use the Blu Tack to attach the photographic paper firmly to the centre of the inside lid of the camera. The paper must be attached shiny side up.
4. Place the lid back on the camera and use the elastic bands to ensure that it is firmly attached.
5. Move outside and find a suitable subject to record. Secure your camera in a stable position in front of the subject so that it will not move during exposure. Place the camera so that the flap/shutter is able to drop (not be lifted as this may cause movement). Exposure times can vary considerably and are affected by the weather, lighting conditions, time of day and the size of the hole in the camera. Bright days need less time, dull days or photographing in the shade will need more time. Large holes will need less time, while small holes will need more. If you are taking your photograph on a bright day it is recommended that you start with an exposure time of between 30 and 45 seconds.
6. Gently detach the flap and allow it to drop. Use your stop watch to accurately record your exposure. The camera and subject matter should not move at all during exposure. If they do, the image will blur. Still life images are the most ideal subject matter for this process. When the time is up, gently place and adhere the flap back over the pinhole and return to the darkroom. Record your exposure time, lighting condition (bright sunshine, overcast, shade) and subject matter on the proforma sheet.

Figure 2.6D   Image captured with a pinhole camera (the image presents as a negative). Oriana Kinsey and Camilla Rogers, Year 9

Figure 2.6E   A positive image created from the pinhole photograph above

7. In the darkroom, remove the photographic paper from the camera and place it in the developer. The image will appear as a negative. If the image is faint and mainly white you will need to re-shoot with a longer exposure time. If the image is dark with a lot of black you will need to re-shoot with a shorter exposure time. Pinhole cameras can vary greatly and you may need to take the same subject matter three or four times before you gain the correct exposure. The more images you take, the greater will be your understanding of how your camera reacts to different subjects and different lighting conditions.

8. Once you have achieved an accurate exposure and produced a good quality print, it is a straightforward process to turn your negative image into a positive one. You simply need to follow the procedure on how to produce a negative image on page 50 of this book. A good negative image will enable you to produce a positive photograph.

POINTS TO REMEMBER

- In order to achieve a correctly exposed photograph you need to keep photographing the same subject in the same conditions (lighting) until you get a successful print. Too many changes can obscure any problems that may affect the outcome — one change at a time.
- Ensure that the flap completely covers the pinhole and the lid is secure before you leave the darkroom.
- It is worth considering completing this task in pairs.

Digital processes and procedures

3.1 USING DIGITAL IMAGING SOFTWARE

Introduction

The art of digital photography differs considerably from that of traditional film photography. The processes and techniques of digital photography, and the effects and **aesthetics** that can be created, are distinctly unlike those of traditional film. A colour film photograph may appear similar to a colour digital photograph, but the fundamental qualities of the images are different. A photograph made from film reflects **grain** or dyes, and is processed through chemicals, while a digital photograph is made from **pixels** and is enhanced and printed through digital software. To excel in the production of quality digital photographs you need to develop an understanding of the unique and exclusive characteristics of this exciting medium.

For the best results it is important that you start with using your knowledge of your digital camera to take the best photograph you can when you are in front of your subject matter (see section 1.6, pages 26–31).

i. A photograph before it has been enhanced using digital imaging software

ii. The same photograph after it has been enhanced using digital imaging software

Figure 3.1A

i: a and b Two photographs taken by Valerie Sparks for her *El Dorado Springs* digital photograph

a.

b.

The same two photographs combined with others to create a section of Valerie Sparks', *El Dorado Springs, 2007,* digital photograph, 100 cm × 600 cm
Figure 3.1B ii.

Once you have taken your digital photographs, you can easily connect the camera or memory card to a printer and print the images out directly. Alternatively, it is possible to improve them considerably by using digital imaging software. It is also possible to manipulate the subject matter to create highly imaginative artwork.

Digital imaging software has two primary purposes. The first is to enhance the quality of an existing photographic image by improving the colour, tone, clarity, composition and overall appearance of the image (see figure 3.1A). The second is to create a new image by manipulating photographs, combining, distorting, altering and/or blending them in a creative and innovative manner (see figure 3.1B).

Different types of software

The digital age has enabled photographers to choose from an abundance of software, which is available from large or small companies, or individual developers.

There is software available:
- for cameras
- to download images
- to process raw files
- to sharpen
- to reduce noise (unwanted speckles of colour)
- to print
- to scan
- for use in printers and scanners

- for use in computers to manage colour
- to evaluate images and other software
- to store images
- to do most of the above and for use through mega-programs such as Photoshop.

Some software costs thousands of dollars; some is shareware (free or at very low cost). Some is included with the purchase of hardware (cameras, computers, scanners and printers). Software is continually being updated.

Common programs

There are many different types of digital imaging software on the market and also a large number of free software programs available on the internet. Such software ranges from the provision of options to enhance straight photographs to the more creative manipulation, distortion and construction of photographic images and digital artworks. The most comprehensive photographic software on the market suitable for professionals, students and hobbyists is Adobe Photoshop. This industry-standard software has continued to improve over many years. There is other software that offers some of the functions available in Photoshop, but no other software covers the full range of functions offered by this program.

This chapter will cover some of the basic techniques of digital imaging software, with a focus on Photoshop CS3. Most software uses similar tools and techniques so, if you do not have access to this version of Photoshop, you will need to adapt this information to your particular software.

Picasa by Google, Photo Plus and In Full View are freely available on the internet. Of course, for this price they have limitations, but they do have some good features and are easy to use. All are Windows-based software. For Macs, the installed iPhoto is satisfactory for most people. The GIMP is another free program. It works on any platform but can be challenging to use.

If you are on a tight budget you could look at Photoshop Elements or Corel's Paint Shop Pro. If you are buying software, make sure you check that it offers a student discount. Some discounts are very generous. Most software has a free trial period.

The main Photoshop window

In developing your knowledge of how to use Photoshop, it is important to understand the location of all its various components. These can be seen in the main window when you open the program.
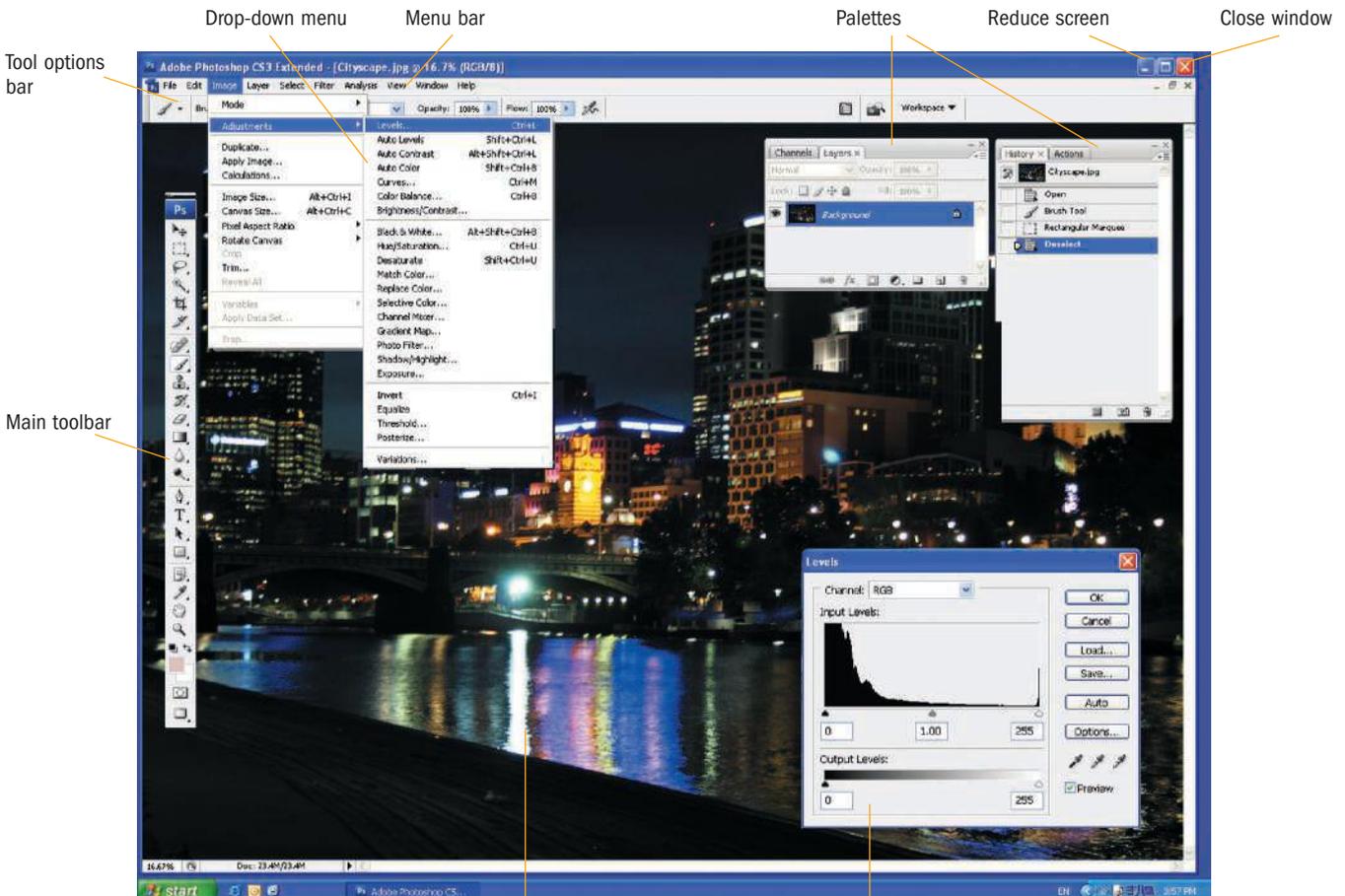
Figure 3.1C Main Photoshop window

Move tool

Lasso Tool — L
Polygonal Lasso Tool — L
Magnetic Lasso Tool — L

Cropping tool

Slice Tool — K
Slice Select Tool — K

Brush Tool — B
Pencil Tool — B
Color Replacement Tool — B

History Brush Tool — Y
Art History Brush Tool — Y

Gradient Tool — G
Paint Bucket Tool — G

Dodge Tool — O
Burn Tool — O
Sponge Tool — O

Horizontal Type Tool — T
Vertical Type Tool — T
Horizontal Type Mask Tool — T
Vertical Type Mask Tool — T

Rectangle Tool — U
Rounded Rectangle Tool — U
Ellipse Tool — U
Polygon Tool — U
Line Tool — U
Custom Shape Tool — U

Eyedropper Tool — I
Color Sampler Tool — I
Ruler Tool — I
Count Tool — I

Default colour settings

Set foreground colour

Edit in quickmask mode

Rectangular Marquee Tool — M
Elliptical Marquee Tool — M
Single Row Marquee Tool
Single Column Marquee Tool

Quick Selection Tool
Magic Wand Tool

Spot Healing Brush Tool — J
Healing Brush Tool — J
Patch Tool — J
Red Eye Tool — J

Clone Stamp Tool — S
Pattern Stamp Tool — S

Eraser Tool — E
Background Eraser Tool — E
Magic Eraser Tool — E

Blur Tool — R
Sharpen Tool — R
Smudge Tool — R

Pen Tool — P
Freeform Pen Tool — P
Add Anchor Point Tool
Delete Anchor Point Tool
Convert Point Tool

Path Selection Tool — A
Direct Selection Tool — A

Notes Tool — N
Audio Annotation Tool — N

Hand tool

Zoom tool

Switch foreground and background colours

Set background colour

Change screen mode

Figure 3.1D   The main Photoshop window toolbox

Common tools

Digital imaging software packages have a variety of tools for working with photographs. Some software has more tools than others, but the symbols for the various tools are usually the same or similar. The widest variety and the most common tools are those appearing in the main toolbox window for Photoshop.

Explanation of the most commonly used Photoshop tools

When you click on a tool from the main Photoshop toolbox, a tool option bar will appear at the top of the main window. This will offer you a variety of choices on how you may use the tool. Some tools are hidden under others. For example, if you click and hold your finder down on the lasso tool, you will have access to the polygonal lasso tool and the magnetic lasso tool.

The *move tool* allows you to move sections and layers around your image or onto another image.

Selection tools allow you a variety of options to work, enhance and transport components of your image (see the section on selections, on the next page).

The *crop tool* allows you to recompose your image by cropping out (deleting) unwanted areas.

The *brush and pencil tools* allow you to draw and paint on top of an image. Once you have clicked onto these tools, the tool option bar at the top of the main window will allow you to select from various brush sizes, and choose the diameter, hardness, flow and opacity of the colour to be applied.

The *clone tool* allows you to clone (copy) one area of an image over another. Hold down 'Alt' (on the keyboard), then left-click the clone tool over the area that you want copied. You then take your finger off Alt and click onto the area that you want to cover. The original part of the image will appear on the new area.

The *eraser tool* allows you to rub out unwanted areas of an image, selection or layer.

The *gradient tool* allows you to create a coloured, controlled blend from one colour or tone to another (for example, to fade or darken gradually over a distance). This can be applied to selections or backgrounds.

The *paint bucket tool* allows you to pour a colour into a selection or area of a particular colour or tone.

The *blur/smudge tools* allow you to soften or smudge areas of your image.

The *dodge tool* allows you to lighten areas of your image.

The *burn tool* allows you to darken areas of your image.

The *text tool* allows you to add text to your image. You have a choice of font styles, colour and sizes, and can run the text either horizontally or vertically.

The *eyedropper tool* allows you to select any colour contained within your image by clicking the eyedropper tool onto that colour.

The *hand tool* allows you to move your zoomed image around by dragging the hand over the image to the area that you wish to look at or work on.

The *zoom tool* allows you to magnify your image (left-click to zoom in, hold down Alt, and left-click to zoom out).

When you click onto the *foreground colour* square, a pop-up palette of colours will appear. Select a foreground colour for use in your image. When you click onto the *background colour* square, a pop-up palette of colours will appear. Select a background colour to use in your image.

Used to switch foreground and background colours.

Default colour settings resets your colour settings to black and white.

Change *screen mode* allows you to control the way that images are displayed within your work space. You can move from a screen that contains all your tools and windows to a screen that is free from these distractions You can press Tab on your keyboard to remove all the windows and tools from your screen. This will allow you to view your image without distractions. Press Tab again to regain them.

POINT TO REMEMBER

- If you are trying to work on a particular area of your image and none of the tools seem to be working, you may have selected another area accidentally. To check if this is the problem, go to Select > Deselect. It could also be because a path has been started accidentally. If this is the case, go to Windows > Show Path and drag the path into the trash.

1. **Exploring tools to create an image**
   - Open a new document in Photoshop, 21 cm × 29.7 cm (A4 size). Use this document to explore the various tools in the program.
   - Start by exploring the paintbrush tools and foreground colour options. Click onto the foreground colour and select a colour from the pop-up palette window. Then explore the various paintbrush options.
   - Use the square or circle marquee tools to select an area of your image. Now use the paint bucket or gradient tools to colour this selection.
   - Explore the text tool to produce words on your image. Look at the fonts and text options to produce various effects.
   - Open the layer window (Window > Show Layers) and look to see if you have produced any new layers. The text should appear on a different layer. If you want the font to be transparent, move the opacity slider at the top of this window.
   - Explore moving from one layer to the next (see page 70 for more information on layers).

   - Explore the blur and smudge tools to experience their effects.
   - Explore any additional tools to create a colourful and abstract design.
   - Print out a copy of your exploration and glue it into your workbook or journal. Comment on the tools and effects that you have produced.

2. **Exploring tools to enhance and manipulate a photograph**
   - Open up a digital photograph in Photoshop.
   - Explore the tools that you have already discovered and try new ones to enhance this image creatively.
   - Print out a copy of your exploration and glue it into your workbook or journal. Comment on the tools and effects that you produced.

3. **Answer in your workbook or journal**
   a. What are the implications of manipulating the source image?
   b. Why would it be beneficial to make a copy of it?

Selection

As noted earlier, there is a variety of **selection** tools. These tools allow you to select all or part of an image. Once you make your selection, you may choose to alter or adjust that section, or you may choose to copy and paste it somewhere else, perhaps on another image. There are a number of options for selecting an area of your photograph, and you will need to understand how each one works in order to be able to select the best tool for the required task. When the image is selected it will appear to have a black, broken line flashing around the selection. This is often referred to as 'marching ants'. When you see the marching ants, only that area is active. Any adjustments you make will only affect the selected area.

The *rectangular* and *elliptical marquee tools* allow you to select basic shapes. You do this by dragging your chosen marquee shape over the area that you want to select. This works well if the area you want is a basic circular, oval, square or rectangular shape. If you are finding it hard to make your selection correctly, Photoshop will allow you to transform this selection by going to the menu bar and choosing Select > Transform Selection. You can then drag out, distort or change the size of your selected shape. Once you are happy with the selection, you need to click back on the marquee tool to transform your selection.

By dragging the *quick select tool* over an area of an image, it will loosely select that area. Pressing Alt while using the quick select will allow you to deselect areas. The size of the tool brush area can be adjusted on the tool option bar.

Marching ants

Figure 3.1E A selection within a photographic image illustrating the marching ants around the selection

The *magic wand tool* allows you to select a tone or colour. Using the magic wand tool, you can simply click on the tone or colour that you want. You can then hold down the Shift key and click the wand again to widen your selection or hold down Alt to reduce it. Photoshop also allows you to increase or decrease the tolerance (**tonal** and colour **range**) of your selection. This is normally situated on the tool option bar on the main Photoshop window.

The *lasso tool* allows you to drag your mouse around an area that you want selected (roping it in as such), starting at one point and then moving the mouse around to finish at the same point. This tool tends to give a fast yet not very accurate selection.

Photoshop also provides a *magnetic lasso tool*. This tool provides a similar technique to the lasso tool, but if the mouse is moved slowly around the edge of an object, the selection will grip to the edge. This is fiddly, yet once mastered it can be a quick way of selecting an object or shape. It works best with strong edges.

A third option is the *polygonal lasso*. Just click on one point of the image you want to select, then on the next until you have moved around the image and returned to where you started, to complete the selection. This works best with objects with straight edges.

The *path* or *pen tool* allows for a detailed and accurate selection of any shape or form. In order to create the selection, click on the path tool then move to the tool option bar at the top left-hand side of the main Photoshop window and click on 'paths' (   ). Then use the path tool to click around the area of the image you want selected. If necessary, zoom into the image to ensure that the path that you are creating is accurate. To create the selection, you must start and finish the path at the same point. Once the path is completed, go to the top of Photoshop's main window, click onto Windows > Path. At the bottom of the path window you will see a circular marching ants icon. Click on this to get the ants marching around your selection. If you mess things up and want to start again, press Escape and/or delete the existing Path.

Adding or subtracting from a selection

When you find you have selected too much, or too little, you can add or subtract from the selection with any of the selection tools. Often, the lasso is a good choice because you can draw any shape selection you require.

To add to a selection, hold down the Shift key and use your chosen tool to mark the area you want to add. To subtract, hold down the Alt key. To do this accurately, it is best to zoom to 100 per cent or more.

This procedure takes a lot of practice. If you make a mistake, you can go to Edit > Undo to erase the last step or click back one history state (Windows > History) at a time until the mistake is reversed.

Path around image

Activate selection (create marching ants)
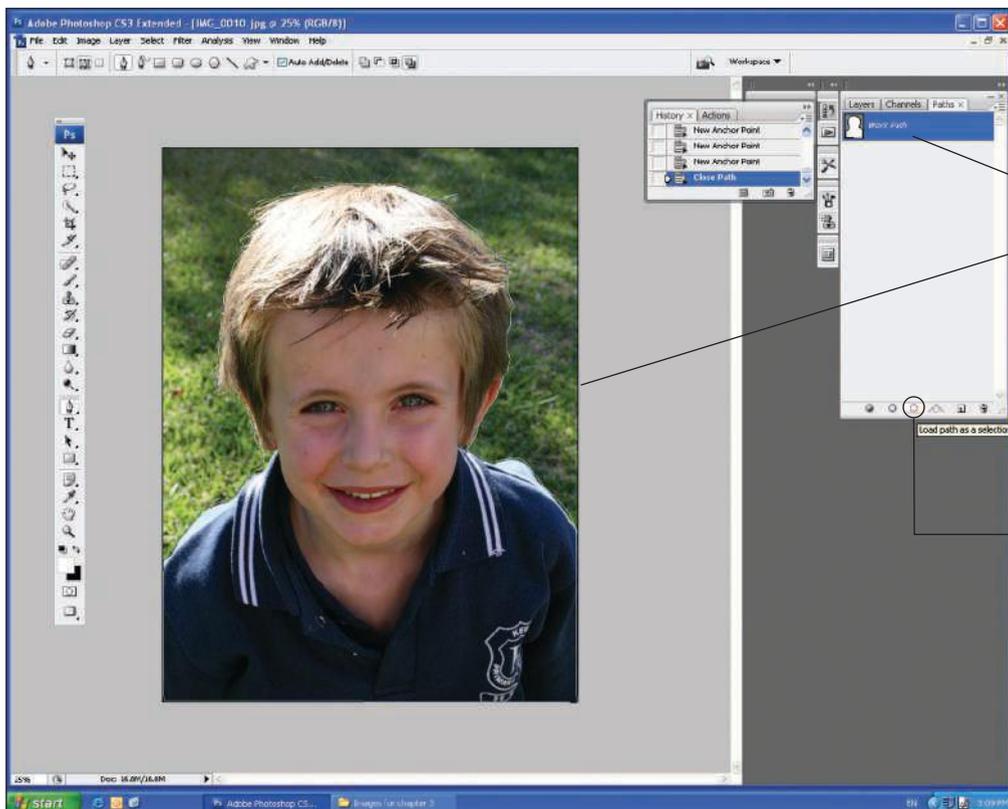
Figure 3.1F A path window with an example of a path and showing where to press to achieve the marching ants

Feathering the edges

Feathering allows you to soften the edges of a selection quickly, to make it appear less cut-out and hard-edged. Go to Select > Modify > Feather and pick the number of pixels you want to grade at the edge of the selection (between 3 and 6 is common).
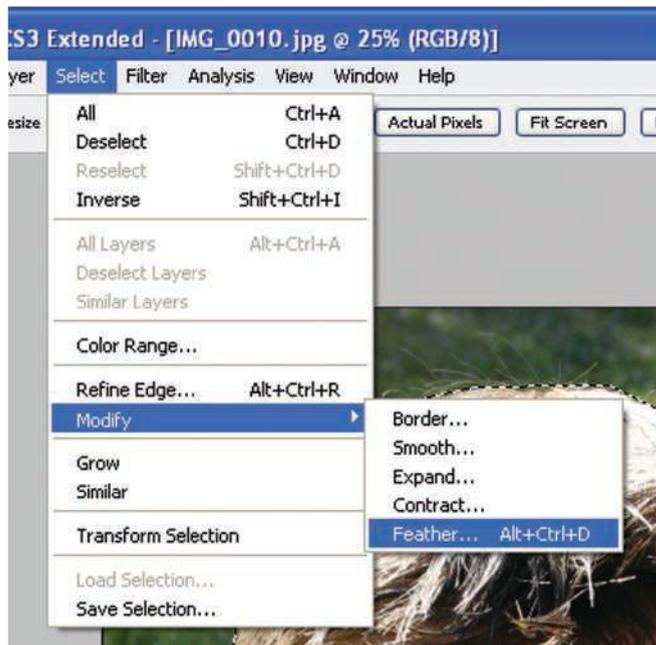
i. Where to find the feather tool window

ii. A feather tool pop-up window
Figure 3.1G

Refining your selection

A more advanced and better method of refining a selection is to use the quick mask. This is not a selection tool, but enables you to see which areas are selected and which are not. It also allows you to easily add to or reduce the selection.

- Make a selection with any appropriate tools.
- Press the Q on your key pad; this will paint a red mask over the non-selected areas.
- Examine the edges — you may want to zoom in to have a closer look. If you want to add to the selection, paint the area with a black brush. To subtract, use a white brush or eraser tool.
- When it looks okay, press Q again so that the red mask goes and the individual selection returns.
- Feather the edges (see above).

i. The edge of an image that has not been feathered

ii. The edge of a image that has been feathered
Figure 3.1H

Non selected area (in red)
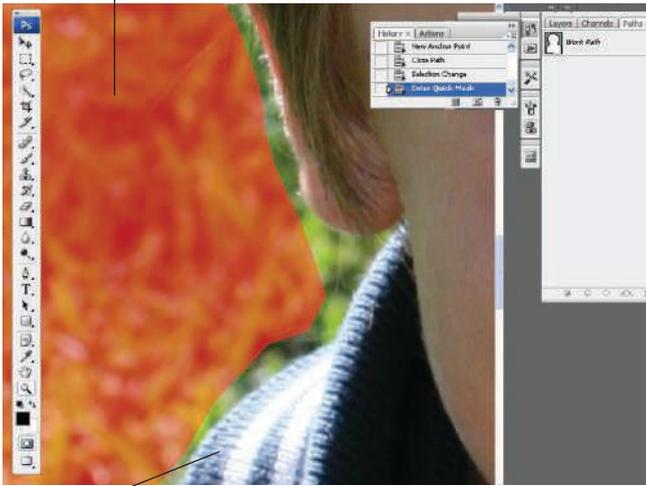
Selected area (not in red)

i. Close-up view of a photograph with the red mask over the non-selected areas
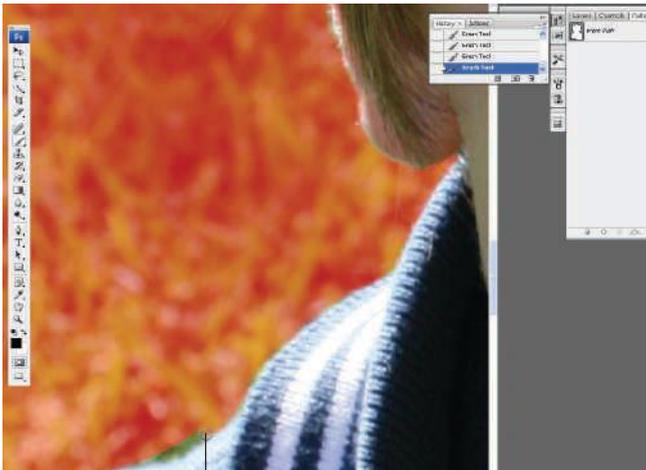
Paint brush tool refining selection

ii. How to refine the selection using a paint brush tool

iii. A photograph showing a refined selection

Figure 3.1I

Saving a selection

Once you have made a selection, you need to save it by going to Select > Save Selection. The selection is saved in the Channels palette, which is found behind the Layers palette. If you can't find it, go to Windows > Channels. Type in a name for the selection, click OK and you will see the named selection appear at the bottom of the Channels palette. If you click on it you will see the selection in black and white, or your image. To make it active again, go to Select > Load Selection and press OK. Then again, in the Channels palette, click on the top channel (at the top of the stack) that says 'RGB' and the full image will come up again with the selection active.

You will need to work your way through this a few times to become proficient. It is much easier to do it than to read about it!

Transform

Once you have an area selected you may decide that you wish to transform that part of the image. This can be done by going to Edit > Transform ('Ctrl T' is a shortcut). This option will allow you to resize the scale of the selected area, rotate, distort or give it perspective. It will also allow you to flip your image horizontally or vertically. This is a common option used by students to manipulate their images. If you are changing the size of the selected image you need to hold down the shift key and pull the image out or in by the corners so as not to distort the subject matter.

Figure 3.1J The location of the Edit > Transform option

i. Scaled down

ii. Rotated
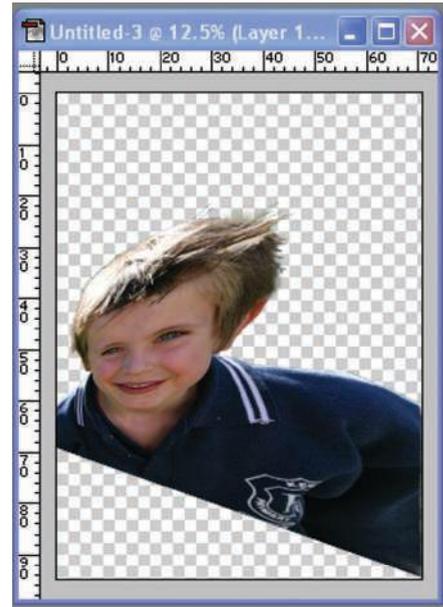
iii. Skewed

Figure 3.1K The subject being transformed

Figure 3.1L This image was created by selecting the face and then Edit > Transform > Rotate to 180°. *Upside down*, Georgina Dempsey, Year 12, digital photograph

Layers

In Photoshop you can enhance various components of your image and/or import new selections so as to build and construct your artwork.

Photoshop is set up to allow you to work in layers, where each new imported image and or enhancement can be placed on a separate layer. This is critical when you want to build up an image using several different photographs.

By placing each image on a different layer, Photoshop allows you to work on the different components of each image separately and then go back and move, enhance or adjust that layer without affecting the rest of the artwork.

Layers

Figure 3.1M This image shows a number of different layers combined to make up the artwork. *Flowers in the city*, Alice Halpin, Year 12, digital photograph

It is also possible for you to move your images or text on top of or behind other layers by simply dragging the layer into the appropriate order on the layer window (see figure 3.1N). In order to find the Layers window you need to look to the top of your main Photoshop window and click onto Windows > Layers.

Layers can be opaque or transparent, and may have effects applied to them.

Another important aspect of layering is to create new layers for the different adjustments that you make to an image (see section 3.4, page 84). This will allow you to easily delete a mistake and go back and refine improvements without affecting the whole image.
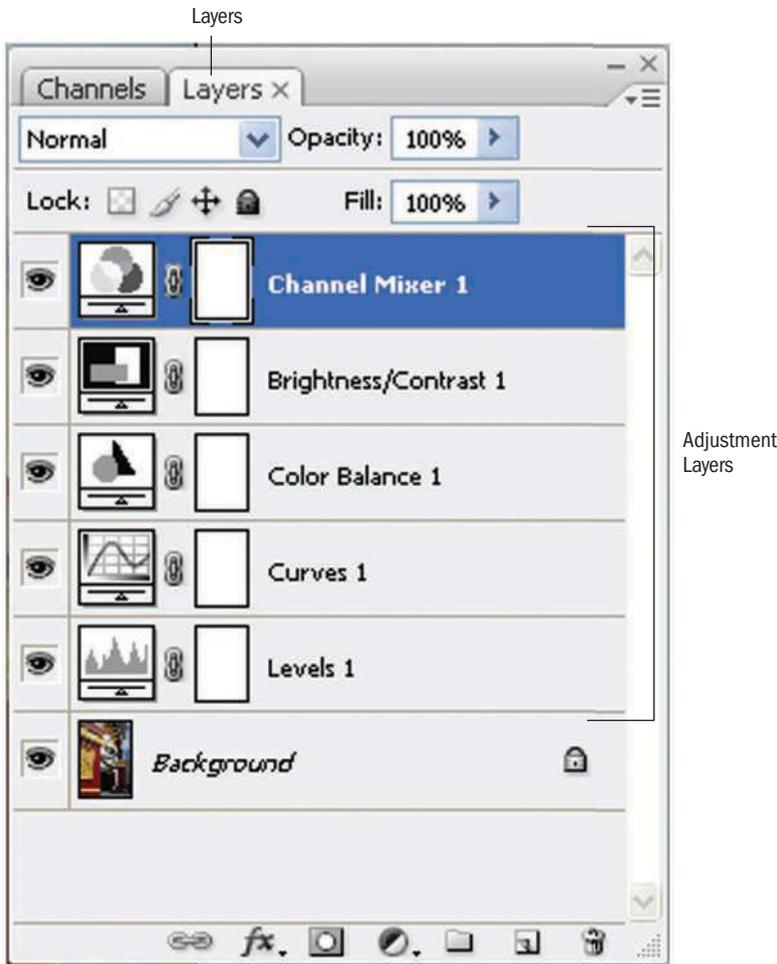
Figure 3.1N A number of different adjustment layers

History

In Photoshop, the history window allows you to monitor and undo the steps that you have carried out while working on your photograph. If you make a mistake and want to undo it easily, you can go to Edit > Undo, and that will enable you to instantly undo your last adjustment. But a problem arises when you want to undo your fifth-last action. By looking at the top right-hand side of the main Photoshop window, you can click on Windows > History. This window will show you the previous 25 steps (actions) that you have taken on an image. You can easily click back to the last action you want to accept and then continue to work on the remainder of the artwork.
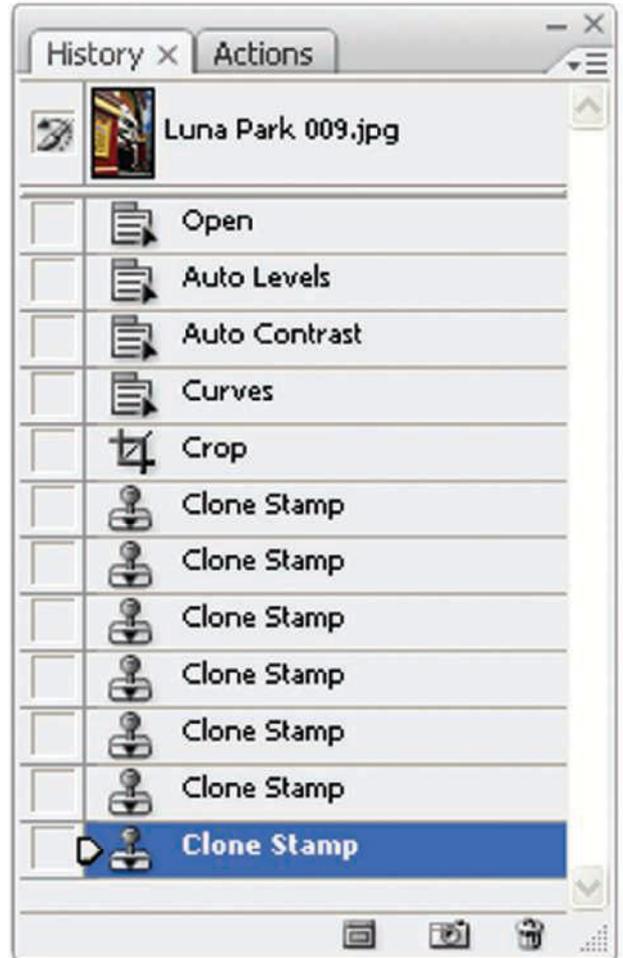
Figure 3.10 A history window

It is possible to increase the number of history steps; this can be altered in Preferences (top-left screen) > Edit > Preferences > Performance > History states. Fifty is a better choice. Too many will slow you down.

If you are going to do a lot of spotting or painting, and think you may exceed your allocated number of history states, you can record important states by taking a 'snapshot' of them. Highlight a history state that you wish to preserve, go to the bottom of the history palette and click on the camera icon. This creates a permanent history state for you to return to at any time. Just click on it. Remember that if you do this and then make another move you lose all the changes after you first created that history state.

3.2 IMAGE QUALITY

When creating your digital photographs, it is important that you strive towards producing the best quality image possible. The quality of a digital photograph is determined by a number of factors. In particular, the type of camera you use, its lens, imaging sensor, pixel size and the settings you select in terms of resolution (image size, DPI), ISO (sensitivity), focus, exposure, aperture and shutter speed.

When you analyse the quality of your photographs, it is important for you to consider many things. In particular:

1. *Content*. Does the image say something differently? Is it worthwhile? Is it surprising? Is it effective (see chapters 4 and 5, pages 102 and 109)?

2. *Structure*. Is the image composed well? Do the elements contribute meaning and purpose to the image (see chapter 8, page 142)?

3. *Craft*. Is the photograph made skilfully (see chapters 1 and 3)?

It is important for you to take into consideration:

a. *Resolution*. Image resolution is determined by the number of **pixels** produced per inch (**ppi**). An image printed at a small size contains more ppi than the same image printed at a larger size. In order to gain a good quality print, the number of pixels per inch should not be less than 150 dots per inch (**dpi**) at the size you wish to print. If it is less than 150 dpi, then the clarity and sharpness of the image will be compromised and you may not be able to see all the fine detail.

i. An image showing high resolution

ii. The same image showing low resolution

Figure 3.2A

b. *Tone.* There should be a broad range of tones, from very dark to very light, with a large number of tones in between. Tones should be clearly distinguished from shadows to highlights. The darker areas of a photographic image are known as shadows, whether they are shadows or not. The light areas are called highlights and those in the middle are called mid-tones.

Figure 3.2B A photograph in which the shadows and highlights are indicated

c. *Colour.* Colour can be technically correct or it can be enhanced or altered to gain a particular effect. For correct colour, a grey piece of wood appears grey, flesh tones appear normal, a known colour such as a trade logo appears exactly right. Pleasing colour could mean red tones at sunset, warm tones on a portrait, or bluish tones for a night or snow scene.

d. *Sharpness.* Sometimes high sharpness is required to reveal detail; at other times you may want softness to obscure it. It is these qualities that we can control in digital photography and use to enhance our images.

e. *Concept and design.* Perhaps most important is the question, is the image interesting or important for some reason? If you take a boring image, poorly composed, at the wrong moment, and there is camera shake it is very unlikely anyone will accept it as a high quality image.

Controlling image quality

The quality of a digital photograph relies on a combination of many attributes, as discussed previously. Because people have a variety of quality concerns that may vary with different images, the answer is not simple.

In order to achieve a high quality print, you need to have an understanding of how to obtain the best results for each quality concern (colour, tone, detail and clarity) and then put into place an action plan to combat problems as they may arise.

This section will cover some of the factors that you need to consider when enhancing a digital photograph.

Colour and tone

For the content to be seen easily and effectively in your photographs, the tones and colours should be correct and chosen from the widest possible range. For instance, a face should appear to have correct flesh tones — not green (unless you want to make the person look sick!). Black should be as black as possible, white as light as possible. You should be able to see detail in dark shadows and in bright areas.

Tone can be controlled by using digital software to adjust the levels of your photograph (see pages 84–87 of this chapter).

Colours

Light is a form of energy that comes from the sun, light bulbs, candles or other sources. Light can alter the way that you see colours. It is possible to manipulate the colours in your photographs, but first you need to have a basic understanding of colour theory.

It has been know for a long time that if we mix red (R), green (G) and blue (B) we can make other colours.

R + B = Magenta
R + G = Yellow
B + G = Cyan
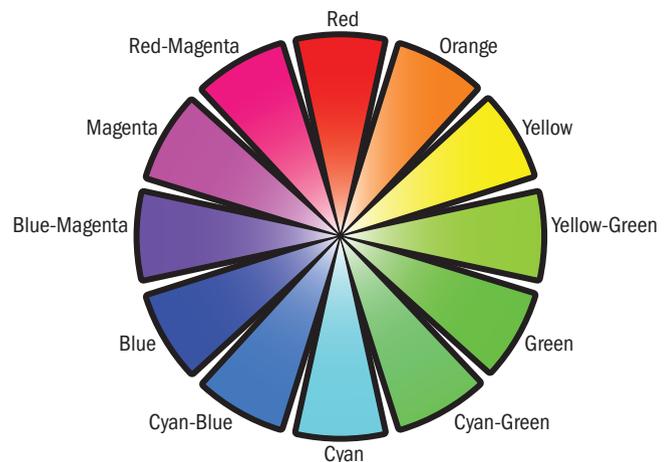
Figure 3.2C An RGB and CMYK colour wheel

Although we give names to many other colours, all the colours we recognise can be made with varying amounts of red, green and blue. These are called the primary colours of light. Cyan, magenta and yellow are called secondary colours.

Blue is the opposite of yellow; if you increase the amount of blue in your image you will reduce yellow. Similarly, increasing green reduces magenta and increasing red reduces cyan.

All individual colours are described by three factors:

1. *Hue:* the colour you see (for example, blue, cyan, red).
2. *Saturation:* how colourful it is. Does it appear pure or is it dark and mixed with black?
3. *Lightness:* how bright it is (that is, how much white is mixed with it).
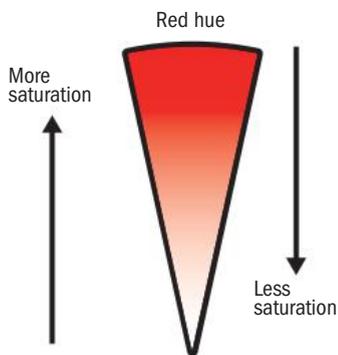
Figure 3.2D A diagram demonstrating colour saturation

This seems complicated, but it is necessary to understand that when we are discussing digital images there are three basic colours (blue, green and red) and three colours produced by combining them (yellow, magenta and cyan). All variations can be produced by mixing the basic colours to produce other colours (hues) or mixing them with black (reducing their colourfulness or **saturation**) or white (making them lighter or darker).

Colour can be controlled by using digital software (see section 3.5, pages 88–90).

Detail and clarity

To create a photograph that contains detail and clarity, it is important to first consider the size of the sensor upon which the image is being recorded.

Many SLR cameras do not have full-frame sensors; instead they have smaller ones. As sensors become smaller there must be fewer pixels, or the pixels need to be smaller. Fewer pixels mean less detail, so manufacturers try to fit more pixels into smaller spaces. Smaller pixels require better lenses but, as smaller sensors are used on lower cost cameras, this is not usually the case. This is why mobile phone cameras are poorer quality than compact cameras, which are poorer than SLRs. Professional SLRs often have full-sized sensors.
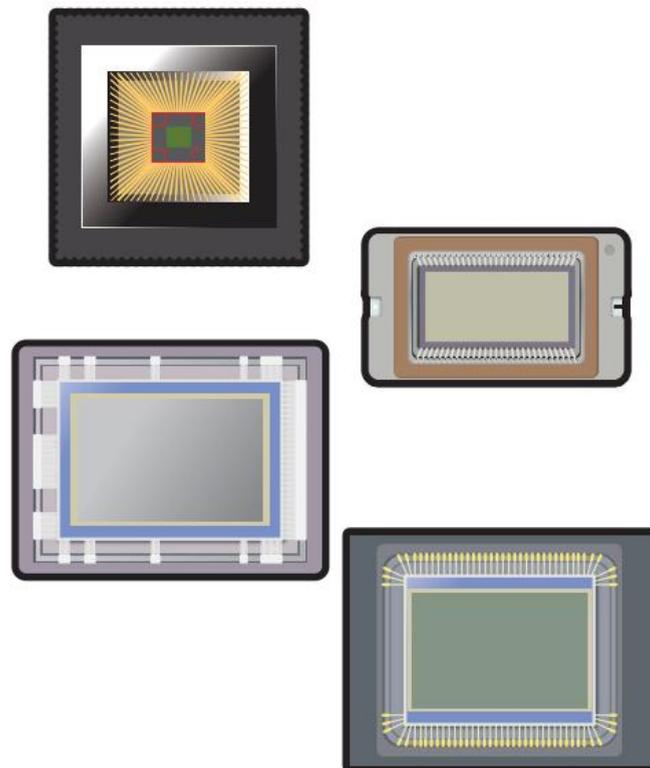
Figure 3.2E Diagram demonstrating the variation in sizes of imaging sensors

In general, any SLR will have enough pixels of sufficient size to produce high quality results for all but very demanding professional purposes. If you are planning on printing your images to a large format, you must ensure that you set your camera to a large image size (highest quality JPEG or RAW).

To control the detail and clarity of an image, it is also important to be aware of focus and depth of field. Refer to chapter 1 (page 2).

Image output

Most digital images are either printed or viewed on a computer screen. The requirements for each differ.

● *Printed output.* The **output** quality of the image will be determined by the size at which you wish to print and the resolution of the file. This resolution is quoted in pixels per inch (ppi). Most prints require your image to be at least 150 ppi at your chosen size. If you are doing your own printing you should check your printer's manual for the recommended ppi. If you are sending your files to a lab, discuss the requirements with them. If you are unsure, or your work is going for offset printing, say in a book or magazine, 300 ppi is a safe guess. As well as ppi, you will often see the term 'dpi'. This means 'dots per inch' and refers to the output resolution of the printer. Newspapers and magazines have a resolution ranging between around 100 to 300 dpi, using printing plates. **Inkjet** printers spray

ink in very fine droplets, enabling resolutions up to 2880 dpi and higher. You do not need files of this high resolution to print from, as the printer imports a lower resolution and converts it to small dots. In summary, if you prepare your files so that they are between 150 and 300 ppi, at the size you wish to print, this will be satisfactory for most printing purposes, no matter what output dpi is quoted.

- *Screen output.* Computer screens differ in quality and, as a result, if you are using a high resolution image on a poor quality computer screen then the image will not appear true on the screen.

Mode and file types
Modes: RGB, CMYK and greyscale

All colours in a digital image can be defined by systems that describe each colour with numbers. There are different systems, depending on the output. For instance, computer screens show red, green and blue (**RGB**) information; so, for screens, we need to describe colours in RGB numbers. Offset printing, such as for newspapers, magazines, books and brochures, uses yellow, magenta cyan and black (**CMYK**) inks, so colours for these processes are described in CMYK numbers. Most inkjet printers print in CMYK (and sometimes other colours) but accept the **input** information in RGB, so for these purposes we use RGB. The conversion from RGB to CMYK is performed by software built into the printer. In this book we will only consider RGB because this is the mode most used by photographers.

Colour images can also be converted to greyscale, deleting entirely the colour in an image, making the image appear in greys from black to white (see section 3.6, page 91).

JPEG, PDF and TIFF files

If you are having difficulties because the size of your file is too large, it is possible to compress it to make it smaller and therefore more manageable. There are two main types of compression.

1. LOSSY COMPRESSION

On files that are compressed to become quite small, a certain amount of data is usually lost. The most common lossy compression file type is JPEG. Most cameras output JPEG by default and this produces images satisfactory for most purposes. Problems arise if you open your JPEG and then save it as another JPEG. This means double compression. Once is okay, twice or more can destroy too much detail.

2. LOSSLESS COMPRESSION

These are compressions with little or no loss of data. The files will be bigger than JPEGs. There are two main

lossless file types: TIFFs and PSDs. TIFFs are suitable for most software from any manufacturer. PSD is a Photoshop file useful for situations where you may be moving a file from one Adobe application to another; for example, Photoshop to Illustrator or InDesign. JPEGs contain mostly image data. TIFFs and PSD files can also store information that includes layers and selections with the file for later use.

3.3 DOWNLOADING, FILING AND SELECTING IMAGES

With digital photography, you no longer have to worry about the cost of film, as people did in the past. You may take hundreds of spontaneous and creative photographs of your friends, family and events on a digital camera. In doing this, you may find that you don't actually download and print all of your photographs. In the past, in order to see your image, you had to have the film processed. With digital photography, you can view your image instantly, and this may be the reason so many people put off downloading their photographs and then eventually forget about them. However, a problem will arise when new technology supersedes old, and new decoding software can no longer read old files. If old images are not downloaded, stored correctly and/or printed, they could be lost forever. For this reason it is important to download and store your images correctly.

Downloading

On your camera is a digital output plug. The correct lead (usually supplied with your camera) will connect the camera to the computer. Plug your lead into the USB or Firewire connection on the computer and turn on the camera. The photos you have taken should appear as small images on the computer screen. These images are called 'thumbnails'. The computer will ask if you want to download all or some of the images. To select those you want, click on them and hold the Command (Mac) or Control (Windows) key. If you want to download a series of images, click on the first one, then the last, with the 'shift' key pressed. All the images you have chosen should light up. Then press 'download'. Wait until all the images come up onto the screen.

Storing images into a folder

Downloaded images are normally stored in a folder named 'My Pictures'. If you wish, you can create a folder for storing them. The 'My Pictures' folder is normally found under Main Drive > Users > (Name) > Pictures in Macs or in 'My Documents' on a PC.

Figure 3.3A   A My Pictures folder

It is best to separate your images into separately named folders; for example, a landscape, a portrait and a still-life folder.

After downloading all your images into one folder:

- Create a separate folder for each shoot (File > New Folder). The names of your new folders will come up as Untitled 1, Untitled 2 and so on.
- Rename your folders by clicking on the name of each rekeying a new title; for example, Big hill sunset, Tan at beach, Red gum tree, Flowers.
- Move a copy of all photos from each shoot to the appropriately named folder. To do this, click on the first image, hold the Shift key and click on the last image. All the images will highlight. Then click on the highlighted group of images and drag it to the new folder, holding down the Alt key.

It is important to keep all of your photographs neatly labelled under clear, appropriate headings so that you can find them quickly.

Keeping your original camera files

When all your chosen images have been downloaded, it is a very good idea to save them on a **USB** device or burn them onto a CD or DVD. If you make a mistake later; for example, by reducing your file size to less than is required for a print, and you have not made a copy, you can then download your original file from the disc or USB and start again.

Figure 3.3B   CDs, a DVD and USBs

Burning a CD or DVD

Most computers have disc-burning software. Common programs are Nero for Windows and Roxio Toast for Mac. A CD holds around 600 MB safely, and a DVD holds approximately 4 GB (4000 MB). Actually, they can hold more, but it is not a good idea to overload them. This can lead to file damage. A file from a 6-mega-pixel camera as a high quality JPEG is just less than 2 MB in size. This means you can fit 600/2 = 300 onto a CD or 4000/2 = 2000 on to a DVD. It is recommended that you also burn your finished files onto a memory stick or disc. Finished files are likely to be a lot larger. For instance, a 2 MB JPEG converted to a TIFF or PSD file may open up to nearly 20 MB. You could fit 600/20 = 30 of these images on to a CD. Put a new CD into the slot and press 'burn'. You can also set burning instructions so that files on disc can be read on either Mac or Windows computers, or both.

Print a proof sheet using Photoshop

- Save all the images you want to appear on the **proof sheet** (also known as a **contact sheet**) to a folder.
- Go to File > Automate > Contact Sheet II.
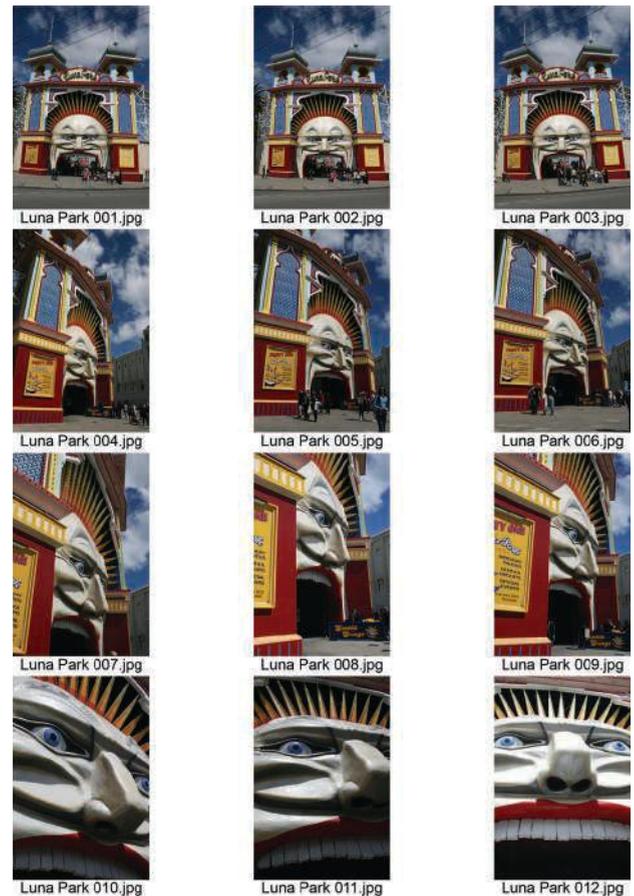
Figure 3.3D   An example of a proof sheet

i. Diagram indicating the location of File > Automate > Contact Sheet II
Figure 3.3C
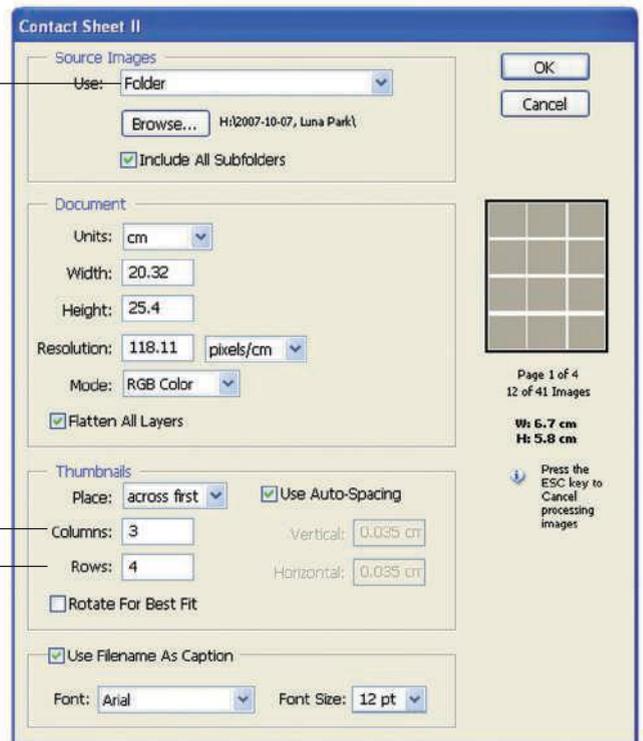
ii. Diagram of a Contact Sheet II window

In the dialogue box:

- Source images — find where you have stored the folder with the images in it and highlight it.
- Document — set the page size for printing the proof sheet.

  For A4, width = 20, height = 29 is fine.
- Resolution — 150 pixels/cm is okay.
- Thumbnails — note that the more columns and rows you have, the smaller the thumbnails. For 12 images on an A4 sheet, set columns to three, rows to four. A window will come up to show you how the proof sheet will look.
- Press OK.
- The proof sheet will appear on the screen after a few seconds.
- Press Print (see section 3.7, pages 98 and 99).

Examining and selecting images

Open into Photoshop all the images you are considering using. If you have more than 20 images, bring them in one group at a time. Go to the appropriate folder, click the first and last images, and highlight them by holding down the Shift key. Then click on the whole group and drag them to the Photoshop icon. All the images will open, one on top of the other.

View the images on the screen and close down any that you may not want to use. Look at the rest for appropriate exposure, colour, **contrast**, expression and composition. Remember, you can still straighten, crop and edit for tone and colour. Look for the best images; then zoom in on them 🔍 for closer inspection, especially for sharpness (at 100 per cent is best).

Figure 3.3E A student examining images on the computer screen

Note the numbers of the images that you have selected and save them (File > Save As) in a new folder named 'Selected Images' in the Shoot Folder.

If they are in JPEG form, save them as TIFFs or PSD files to prevent further compression and the additional loss of information.

The only time you should save any file as a JPEG is for emailing or web use. Always keep an uncompressed version of the file.

ACTIVITIES

1. Using a series of photographs that you have taken, use the process indicated above to print out a proof sheet. When you are developing your skills as a photographer, one of the most significant things that you can do is analyse the images that you take. There is no greater lesson than learning from your own mistakes. Every time you complete a photographic shoot you need to print out a proof sheet, glue it in your workbook or journal and comment on the results. It is recommended that you also record in your workbook or journal the following information about the shoot:
   - the date it took place
   - the location
   - the subject matter
   - your intention in taking the photographs.

2. Looking at your proof sheet, circle and comment on the images that you think are the most successful. Discuss what you think are the qualities that make an image work (for example, composition, light, motion, colour, tone, pattern). Select three or four of the images that didn't work well, circle them with another colour and discuss why you think they were unsuccessful.

3. Why do you think that so many people do not get around to printing their photographs? Provide at least three possible reasons.

DATE: MAY 2007
LOCATION: MELBOURNE CITY

This shoot was taken in and around melbourne. Once again I was looking at more night photography and captured a range of buildings, city scapes and city icons. I took photos at Flinders Street, Melbourne Central and SouthBank but shot most of a ferris wheel near Richmond. My intention was just shooting nice, sharp, and interesting nstle images with traditional composition.

first image I actually took of a clock itself I don't like the colours in this but could change them

The chimney at Melbourne Central, Wanted to capture this in a diffy way to how it looks during the day, all the interior lights come on and coloured effects play on it.

A couple of Flinders Street shots. I just found these boring and typical so probably wont be using them unless I used photoshop or something to contruct something more interesting out of them

These shots were the most successful shots of the lot. I love the colours against the black sky. I used slightly slower shutter speeds so theres evidence of the movement.

One of my favorites

Figure 3.3F An example of a student's workbook/journal showing the analysis of a proof sheet

You are now ready to edit your selected images to make them ready for printing. You might like to save your selected images into another folder. Many professionals call these images their 'Hero' images.

3.4 EDITING THE IMAGE

It is possible for you to use digital imaging software such as Photoshop to edit a photograph. The editing process will allow you to apply corrections to enhance the quality of your image. These alterations can include correcting mistakes made when taking the photograph. (*Warning:* It is always best to take the finest image possible. The best software cannot correct many major mistakes!)

Editing can correct colour and tone. In addition, editing can add or subtract parts of the image, make light areas darker or dark areas brighter. Image editing programs like Adobe Photoshop can be very complex and it is easy to get lost or to overcorrect and damage the image.

The best solution is always the simplest, so in this section we will look at the editing procedures that are most important for obtaining good quality photographs for print or screen.

Managing images on the screen

When you open several images at the one time, the images are on top of each another. To bring a covered image to the top, click on the horizontal bar on top of the image. To move an image around the screen, click and drag the horizontal bar to where you want the image and release the mouse to drop it (see figure 3.4A).

Zooming

When working on an image, you may want it bigger to see if it is sharp, check details or manipulate a small selection. You may want it smaller so you can see the whole image, or even smaller again to move and compare it to another image. If you have several images open at once, you may want to arrange them on the screen or place them out of the way for later use.

To change the viewing size of an image you can use the zoom tool ⊕. Activate the zoom tool by clicking on the magnifying glass on the main toolbar or by just clicking 'Z' on the keyboard. For example:

- Click Z to activate the zoom tool. The zoom tool's default is magnification and the cursor changes to a plus (+) sign.
- Click repeatedly on the image until it is the size you need. The magnification percentage will appear next to the image. When making fine selections, you may need to go 200 or even 300 per cent. At these magnifications you will see the individual pixels. To reduce the image size, hold down Alt on the key board and the + will turn to a minus sign (-) ⊖ or right-click and go to 'zoom out'.

Figure 3.4A   A screen with several images opened on top of each other

Navigating

When you have a greatly magnified image it is easy to become lost. If you click on the navigator palette (Windows > Navigator), the active image will appear in a small window on the screen, with a little red square showing you where you are.

To move around an image that is zoomed-in so much that it does not all fit onto the screen, click and drag the bars on the left or lower sides of the screen image. An easy way to do this is to hold down the space bar on the keyboard. The cursor changes to a hand and, while holding down the space bar, you can left-click onto the mouse key and drag the image. Try it, it's fun! Alternatively, you can just click on and use the hand tool from the Photoshop tool bar ✋.
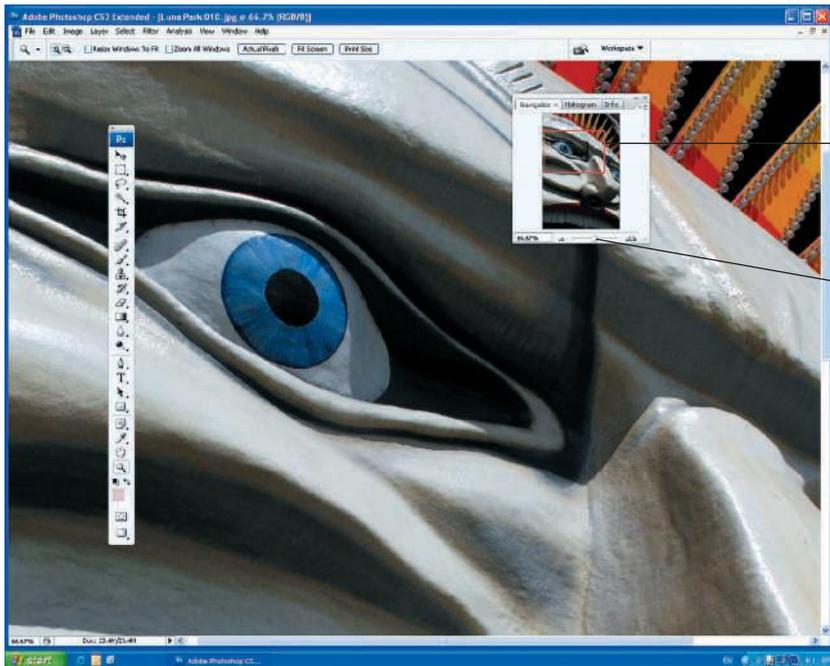
Highlights the section of the image currently on the screen

Slider will allow you to slide in or out

Figure 3.4B An example of a navigator palette

Straightening the image

When you take a photograph, you tend to look at the subject close to you. Often, the background may not be straight. If you don't notice this, the image may have a tilt. Of course, sometimes you may deliberately angle the camera for a special effect. Usually, it is best to have horizontal lines without tilts. Such tilts can be corrected. There will be some loss at the frame edges after correction when you crop to get a square or rectangular frame.

There are a number of ways to straighten images, depending on circumstances and software options.

Using the transform option to straighten images

- Place a grid over your image by going to View > Show > Grid.
- Now, pick a line that should be horizontal, like the horizon, or vertical, like the side of a building.
- Use the marquee tool to select the entire image or click Select > All.
- Go to Edit > Transform > Rotate.
- Click on a corner and drag the image around until the crooked line lines up with the straight line on the grid.
- Click Enter/Return.
- You may need to crop the image to give it a square or rectangular frame (see next page).
- Pressing D on your keyboard will deselect the image.

i. Photograph showing a tilted horizon line

ii. The same photograph showing the horizon line straightened
Figure 3.4C

Cropping

You may need to **crop** an image when you straighten it, as described previously, or refine its composition.

- Click the crop tool on the toolbar, or press C.
- Click and drag the rectangle to obtain the crop you want.
- Press Enter.

i. A photograph before cropping

ii. The same photograph after cropping
Figure 3.4D

Retouching

If you obtained a digital file by scanning film or reflection copy (such as objects or paper on a flatbed scanner) or if you took digital photographs with dust on the sensor, you may have spots you want to remove. This **retouching** is done with clone, heal or patch tools. You may also want to get rid of pimples or wrinkles from your portraits.

i. A photograph showing lots of dust spots

ii. The same photograph showing no dust spots
Figure 3.4E

Using the clone tool

The clone tool allows you to select a circular area and place a duplicate (clone) of it on top of another area; for example, a spot you wish to remove. This is most useful when the background has no texture. You can clone a whole face in if you choose!

- Select the clone tool. It has an icon that looks like a rubber stamp. The quick select method is S on the keyboard: S for stamp.
- Choose a brush size just bigger than the area you want hidden. A right-click can bring up the brush dialogue, otherwise click the arrow in the brush box on the tool options bar. This window will show two sliders,

i. Photograph before cloning

ii. The same photograph after it has been cloned
Figure 3.4F

one called 'master diameter' and the other 'hardness'. You usually want a soft edge to the clone stamp brush, so slide the hardness to 30 per cent. Master diameter sets the width measurement of the pixels of the clone stamp. You can also pick a brush from the selection that opens at the lower part of the brush drop-down window.

- Place the cursor on an area you want to copy. Hold down Alt then left-click.
- Take your finger off the Alt key and move your cursor over the area you want to cover, and left-click. The selected part of the image will appear on the new area.

Using the healing brush tool

The healing brush tool is a bit like the clone tool but works well for textured areas. It places a selected textures area over the portion you want to mask but takes into account the surrounding area to blend in with surroundings. There are two variations of the healing brush.

Use this the same way as the clone tool, but now you can match texture from one area into another.

In later versions of Photoshop there is a 'spot healing brush'. When you use this, you don't have to select the area, just click on the spot and Photoshop automatically masks it, taking into account the surroundings.

Using the patch tool

The patch tool is ideal for replacing one area of an image with another. For example, replacing the dark circles under someone's eyes with the skin from another area of the face. In order for this to work effectively the foreground and background colours need to be set to black and white ( ).

To use the patch tool, first select the area that you want covered. You can do this by holding down the Alt key and dragging the patch tool around the area to be selected or by using any other selection tool.

Once the area is selected, click on the patch tool and ensure that the source option is selected on the tool option bar at the top of the Photoshop window.

Using the patch tool, click onto the selection and drag it on to the area that you want to replace your original selected area with. When you take your finger off the mouse the new area will appear merged into the original area.

This is a popular portrait technique as it makes people look younger. Fashion photographers often remove every wrinkle or defect and their models then look like dolls (see figure 3.6R on page 97).

Using the red-eye tool

The red-eye tool can correct the fault of red eyes caused by a camera's flashlight (see chapter 1, page 10).

Just click on the red part of the eye with the tool and it should automatically correct the problem.

Adjustment layers

It is best to edit and enhance your images on separate adjustment layers. By producing individual adjustment layers when modifying the levels, curves, colour balance and hue saturation (for example) of your image, you will then be able to go back at any time to readjust these amendments without altering or damaging the other components of the image.

Adjustment layers are instructions for image editing that appear on the screen as a stack of horizontal book spines in the 'Layers' window (see figure 3.10, page 71). They can be added to, swapped around or removed. Instruction layers, called 'adjustment layers', don't block the layers underneath, although image layers do. To see through a layer to the layer underneath, we can make all or part of it transparent. This is done by lowering its 'opacity', by moving the slider that appears underneath the opacity sign at the upper right of the layers palette. One hundred per cent opacity means the layer blocks or acts completely. At 50 per cent opacity it only works at half strength.

An advantage of adjustment layers is that you can re-adjust them by clicking on the black and white circle of the layer and the dialogue box re-opens to enable you to shift the sliders and readjust.
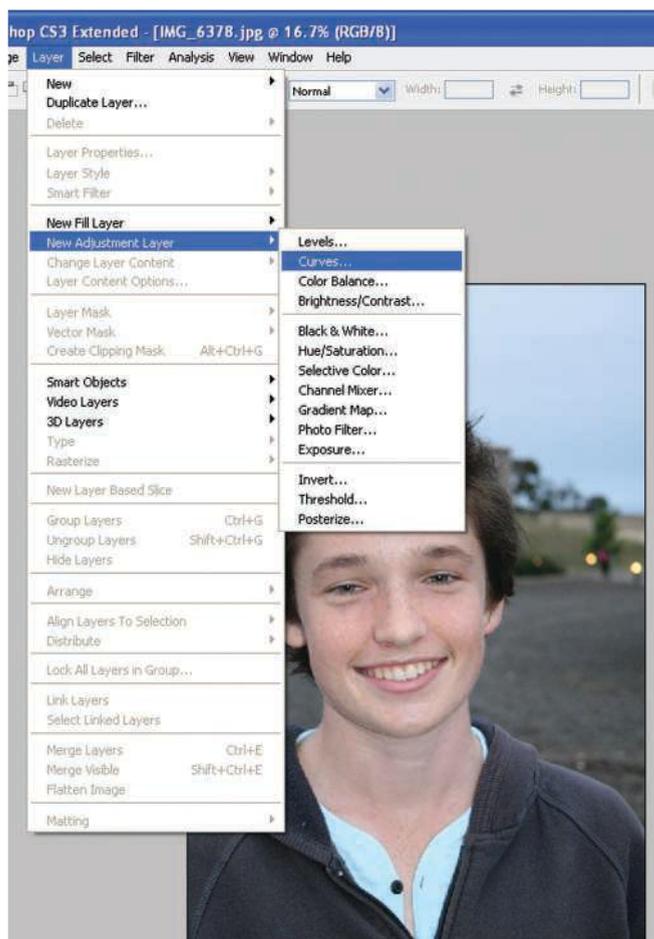
Figure 3.4G   Diagram showing a number of different layer options

Adjusting tones

As discussed in section 3.2 (page 73) 'tones' refers to the darkness or lightness of an image. Dark tones are called 'shadows' (even if they are not shadows) and light tones are called 'highlights'. Black is the darkest possible shadow tone, and white is the lightest possible highlight. Tones in the middle are called 'mid-tones'.

Sometimes you may find that your image is too light or too dark. That is when tonal correction is required.

If the image is muddy, it may well be all mid-tones, with no black or white. Unless it is a picture of a foggy day, you may want more impact and need to get deeper shadows and brighter highlights.

i. Photograph demonstrating muddy tone

ii. The same photograph where tones have been enhanced
Figure 3.4H

Using levels to correct tones

In Photoshop, the simplest way to adjust the tone is to adjust 'levels'.

This is done by going to Image > Adjustments at the top of the screen and selecting 'Levels' from the drop-down menu. You could begin by clicking onto Auto Levels to see if this gives you the required result, if not, you will need to undo the adjustment and correct the levels manually.

In Photoshop, make a levels adjustment layer: Layer > New Adjustment Layer > Levels.
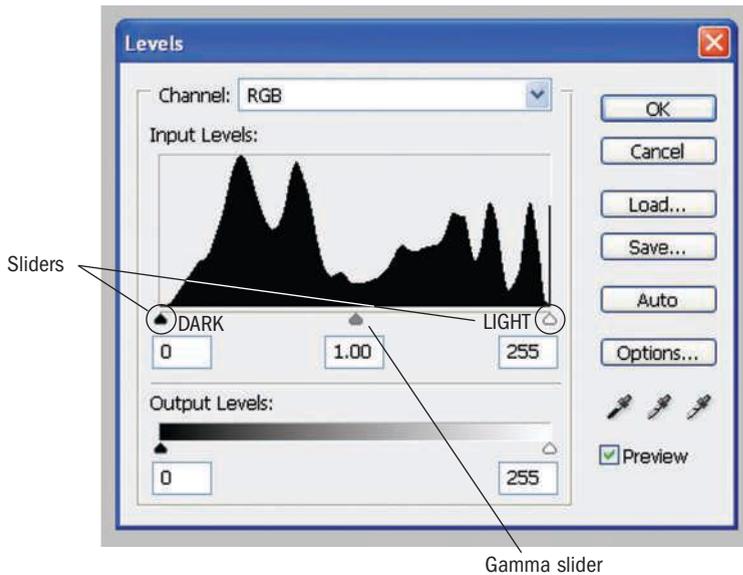
Figure 3.4I   Diagram of a histogram

When you select 'levels' you are helped by the histogram that comes up in the dialogue box.

The left-hand end of the histogram is the dark-tone area and the right-hand end the light-tone area. The dark area on the graph that looks like a mountain range represents the number of pixels of the tone on the base line. If there is a mountain of pixels at the dark end (left), the picture is dark. We call that low key. If there is a mountain at the light end (right), the picture is mainly light. This is a high key image.

If the histogram does not reach the base at either or both ends but ends part-way up the sides of the box, we have clipping, which means that shadow or highlight details will be lost in those tonal areas. With most pictures, we aim to have a black, a white and tones in between, without clipping at either end.

If there is clipping, the tonal range usually cannot be corrected because tones have been 'chopped off' and cannot be regained. This is especially true if the original image is a JPEG.

If there is no clipping and the mountain of pixels drops to zero inside the ends of the box, the tonal range is short; that is, at the dark end, tones may stop before they reach black and, at the light end, before they reach white.

This can be corrected by moving the sliders underneath the histogram until they just reach the start of the mountain range.

- The left and right sliders should be positioned where they just reach the start and end of the mountain range. This allows the dark-end tones of the image to reach black, and the light-end tones to reach white.
- The middle gamma slider can be moved to the left to make the whole image lighter or to the right to make it darker.
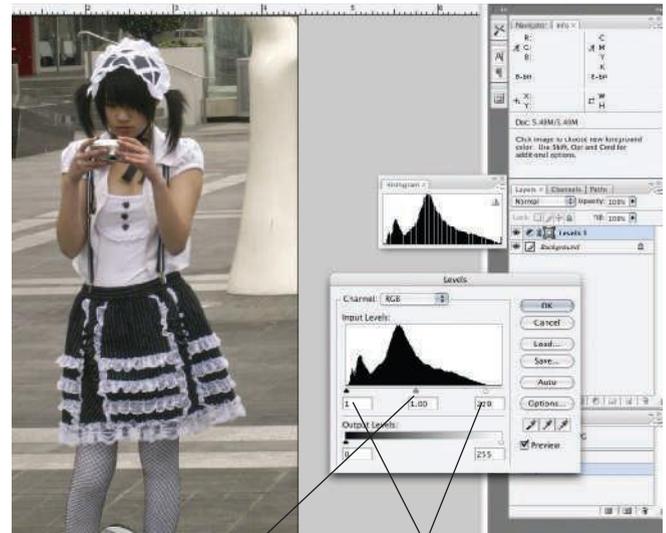
The middle gamma slider can be moved to the left to make the whole image lighter or to the right to make it darker.

The left and right sliders should be positioned where they just reach the start and end of the mountain range. This will allow the dark tones of the image to reach black, and the light end to reach white.

Figure 3.4J   How to move the sliders into place. Photograph by Andrea Innocent

Correcting colour

From section 3.2, chapter 3 (pages 73 and 74), you should be aware that what you see on your screen is not always what you will see on a print-out. It is often best to do as much automatic colour correction as you can. If you keep twiddling with blue, green and red controls until the image looks right, the print may still turn out badly.

Auto colour adjust

In Photoshop, go to Image > Adjustments > Auto colour. This is a simple method that often works.
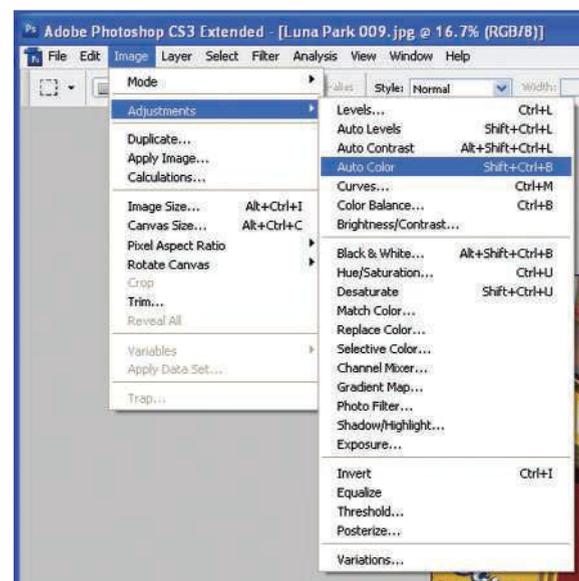
Figure 3.4K   The location of the auto colour

As mentioned previously, it is best to make any adjustment to your image in an adjustment layer (in this case, create a duplicate layer to use for your adjustments. This is done by clicking onto the duplicate layer icon found on the layers drop-down menu — or use the shortcut J).
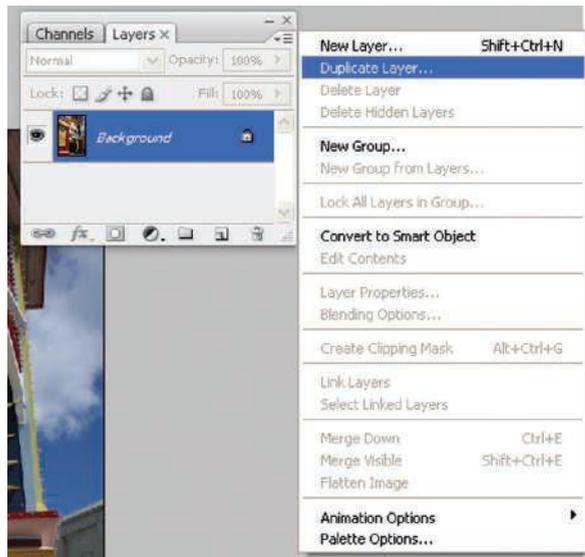
Figure 3.4L   How to make a duplicate layer of an image

Using curves to adjust colour

In Photoshop, make a curves adjustment layer: Layer > New Adjustment Layer > Curves.

There are three eyedroppers in the curves dialogue box. One is black. This is the black's eyedropper. The white eyedropper is for the white point and the centre eyedropper is for creating neutral grey. If you can make black and white without any colour left, the colour is often corrected throughout the tone range.
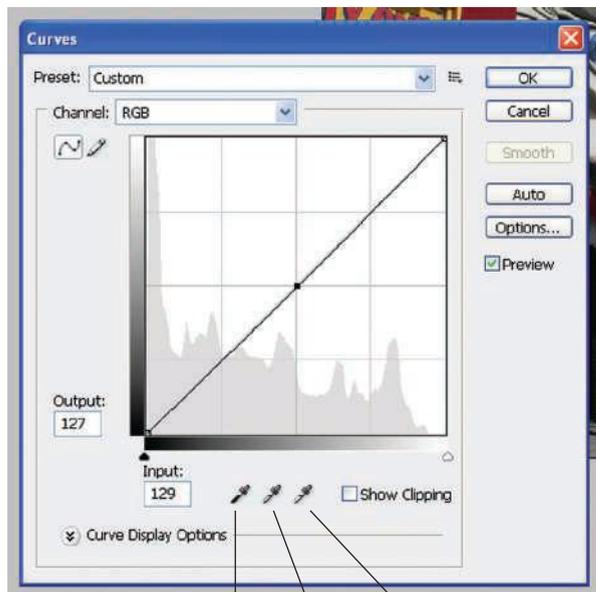
Figure 3.4M   Diagram of the curves dialogue box

- If there is bright white, click on the white eyedropper, then on the white in the image.
- To use the black eyedropper, find a very deep shadow. You may need to do this a few times to find the darkest tone.
- For the grey eyedropper, look for something like weathered wood or concrete.

Brightness and contrast

Brightness depends upon how much white is in an image. More brightness means a lighter image, less means a darker image. The basic control for brightness is exposure. More exposure gives a brighter image, less makes an image darker. You need to aim for your camera exposure to produce the correct brightness. Usually, the auto exposure controls in the camera automatically give correct exposure and brightness.

Adjusting brightness and contrast

Go to Image > Adjustment > Brightness and Contrast and move the slides until your image looks okay. Make sure you can see the histogram (View > Histogram) to ensure that none of the mountains of pixels fall off the cliffs at either end!

Contrast is how quickly dark areas change to light. If an image has only black and white parts, it has very high contrast. If it only has a few tones of grey, with no blacks or whites, it is of low contrast. The aim of most photographs is to have a contrast between these extremes.

i. A photograph with correct brightness and contrast

ii. The same photograph with too much contrast

iii. The same photograph with too much brightness

Figure 3.4N

Figure 3.4O   Diagram of the brightness and contrast dialogue box

Using curves to adjust brightness and contrast

Go to Layer > Adjustment layer > Curves. A boxed grid comes up with a diagonal line. Any point on the line can be clicked on and the line raised or lowered by dragging.

The line represents tones in the image as follows: If the angle of the line is made steeper, the contrast increases.
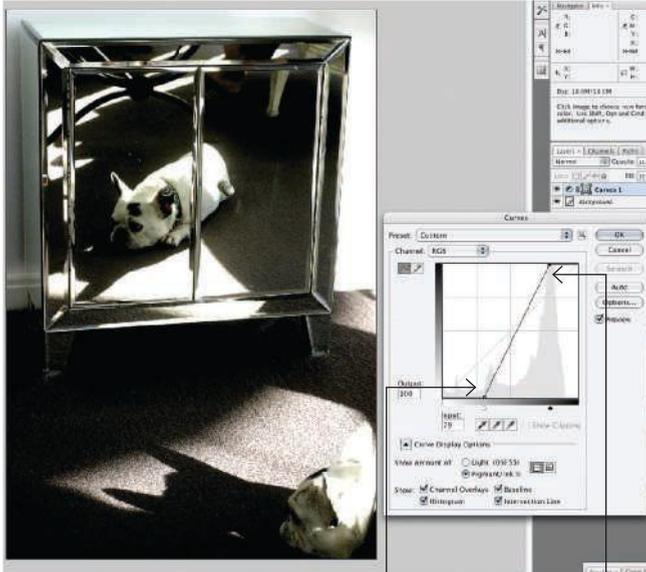
The line is moved to make it more vertical

i. The curves line has been moved to make it more vertical. This has increased the contrast.
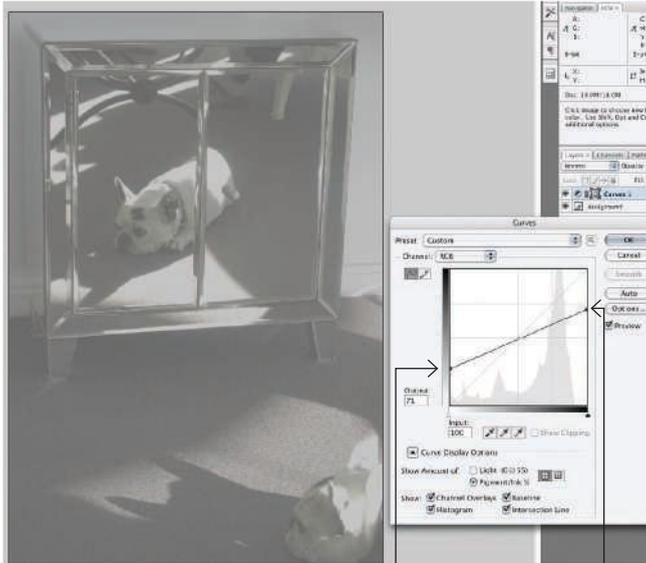
The line is moved to make it more horizontal

ii. The curves line has been moved so that it becomes more horizontal. This has reduced the contrast.

If the angle is lessened the contrast lowers (becomes flatter).

Refer to the diagram and see that both blacks and whites have become greys. If we take the centre of the line (graph) and drag it up, the image becomes lighter; down, it becomes darker.

The line is moved up towards the left, creating a brighter image
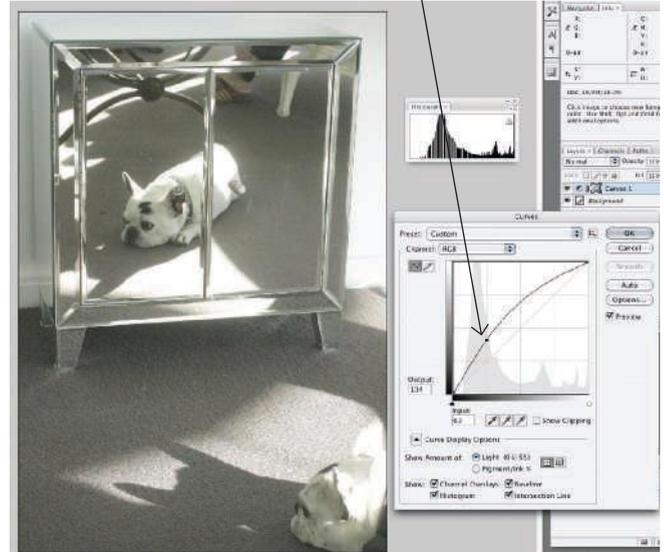
iii. The curves line has been moved up and towards the top-left corner, creating a brighter image.
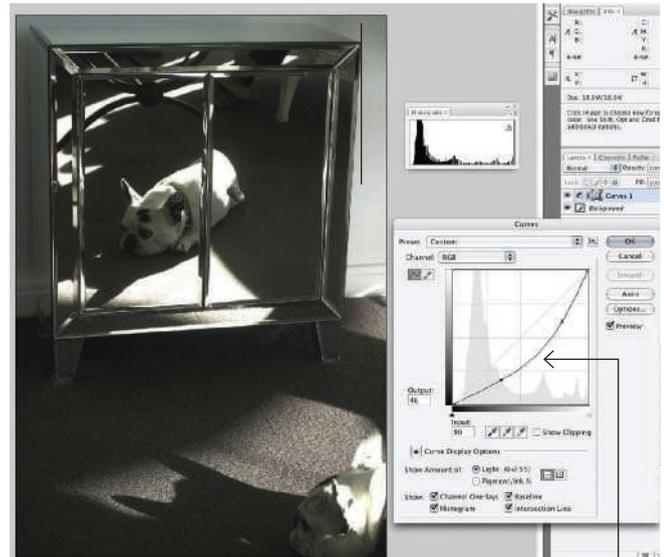
The line is moved down towards the right, creating a darker image

iv. The curves line has been moved down and towards the bottom right-hand corner, creating a darker image.

Figure 3.4P

Burning and dodging

Photoshop has burning and dodging tools to make areas darker or lighter, just like the traditional darkroom technique (see chapter 2, page 32). Click on the tool and pick a brush at about 30 per cent opacity, and paint the area you want to burn (make darker) or dodge (make lighter).

Dodged in to make this area lighter
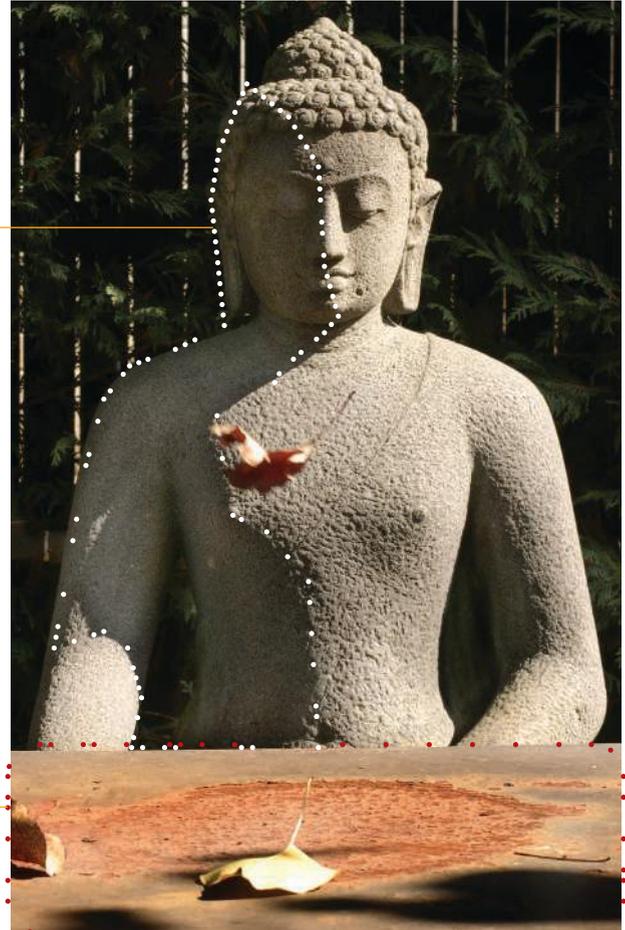
Burned to make this area darker

i. A photograph before dodging and burning has taken place

ii. The same photograph after burning and dodging

Figure 3.4Q

If you want small changes, this is acceptable, but burning and dodging damages pixels, so be careful. Don't overdo it. A better method is to create a new empty layer and paint black or white to darken (burn), or lighten (dodge). To make this work, you must know a special trick.

This is how you do it:

1. Add a new, empty, layer to the layer stack by clicking on the new layer icon at the bottom of the layers palette.
2. Then the trick. At the top of the layers palette you will see 'normal'. This is called a blending mode. Click on the double-headed arrow to the right of it. From the drop-down menu, select 'soft light'.
3. Now make sure the foreground and background colours (the overlapping squares in the tools palette) are black and white. If they are not, click the little black and white squares above the foreground/background squares.
4. To burn, make the foreground (top) square black. If it is white, just click the little bent double-headed arrow over the squares.
5. Select a brush, keep the opacity low, say 30 per cent, and 'burn in' with the brush on the parts of the image you wish to darken.
6. To dodge, make the foreground white and brush as for burning, above.

3.5 SCANNERS

You have probably used a flat-bed **scanner** to make a copy of an existing two-dimensional image or text. Have you ever considered using the scanner to create photographs of three-dimensional objects? Well you can — this section of the book will show you how.

Types of scanner

Scanners produce digital files from either:

1. Reflection art — photographs, drawings, writing on paper or even objects, or
2. Film — negatives or transparencies.

There are specialised scanners for reflection art and others for film or slides, but most reflection scanners can also scan film and slides reasonably well.

The purpose of a scanner is to take a hard copy (reflection art film or slide) and produce a digital file able to be edited for screen or print directly or combined with other images. For instance, you may wish to scan a document, perhaps a handwritten letter, with a photograph.

Most scanners have their own software and this may need to be modified if they are to be used properly under different circumstances.

Reflection/flat-bed scanners

To import a scanner into Photoshop go to Edit > Import and select the scanner software. The scanner must be connected and switched on.

Figure 3.5A   An example of a flat-bed scanner

When activated, the scanner software interface comes up. The layout will vary from one scanner to another but the general principals are the same.

You will have to choose:

- What sort of original you have; that is, reflection (for example, a print) or transmission (for example, a negative or slide).
- What resolution you wish to scan at (see 'Scan resolution', next).
- The bit depth (8 or 12 bits/channel; that is, in RGB total of 24 or 48 bits).
- Exposure — try auto first. If the resultant file histogram shows highlight clipping, reduce the exposure, if the shadows clip, increase the exposure.
- The output size.
- On the panel or in scanner preferences, choose where you want the scanned image to go; for example, to a folder or to open up in Photoshop, or both.
- A **cropping** function.
- A selection of preview or scan.
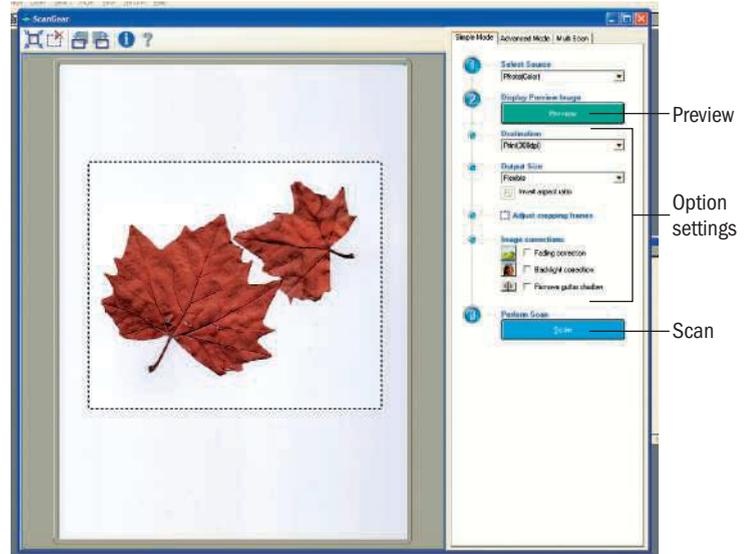
Figure 3.5B   An example of a software interface for a flat-bed scanner

Scan resolution

- First decide on the output resolution. For print, this may be 360 dpi. You may want a file for screen that requires lower resolution, but it's better if you choose a print resolution. This will give you the option of either printing or downsizing later for screen.
- Colour references — the scanner default is usually okay.

Bit depth

For an image not likely to require much editing, 8-bit is okay. If you intend to do a lot of Photoshop editing, especially levels or curves, choose 16-bit. This will help prevent banding in shadows. If you choose 16-bit, the file will be twice as large.

Preview and crop

If your original to be scanned is smaller than the scanning glass, you don't need to scan the lot. If you do, the file will be big and take unnecessary time to scan when you only want part of it. This is where preview comes in.

1. Set up the scan details, as above.
2. Place the item to be scanned in the centre of the scanning plate. This is called the 'sweet spot', as the detail is better towards the centre.
3. Press Preview.
4. When the scanner plate appears, crop the area you want scanned. The crop tool will probably look the same as the one in Photoshop. You may wish to straighten the original if it is a bit crooked and repeat Preview. You don't have to get it exactly right, final trimming and straightening can be done in Photoshop.
5. When you're satisfied with the original, press Scan. Scanning may take a little while if the file is large. If the file is too large for the scanner you may have to reduce the resolution.

Film scanners

You may have a dedicated film and slide scanner. The principles are similar to those for a flat-bed scanner but you can only scan film and slides. There are usually two holders: one for film strips — usually six frames long, and one that holds a single mounted slide.

1. Insert the right holder in the scanner. If you are scanning a mounted slide, place it in the holder before inserting. If scanning a film strip, insert the holder and slowly insert the film. The scanner should grip it, pull it in and position it.
2. With a mounted slide you can now proceed as described earlier for a flat-bed scanner.
3. With a film strip, the scanner software usually previews all the photos and presents them as thumbnails on the screen. Click on the one you want to scan to activate it and proceed as usual.

Figure 3.5C A photograph of a film scanner and a slideholder
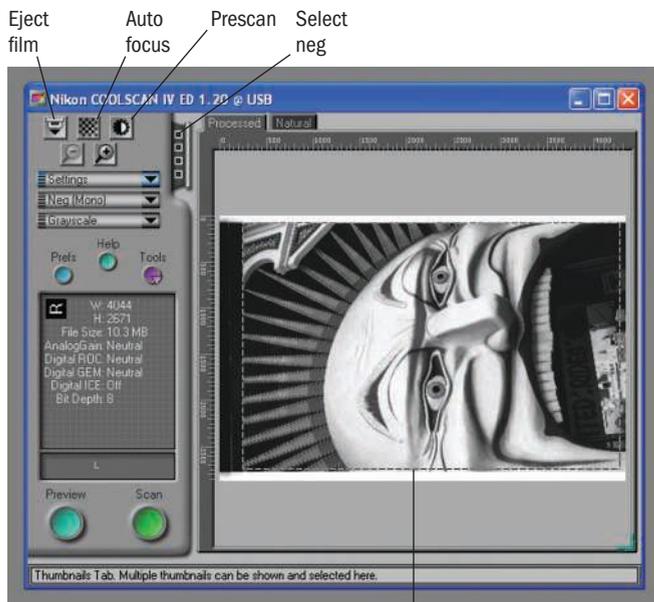
Figure 3.5D An example of a software interface for a negative scanner

Scanning objects

Flat-bed scanners are able to be used as cameras. After all, when you scan a photograph you are really taking a photo of that photograph. Instead of placing a photo or drawing on the scanner plate, try placing some objects. You may have to lift the scanner cover to accommodate the thickness of your objects, so cover them with a dark cloth and do not look into the light during scanning, as it could damage your eyes.

The depth of focus of a scanner is limited, so only the parts in contact or very near the plate will be sharp. Try a flat object such as a moth. A high resolution scan of a deceased moth, butterfly or flower, when printed large, looks fantastic!

Figure 3.5E An image of a shell and a piece of crumpled up paper, produced on a flat-bed scanner

Figure 3.5F An image of a moth, produced using a flat-bed scanner

1. **Self-portrait**

   Produce an image using a flat-bed scanner based around the theme of self-portraiture. Bring together a variety of objects that reflect who you are. This might include a necklace or piece of clothing that you often wear, your phone, your travel card, a picture of a band that you like, or a photo of your family.

   Place all the objects on a flat-bed scanner and create an image that can be seen as a personal reflection of you. On completion, print out a copy for assessment, glue an additional copy of the image into your workbook or journal and evaluate it using the proforma on page 257. Explain what you have learnt from this process.

2. **Objects in nature**

   Search for a variety of objects from nature. Consider the textures, colours and pattern of the objects. Explore scanning them with a flat-bed scanner to create interesting effects. Possible objects could include shells, autumn leaves, flowers, insects and plants.

   Record your investigation in your workbook or journal and print out your best image for assessment.

3. **Extended task**

   Explore manipulating and enhancing your images from activities 1 and 2 using Photoshop tools and techniques (see sections 3.1, 3.4 and 3.6, pages 61, 80 and 91). Document the process in your workbook or journal and print out your best image for assessment.

3.6 SPECIAL EFFECTS IN DIGITAL PHOTOGRAPHY

Computer software provides you with the opportunity to manipulate, enhance and distort your photographs in just about any way that you can imagine. After you develop knowledge of how to create special effects, the only thing holding you back will be your imagination.

Converting colour to black and white

Like most things in image processing, there are many ways to produce a black and white image using Photoshop, as well as other software. Some are better than others.

Using Photoshop, your options are as listed below.

Desaturate the image

This means all colours are converted to their minimum colourfulness; that is, grey.

Go to Image > Adjustments > Desaturate.

This would be wonderful if we saw all colours of the same brightness as equal tones, but we don't. We see yellow and green as brighter than reds and blues, even when they reflect the same amount of light.

A desaturated image can look very muddy; if is this the case, contrast can be added by going to Image > Adjustments > Brightness and Contrast.

Convert to greyscale

The colours are converted according to a formula that approximates the way we see them.

Go to Image > Mode > Greyscale.

This is much better, especially if you then adjust levels.
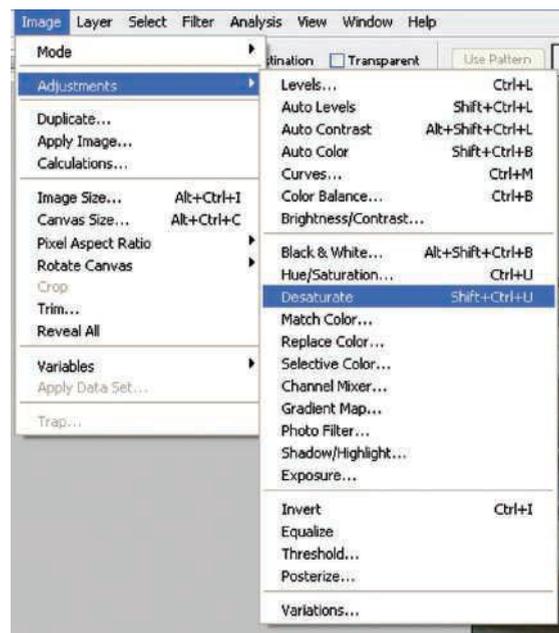
Figure 3.6A Diagram of the location of the desaturate option
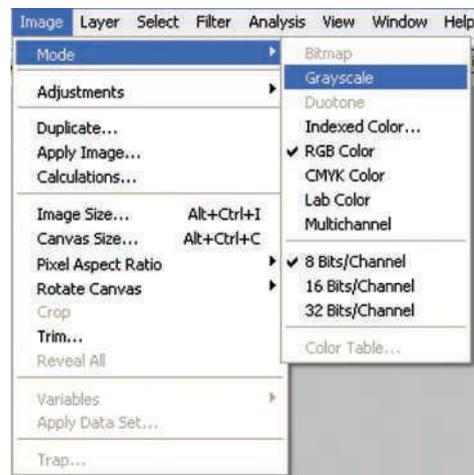
Figure 3.6B
Diagram of the location of the greyscale option

Go to Image > Adjustments > Levels and bring the sliders to the edged of the histogram. If the image looks a little dark or light, move the centre pointer, the gamma slider, until the image looks good (see pages 84 and 85).

Use the channel mixer

People who use black and white film to produce black and white images often use filters to improve an image. To make tones natural they use a yellow–green filter. To make skies dramatic they use an orange or a red filter, which darkens blues, giving a dark sky. A red filter helps to lighten reds, so faces become pale. This is a trick of fashion photographers. We can do the same with digital, but we don't need to put filters over the lens.

Go to Image > Adjustments > Channel Mixer.

At the bottom left of the screen is a box called 'Monochrome'. Click on it.
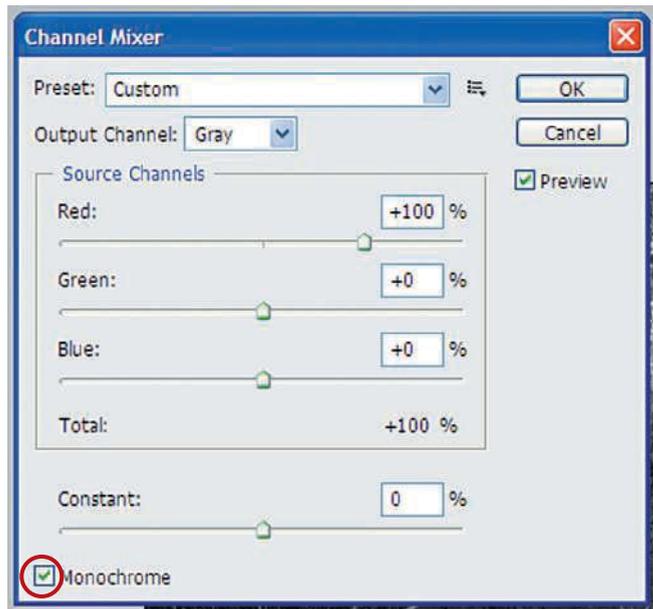
Figure 3.6C Diagram of the channel mixer window

Now you have three source channel slides.

A red channel set at +100 per cent, and a green and a blue set at zero.

You can alter these to act as filters; that is, for a dramatic sky or light skin tone, increase red. If you do so, reduce green and blue because the total should add to 100 per cent; that is, if red goes to 150 per cent you could take both green and blue to –25 per cent:

+150 – 25 – 25 = 100.

For a yellow–green filter, try Red = 0, Green = +150, Blue = –50 (blue is the opposite of yellow). The total 150 – 50 still equals 100.

When you have a combination you are satisfied with, fix the levels as before and save.

i. A photograph before it has been enhanced using the channel mixer

ii. The same photograph after it has been enhanced using the channel mixer. Photograph by Tim Cushan — *Elephant refuge*, Thailand, 2007
Figure 3.6D

Toning

In analogue (film) photography, special chemicals are available to make black and white images warmer (more reddish or yellowish) or cooler (more bluish). Special processes can make light areas (highlights) one colour and dark areas (shadows) another. All this and more is available with digital processing.

Partial desaturation

The desaturate technique does not work very well for a conversion to black and white. Rather than completely desaturating the image, you need to stop just short. Colours will remain, but in a very weak form. This can look as though a pale watercolour wash has been applied to the black and white image.

If you print on a matt paper, it can look very painterly.

i. A photograph with normal colour

ii. The same photograph after it has been altered using partial desaturation
Figure 3.6E

Hand colouring

- Start with a black and white image produced as described in the previous section.
- Now, to make colours possible, check that your image is set to RGB — go to Image > Mode > RGB.
- To add colour, create an empty layer by clicking on the little icon that looks like a page with a bent corner (appears next to the trash icon at the bottom of the layers window). To see the image beneath the colour you are going to use, go to the top of the layers palette and change 'normal' to 'colour'. This allows you to see the tones underneath.
- To choose your paint colour, go to the main toolbar box running down the left-hand side of the screen. Near the bottom are two squares, one over the other. Click on the top square (foreground).

Now a colour picker palette opens up. From the rainbow of colours, click on the colour you want to use. This colour then comes graded in light, dark, colourful and less colourful variations. Click on the colour you want.

- Now move up the main toolbar on the left-hand of the screen and click on the icon with the brush.
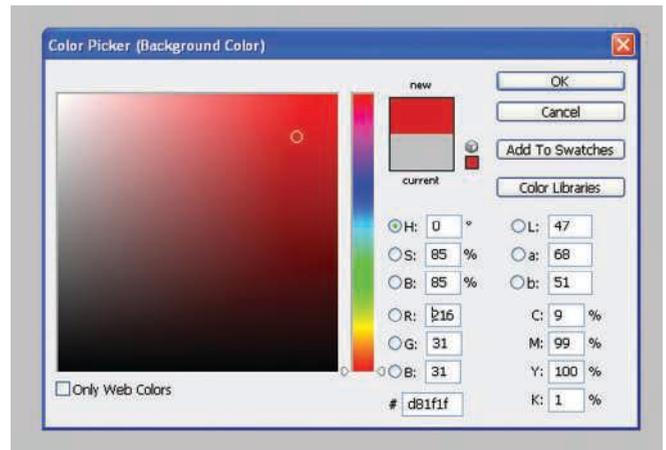
Figure 3.6F Diagram showing colour picker palette
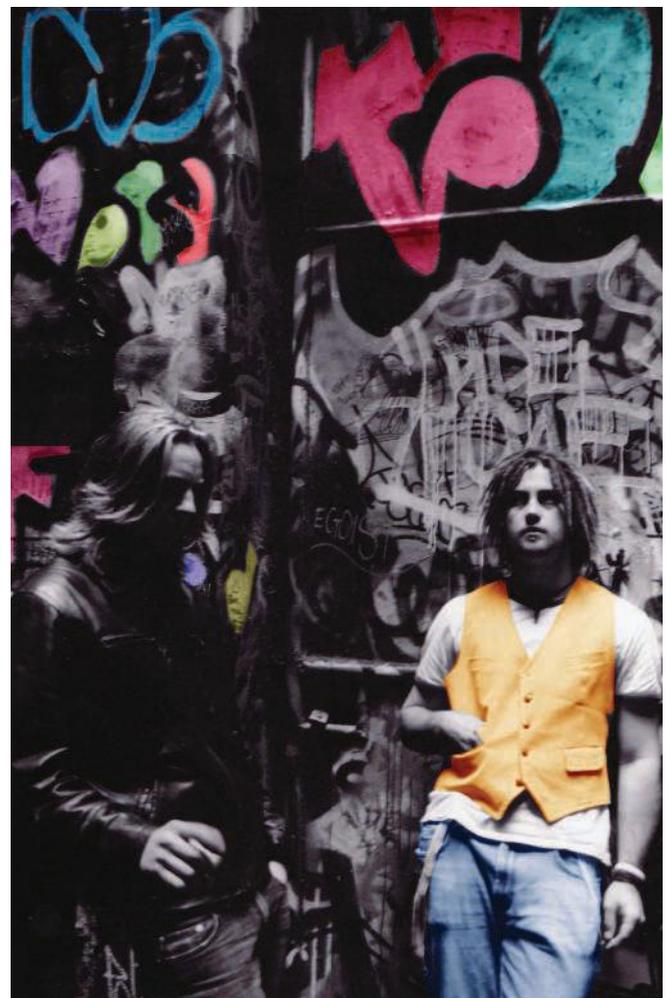
Figure 3.6G Hand-coloured photograph. *The streets are our home,* Veronica Waite, Year 11, digital photograph

- Right-click to choose the size of brush and the softness or hardness of edge. You can also do this for the brush options at the top-left of the screen.
- Paint on the area you want to colour. This takes a lot of practice. If the colour is too dense you can reduce the opacity of the brush or the layer. If you make a mistake you can drag the layer to the layers' trash icon (bottom left) and start again, or you can click on the previous history state in the history window (just prior to your mistake).
- When you have completed this colour area, add a new layer with a new colour. Remember to choose the 'colour' blending option.
- It is a good idea to name each layer. To do this, double-click on the layer title and type in your own; for example, 'red flowers'.
- Keep going until you have completed colouring all the areas you wished to colour.

This sounds much more complicated than it is. Once you have practised and found that you understand the idea, you will enjoy this technique.

Colour toning

What you need to attempt here is not to colour the different details of the image but to apply a colour tone to the overall image.

i. A black and white image

ii. A black and white image that has had tone added
Figure 3.6H

You can make a warm or cool tone, or any colour you like. Usually, we want this sort of toning to be quite light and very subtle. You can experiment with stronger colours if you like. As a beginning, let us suppose that you want a subtle warming or cooling of the neutral black and white image.

- As before, convert a colour image to a black and white image by: Image > Mode > Greyscale. Now to allow colour to be added to the image you must convert it back to RGB colour. Go to Image > Mode > RGB.
- Go to Layer > New fill layer > Solid colour.
- A pop-up palette window will appear. Select a colour from the range provided to tone your image.
- The colour will then appear opaque over your image. Reduce the opacity of the layer to approximately 25 per cent, using the opacity slider at the top of the layers window.
- You may find that the image has lost some of its contrast. To fix this you will need to adjust the levels (see pages 84 and 85).
- If it is the wrong colour, trash the layer and start again. Alternatively, with a black and white image set on RGB mode, go to Image > Adjustments > Variations and click on the colour you want to add to your image.

Toning highlights one colour and shadows another

i. A photograph with normal colour

ii. The same photograph where the highlights are toned red and the shadows blue
Figure 3.6I

There are a number of ways of doing this.

Following is an ideal technique to get you started:

- Convert the image to greyscale and then to RGB as before.
- Go to Layer > New Adjustment Layer > Colour Balance.
- Click Highlights.
- With the colour sliders, adjust the highlight colour.
- Click Shadows.
- Adjust the shadow colours.
- If you so desire, you can colour mid-tones in a similar way.

Using filters

The filter options in Photoshop provide you with a vast array of opportunities to easily transform an image. They can be fun to play with because you can achieve an instant result, but be aware that if you convert a whole picture with one of these effects it can tend to look very gimmicky. Many of the filters attempt to make photographs look like paintings or drawings, while others distort colours and tones. At times, the effects can work, often as backgrounds with **montages** of sections with undistorted images over them. One of the highlights of these filters is that most will allow you to control the degree of the filter effect created on your image. You may also consider selecting an area of your photograph and just applying the filter to that selection. There are far too many different types of filter to mention, but some of the popular ones are shown in the series of images at right.

It is recommended that you experiment with the artistic and other filters on duplicates of your original files. Don't practise on originals, as you may accidentally save your changes and permanently damage your originals.

Figure 3.6J An image created using the plastic wrap filter. *Doll face*, Felicity McGlinn, Year 11, digital photograph
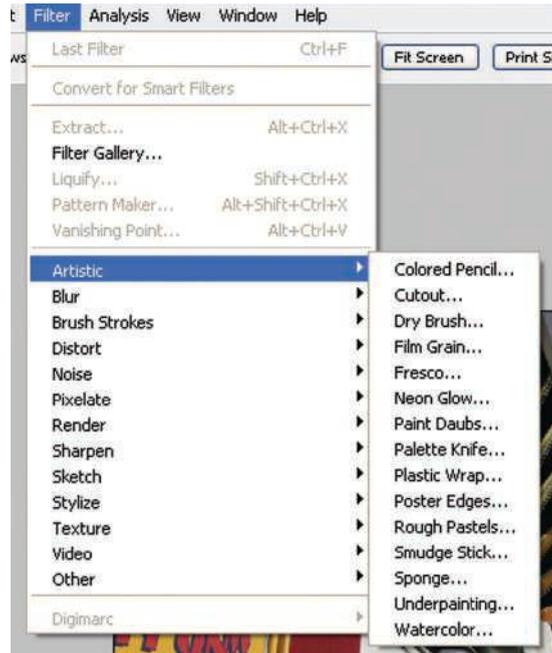
Figure 3.6K Diagram of the filters drop-down menu

i. No filter

ii. Cut out filter

iii. Plastic wrap filter

iv. Accented edges filter

v. Pinch filter

vi. Twirl filter

vii. Stamp filter

viii. Tile filter

ix. Emboss filter

x. Glowing edges filter

xi. Solarise filter

xii. Stained glass filter
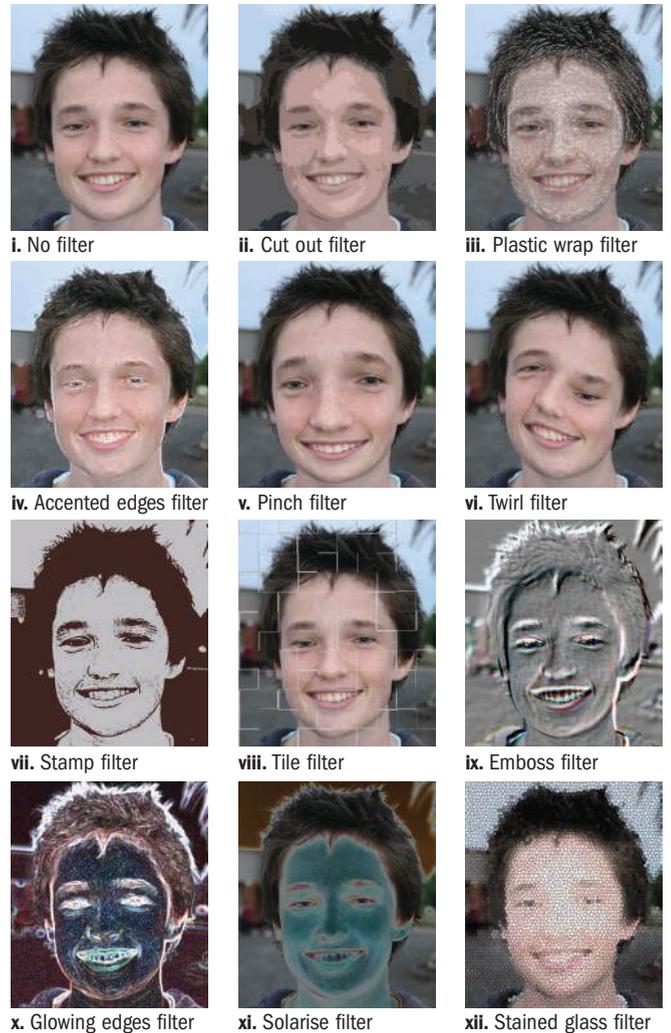
Figure 3.6L Examples of some of the most popular filters used by students

Combining images

Previously, you may have cut up photos and pasted them together to obtain a **collage**. You can do this with much more precision and control in Photoshop.

To do this, you must know how to select parts of an image. There are different tools for this, depending on your purpose.

The selection tools are found at the top of the toolbar at the left-hand side of the main Photoshop window and are discussed in detail in section 3.1 (see pages 66–9).
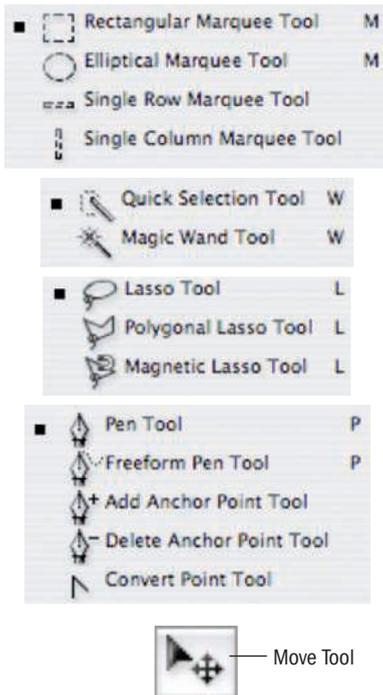
Figure 3.6M Diagram of the marquee, magic wand, lasso, pen and move tool

The top tool on the right of the Photoshop tools window is the move tool. It is not a selection tool but it enables you to move one image over another. You might try this to combine two images so the one underneath is partially visible.

An important point to consider in combining two different photographs or selected aspects of different photographs is the size and resolution of the different images. They really need to be the same or very similar to each other, or you may find the quality of the final image is compromised.

Combining two images

Open up two images. Select the image that you want to appear on top and copy it (Ctrl C), then activate the second image and paste the first on top (Ctrl V). If you need to alter the size of the image you can do so by going to Edit > Transform > Scale. By holding down the Shift key and altering the image by its corners you can enlarge or reduce the image size easily. If you want the images to overlap exactly, they must be the same size and resolution.

To see the bottom image, reduce the **opacity** of the top layer. This can be done by moving the opacity slider, which can be found at the top right-hand side of the layers window.

Adjust the opacity until you get the effect you want.
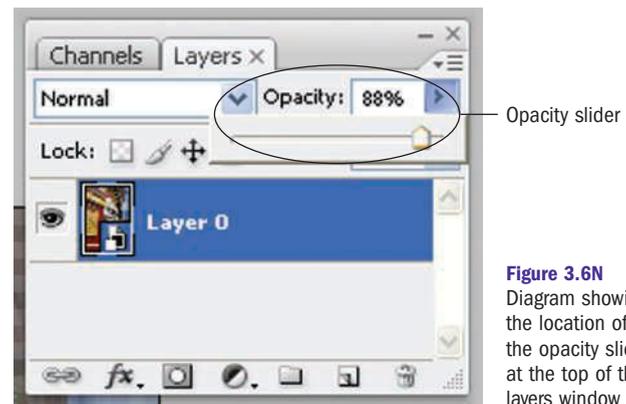
Figure 3.6N Diagram showing the location of the opacity slider at the top of the layers window

Figure 3.6O Two photographs overlapping each other, with the top image appearing transparent. Liliana Meloni, *Realms 4,* digital photograph

This technique often works well to combine writing, say scanned type or handwriting, with an image.

Note: if a selection is active you can move the image with the move tool active. Just click on the selection, then drag and drop it.

Compositing selections

There are at least two ways of moving a selected part of an image onto another image.

METHOD 1

- With the selection active and feathered (see page 68), go to Edit > Copy (or press Ctrl C).
- Click on the image you want the selection to be superimposed on and click Edit > Paste (or press Ctrl V).
- Activate the move tool in the toolbar or press V and hold the left side of your mouse key down and move the selection where you want it.
- Scale the selection to size by going to Edit > Transform > Scale.

Figure 3.6P Photographs demonstrating a selection that has been copied and pasted onto another image and then scaled to fit the new image (Edit > Transform > Scale)

METHOD 2

This is a very direct and simple method.

- With selection open, activate the move tool (see above).
- With two images open, click and drag on the selection, moving it to where you want it on the other image. For example, you could select a person's face and move it onto the face of another person (see figure 3.6Q).
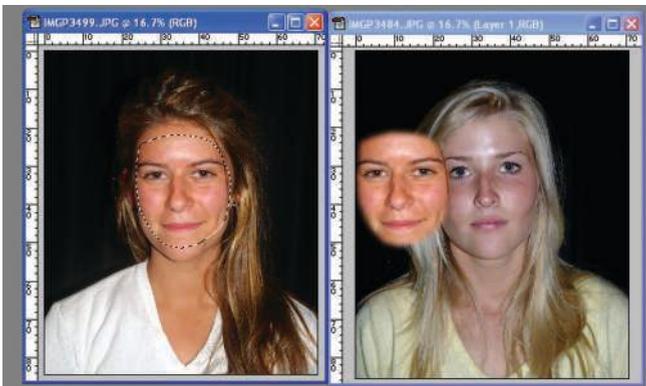
i. Diagram of two photographs open and a selection from one image being dragged onto the top of another
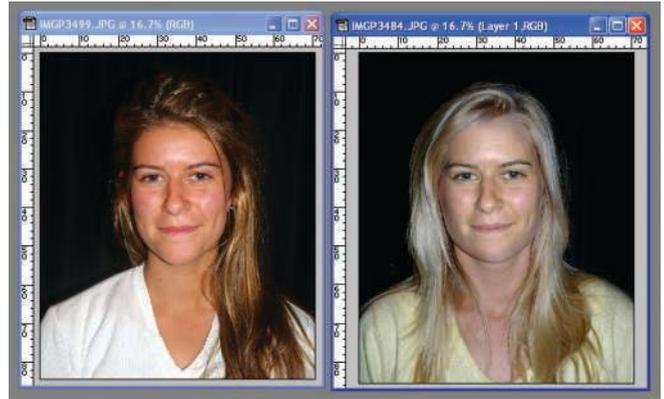
ii. A photograph created by placing someone's face on top of another person's face. The colour has been matched by using Image > Hue/Saturation.
Figure 3.6Q

Figure 3.6R
Before and after,
Diarne Petras,
year 12, digital
photograph

Figure 3.6R has been enhanced through cloning and painting the skin smooth, erasing blemishes and compositing selections of facial features onto the original image.

For each of these activities it would be expected that you record and document the exploration and process of producing your artwork in your workbook or journal. Printing out a number of 'print screens' during the process of constructing your image is an ideal way to do this. You will also be expected to print out your most successful images for assessment.

1. **Landscape**

   Using a landscape photograph that you have taken, explore the effects that can be created by using the black and white, colour, and toning options presented in the chapter.

2. **Portraiture**

   Using a portrait photograph that you have taken, explore a range of the creative possibilities available using filters.

3. **Create a face**

   Create a new face by using the features of at least three different members of your class. Select one student's eyes, another's nose and another's mouth. Consider whose initial face shape you will use, as well as whose hair and ears your face will have. You may even choose to distort the features by using the Edit > Transform option.

4. **Self-portrait**

   Create a photograph of yourself and use the images from figure 3.6R as inspiration to enhance the quality of your appearance by means of Photoshop tools and techniques. The process of retouching photographs is common practice in magazines, so your task is to 'go over the top' to create a stereotypical 'ideal' face. You may choose to superimpose someone else's eyes or mouth from your class, a magazine or the Internet onto your own; the options are open to your own interpretation of the task.

5. **Humour**

   Create a humorous image by combining a number of different photographs. This is a fairly open topic and therefore demands a lot of creative thought. Begin by working through the design process (refer to chapter 8, pages 148–56) to generate an idea. Document the process in your workbook or journal. Once you have the idea, you will need to take the photographs for the artwork and then work out the best method to combine the images (see above).

6. **Research**

   This activity could be done as a class or individually in your workbook or journal.

   a. Search through books and on the internet to find three digital highly manipulated images. Create copies of the images and glue them into your workbook or journal.

   b. Using the knowledge you have gained from this section and section 3.1 (page 61), outline how your think the artist has created the work. Discuss any skills, techniques or processes you feel the artist may have used.

   c. Discuss what you think of the image — is it successful? Why or why not?

   d. Refer to the assessment criteria table on page 75 of this chapter. On which criteria have you judged your image?

3.7 SETTING THE PRINT DIALOGUE BOXES

To print an image using Photoshop SC3 (this process may vary if you are using different versions of Photoshop and other software programs; however, the main settings should be the same; they just may appear in different locations):

- Make sure the printer is connected to the computer, turned on and the paper is loaded correctly. As all printers differ somewhat, you may need your teacher's help.
- Open the image to be printed in Photoshop.
- Make a copy of the image. Go to Image > Duplicate.
- Adjust the size of the duplicated image to the size you want to print it. Go to Image > Image Size.
- Go to File > Print (for earlier visions of Photoshop go to Print options).
- Select the printer to be used.
- Set the number of copies you want printed.
- Click on the page setup option.

  A dialogue box will appear to coincide with the printer you have selected. Different printers will have different dialogue boxes.

  This window will allow you a number of options and the options available will depend on the type of printer you have selected.

  These options could include:
- Select your paper size (for example, A4, A3).
- Select your paper orientation (portrait or landscape).
- Set media type — to the paper you are using (for example, photo glossy paper, matt, plain paper, thick card). If you fail to do this the quality of your print will be jeopardised.
- Select Colour or Greyscale (Black). If all the options do not appear, they will become available in preferences a few steps further on.
- Click OK and move back to the Main Print window.

Paper sizes

A1

A3

A2

A5

A4

A7

A6
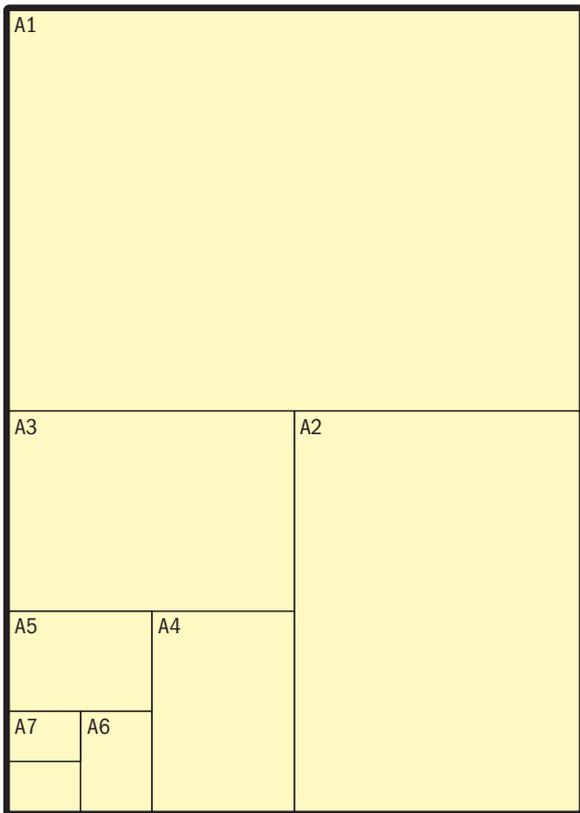
ISO A Series

A0	841 mm × 1189 mm	A4	210 mm × 297 mm
A1	594 mm × 841 mm	A5	148 mm × 210 mm
A2	420 mm × 594 mm	A6	105 mm × 148 mm
A3	297 mm × 420 mm	A7	74 mm × 105 mm

Figure 3.7A Standard printing sizes

Image preview   Select printer   Select number of copies   Page setup   Colour management   Colour handling

Option for selecting paper orientation   Position box   Scaled print size box   Rendering intent   Print

Figure 3.7B The main print window

Figure 3.7C Sample of a type of page setup window

- In the Position box, leave the 'Centre image' ticked unless you want to change the size of the borders for your image. The image preview (to the left) shows you how the image will look on the page. If you want to change the size of your borders, click off the tick in the 'Centre image' box and adjust Top and Left distances.
- In the Scale print size box, type in the height and width you want to print the image. Alternatively, if you want the image to fill the print sheet, tick 'Scale to fit media'.
- Under Colour Management, select Document.
- For Colour handling, select Printer manages colours unless your teacher advises you otherwise.
- For Rendering Intent, select Perceptual.
- Click Print.
- The final print window should appear.

Figure 3.7D Final print window

- Check that the correct printer is selected (again!).
- Check that the number of copies you want to print is correct.
- Clicking on Preferences will allow you to check and make additional choices relating directly to your printer including:
  - Set media type — to the paper you are using (photo glossy paper, matt, plain paper, thick card). If you fail to do this, the quality of your print will be jeopardised.
  - Select Colour or Greyscale.
  - Mode — check with your teacher. Auto may be OK, but special settings may be better. Usually for Epson printers you choose Advanced/ 1440 dpi/High Speed.
  - Set Print settings choice to 'Printer colour management'.
  - Select 'Colour sync' unless otherwise advised.
  - Click on OK and be directed back to the final print window.
- Hit Print.

PART 2

CREATING, EXPLORING AND DEVELOPING IDEAS

4.

Developing and refining ideas

4.1 CREATING AN IDEA FOR A PHOTOGRAPH

If you intend to create a photograph that is to be considered an artwork, then you must think of it as a work of art. Art relies on the creation and development of ideas. Throughout history artists have been inspired, motivated and influenced to create artworks that reflect personal views, attitudes and responses to their world. Artists are constantly introducing new ideas and approaches to creating art.

Many people argue that the most difficult part of creating an artwork such as a photograph is to come up with the initial idea of what to make. Where do these ideas come from and how do artists develop them?

You can be taught the necessary skills and techniques required to create an artwork, but the idea has to come from within you. You must decide what kind of artwork you wish to produce and what idea you intend to explore and present.

Brainstorming

As the name suggests, brainstorming is storming or thinking of all the ideas and facets of a theme, concept or subject.

Brainstorming is often used as a starting point to the initiation and collection of different ideas. It helps you think through all the possibilities that come to mind, then record, develop and refine your ideas.

Use the following procedure to help you come up with ideas.

1. Select a new page in your workbook or journal to brainstorm the following questions. Do not feel inhibited or worry about what people will think. Record whatever comes to mind: open your mind and let the ideas flow.
   - What do I like?
   - What am I concerned about?
   - What experiences do I remember?
   - What things influence me?
2. Reflect on what you have written and circle what you consider to be the most promising comments or words (see figure 4.1A).
3. Select one key word or comment, then write down everything you can about it and what it means to you.

   For example, consider the topic of 'family'. Everyone has a family and every family is individual and has its own identity. There are many ways you could approach this topic.

   To develop your ideas further you could think of some questions to ask yourself which relate to this topic, such as:
   - Who is in my family?
   - What role does each person play in my family?
   - How many generations exist in my family?
   - How does each generation interact with each other?
   - What kind of relationship do I have with my family?
   - What makes my family unique?

   Think of a number of questions that relate to your topic. Record these questions and your responses to them in your workbook or journal.

Figure 4.1A An example of brainstorming

4. When you have brainstormed your initial idea, you need to analyse your thoughts and eliminate anything that may be difficult to do (for example, photographing family members who are overseas), weak in content or that you are not personally interested in. Once again, circle the ideas that are of most interest to you.

5. Organise the ideas you have circled, from strongest to weakest, or from most inspiring to least interesting. This process may rely on:
   - subject matter — how much interest or scope does this idea have?
   - practicality — how easy is the idea to work with?
   - knowledge — how familiar are you with the idea, subject matter or the needs of the task?

6. Select the final idea to be used in creating your artwork. This idea should give you a strong direction and focus; however, it will still need to be refined and developed further.

Searching for motivation and inspiration

Once you have an idea in mind it is extremely beneficial to look at ways other artists have dealt with similar themes and approaches in producing their art. The best way to do this is to look up an internet search engine (for example, Google) and search through art books and magazines. You could also find inspiration in films, music and through reading.

Collect and photocopy images and ideas you find interesting and inspirational (see figure 4.1B). Glue these images into your workbook or journal and comment on what you find interesting about each. Consider the style, techniques and approaches artists use in recording their ideas. By doing this you will become aware of what you like, as well as alternatives that you may not already have thought about. It is considered appropriate to be inspired by other people's ideas as long as you translate the ideas into something of your own, develop the ideas further and include something of yourself in them.

Following are possible approaches, styles, methods of presentation and techniques that may inspire or motivate your artwork.

APPROACHES (SUBJECTIVE)
Art as the communication of feelings; art that tells a story (narrative); art as a political or social statement; art as the expression of values; art as fantasy; art as decoration; art as education; art as part of culture.

STYLE
Representational; non-representational; narrative; **romantic**; high art; abstract; naturalism; pictorialism; impressionism; realism; **surrealism**; expressionism; symbolism; hard edge; pop art.

METHODS OF PRESENTATION
Single photograph; series of photographs; collage or photomontage; series of images on one mount; large format; small format; repetitive images; a book.

TECHNIQUES (STRUCTURAL)
Traditional black and white photograph; sepia toning; hand colouring; solarisation; negative images; photograms; screening or textured photographs; dodging and burning in; computer-aided photography; superimposing digital photography, digitally constructing and enhancing an image, using filters, creating an image using a scanner.

i. Great tight, close-up and cropped composition.   ii. Fun and unusual way to position subjects.   iii. Social documentary suggests a story.   iv. Joyful image with an appealing, tight, cropped composition.   v. Mother and child — a theme popular in art history.   vi. Close-up of a family huddled together. vii. Interesting and unusual angle — worm's-eye view. Very effective.   viii. A family doing things together.

Figure 4.1B   A collection of images that may provide motivation and inspiration

1. Work through the brainstorming process in your workbook or journal to establish a theme you are interested in exploring (see pages 102–3).
2. Search out your theme or subject on the Internet and through as many books and magazines as you can, searching for artistic photographic images that you like and admire. Collect copies and write comments relating to what it is about each image that you like or find inspirational.
3. Record an art idea relating to your theme that you would like to explore.
4. Select two photographers that inspire you. Choose an artwork by each artist to analyse. Photocopy these works and glue them into your workbook or journal, then answer the following questions about your selected photographs.

You may like to read a little about the artists before answering the questions.

a. What is the photograph about?
b. Is the photograph trying to tell you something about the subject matter?
c. Can you feel any atmosphere in the photograph? If so, how has it been created?
d. Why do you particularly like this photograph?
e. Are there any obvious artistic elements evident? For example, has the photographer used an interesting or unusual composition or focused on a particular design element, such as line, shape, tone, texture or pattern strongly?
f. What techniques have been used to create the photograph?

4.2 THE DESIGN PROCESS

The design process enables you to explore, develop and refine your initial ideas. By working through this process you should be able to make a final decision about the way you intend to approach your subject matter and how you will go about producing the artwork.

Developing an idea for an artwork is not just about finding different ideas; rather, it involves taking one idea and exploring and developing it. Working through the design process allows you the opportunity to consider all your options, both conceptually and technically. It allows you to plan your proposed artwork and think through possible problems. It enables you to become aware of your constraints and limitations, whether they be the availability of your chosen subject matter, your own technical competence or the facilities that you have available to you. The design process is the ideal way to work through your initial idea and develop it into a finished artwork.

Step 1: creating the idea for an artwork (conceptual)

This step involves coming up with the art idea that you plan to explore. It relies on your ability to brainstorm initial ideas or subject matter, then choose one idea. This step is covered in detail in section 4.1 (pages 102 and 103).

An art idea could be 'I aim to capture the attitude and characters of people working in the city'.

Task: In your workbook or journal, outline the art idea that you wish to explore.

Step 2: investigation

Investigate your chosen idea or subject matter and explore all possible approaches to it. Look at the way other artists have dealt with ideas similar to your own. You do not necessarily have to rely solely on other photographers. Other media such as painting, drawing, printmaking and film are very useful resources. Investigating your idea also means researching it.

Tasks:
1. Go to the library and use the internet to research your selected topic. Compile your research and present it in your workbook or journal.
2. Look at and record the way other artists have approached your theme. Collect examples and print or photocopy these images and glue them into your workbook or journal. Comment on what you think of these images and how they may inspire the development of your own artwork.

Step 3: outline the design problem to be explored

This involves a detailed statement indicating what you propose to design and produce. It is an aid to record, identify and document your idea.

Task: Photocopy the work brief/production design plan on pages 106 and 107, complete it and glue it into your workbook or journal.

WORK BRIEF/PRODUCTION DESIGN PLAN

NAME .... **DATE** ....

- Your work brief / production design plan must clearly outline the design problem you intend to explore and resolve. This proforma should only be used as a starting point.

- You should discuss what you what to explore and *not* what you want to make.
- You may make changes to the work brief / production design plan as you progress through the development of the artwork.

Outline your initial idea and/or theme for the artwork you intend to produce.

What interests you about this idea/theme?

Discuss the types of ideas/concepts you are considering in creating interesting, imaginative and innovative artwork relating to your theme.

Outline the style of work you are interested in exploring. Are you being influenced by any other artist or style of art?

What design features or elements are you considering using to enhance the look of your artwork? (For example, composition, light, movement, depth of field, line, shape, tone, texture, colour.)

Outline how you intend to approach the production of your artwork. Include areas such as techniques and processes.

List the equipment and materials that you will require in order to complete this artwork. (For example, will you need any special chemicals, such as sepia tone, or will you need special lamps for a particular effect, or a specific software package?)

Outline the proposed time line for completing this project. Include dates for completing the investigation, experimentation and refining of your idea, as well as a date for the production of your finished artwork.

Step 4: developing and refining your idea

When you have outlined your idea in a work brief/ production design plan, you are ready to develop and refine it. In order to do this you need to think through, trial and record as many different ways of approaching and presenting your idea as you can. The best way to do this is to use a number of pages in your workbook or journal to investigate and experiment with all the different design possibilities.

Composition is one of the most important factors in the design of any artwork. Composition relates to how you position the different subjects and design elements within the frame of your artwork (see section 8.1, page 142). For example, if you are taking a portrait of someone standing next to a mountain range, there are a number of ways you could compose the shot (see figure 4.2A).

Task: In your workbook or journal, list everything that you want to appear in your artwork. Then draw at least five possible composition options.

The elements of design are the main design ingredients available to artists creating artworks. In most cases artists rely on the strong use of at least two of these elements. However, artworks generally contain most of the elements of design to some degree.

The design elements are line, shape, tone, texture, pattern and colour. Artists must consider how they are going to approach the use of these elements in the production of any artwork (see section 8.2, pages 148–53). These design elements, along with composition, will determine the centre of interest in an artwork and how the viewer's eye moves around it.
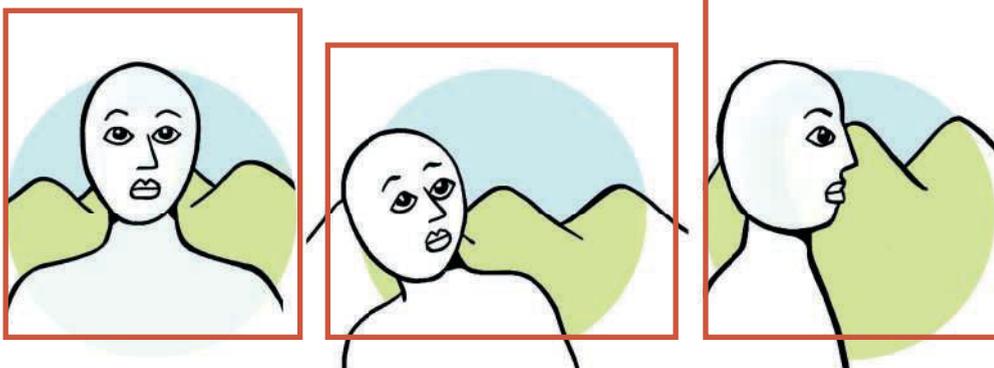
Figure 4.2A Different ways you could compose the same subject matter

Task: In your workbook or journal, comment on possible ways you could use each of the design elements to enhance your artwork.

Style refers to the feeling and flavour that your artwork will generate. It's about the look of your artwork, its appearance, characteristics and treatment of subject matter.

Task: Find an artist whose artwork may influence you in the development of your own style. Collect at least two photocopies of their work and glue them into your workbook or journal. Comment on what it is that you like about these artworks and what type of style you are considering for your own piece.

Dimension relates to the size of the artwork. Changing the size of your artwork may have different effects on how your subject matter is perceived.

Task: Consider the size and dimensions of your artwork. What size do you feel would best enhance your design idea and why?

Technique refers to the approaches you take in creating and constructing your artwork (see chapters 1–3, pages 2–100).

Tasks:
1. List the techniques that are available to you.
2. Is there a technique that may complement your topic or design?
3. What techniques are you considering using in creating this artwork?
4. You may need to experiment with a number of different techniques before you decide on the most appropriate for this project. Include documentation of all your experimentation in this area in your workbook or journal.

At this point you may start taking photographs to help with your investigation. Remember, this is an experimental stage and you are not trying to achieve your final work, nor should you expect all your shots to be successful. Be brave and develop your idea from your mistakes; this is all part of the process.

Step 5: identifying constraints and limitations

When you have explored and identified the most appropriate way to make your idea into an artwork, you should consider any constraints or limitations that may affect your finished work.

Task: Ask yourself the following questions and record your responses in your workbook or journal:
1. Have I thought through my idea thoroughly?
2. Have I access to the facilities that I will need?
3. Is the subject matter accessible?
4. Have I given myself a realistic time frame to complete the artwork?
5. Can I afford the costs that may be involved?
6. What problems can I foresee and how will I deal with them?

Step 6: working drawings and models

Now that you have decided upon your idea or concept, you need to use your workbook or journal and develop a range of working drawings and plans. These drawings may vary from quick sketches of possible compositions through to detailed drawings where you add working notes.

Tasks: Complete the following in your workbook or journal.
1. Draw a detailed working drawing of how your finished artwork will look. Include how you intend to mount and present the piece.
2. Work out an approximate cost for the artwork.
3. Make a 'things to do' list of everything to be done.
4. Draw a detailed time line showing when you intend to get each thing done.

Step 7: producing the artwork

This is the stage that most students imagine to be the most important yet, unless the previous steps are thoroughly completed, this step can be difficult. If you have planned well it should be a relatively straightforward process.

Step 8: analysing your results

The final stage of the design process is to analyse your finished artwork. Keeping records of your strengths and weaknesses in this medium allows you to pursue the necessary skills to develop your artwork in the future.

Tasks: When you have completed your artwork, record your response to the following questions in your workbook or journal (or refer to the self-evaluation proforma on page 258).
1. Have you achieved what you set out to do? Why or why not?
2. Are there weaknesses in the finished artwork? If so, identify them and try to work out how they occurred.
3. What are the strengths of the artwork and how did you achieve them?
4. If you were to complete a similar artwork, how would you improve the process?
5. What have you learnt from the experience of creating this artwork?

Themes in art

5.1 PERSONAL THEMES

When you first start taking photographs there is no better theme to work with than one that is personal to you. Taking photographs of things that are of interest to you will make you excited and motivated about the whole process of photography. Look around you, become aware of what is important to you, then start thinking about how you can present those **concepts** in photographs. It is always important for you to think beyond the obvious — look for creative and imaginative ways of presenting your images.

At home

One of the easiest places to find a subject of a personal nature is in your own home. At home you are surrounded by things that are special to you, such as your family, a toy, your house or a pet (see figure 5.1A).

Figure 5.1A *My cat*, Jacob de Weger, Year 10, digital photograph

ASSESSMENT
- Finished photograph (artwork)
- Record of your ideas, procedure and evaluation in your workbook or journal.

Refer to assessment criteria, page 257.

At school

Students spend approximately five and a half hours per day, five days each week, for up to 12 years (less holidays)

at school. Therefore, students must have some kind of personal association with their schools. School means different things to different people — some students find the most fulfilling aspect is the challenge of learning math and science, while others believe they gain more from sport, music, art and/or friendships.

Think about the classrooms you work in, the buildings you walk through every day, your favourite sport or musical instrument and your relationship with your classmates and teachers.

ACTIVITY

a. Brainstorm and record in your workbook or journal what you believe to be the most important aspects of school to you. List as many things as you can.

b. Look through your list and select one or two aspects of school life that most appeal to you. Circle them, then consider possible ways you can capture these things in a photograph.

c. Complete a shoot of approximately 24 shots based on personal themes at school (see figure 5.1B for an example).

d. Develop the film or download the images and print a proof sheet of the results.

e. From the proof sheet, select your best two images and print them as final photographs.

f. Consider using a special effects technique on your photographs (see sections 2.5, 3.5 and 3.6, pages 50–7 and 88–98).

g. Mount your final photographs for presentation and assessment.

h. In your workbook or journal, record the procedure you went through to produce the artwork. Include a personal evaluation of your finished photographs.

ASSESSMENT
- Finished photograph (artwork)
- Record of your ideas, procedure and evaluation in your workbook or journal.

Refer to assessment criteria, page 257.

Figure 5.1B *Greyscale Blues*, Jacob de Weger, Year 10, digital photograph

Recording an event

We all experience important events throughout the year. Some of these events are more important than others; whatever the case, it is great to have these events recorded as photographs. In today's society most people like to take snapshots of events that are of importance to them. In most cases these people are not interested in creating an artwork and do not put a great deal of thought into each shot. However, if you look through newspapers and magazines and take notice of how some photographers have recorded events, you can generally see a more creative and artistic approach.

Think about a coming event that is of importance to you. It may be a birthday party, sports carnival, school concert, netball or football match, wedding, christening or graduation (see figure 5.1C for an example).

Figure 5.1C *Final*, Marina Savenkov, Year 12, digital photograph

1. Look through a number of newspapers and magazines and collect at least four examples of ways photographers have recorded an event in an imaginative and creative way. Comment on how the photographs were taken, what makes them imaginative and what it is that you like about each of them.

2. Look through some old snapshots taken by you or a family member to record an event. If possible, photocopy them and/or glue them into your workbook or journal. Compare the way these photographs have been taken with those from the newspapers and magazines. Discuss the difference between a snapshot and a photograph.

   a. In your workbook or journal, make a list of all of any coming events you could photograph. You may like to contact your school's magazine committee to see if there is something coming up that they would like you to photograph.

   b. Select the event you intend to photograph. Your aim with this activity is to come up with a creative and imaginative artwork and not a snapshot, so think through possible ways you could present your selected event. If you intend to photograph a sporting event you may like to consider capturing a particular movement shot (see section 1.3, pages 13–16).

   c. Complete a shoot of approximately 24 shots of your selected event

   d. Develop the film or download the images and print a proof sheet of the results.

   e. Select the best shots from the proof sheet and print them as a series of final photographs. To fully record the event you will need to produce a collection of at least three photographs.

   f. Mount your final photographs for presentation and assessment. You may like to consider using a creative approach to mounting (see section 6.1, pages 122–7).

   g. In your workbook or journal record the procedure you went through to produce the artwork and include a personal evaluation of your finished photographs.

ASSESSMENT

- Finished photograph (artwork)
- Record of your ideas, procedure and evaluation in your workbook or journal.

Refer to assessment criteria, page 257.

5.2 COMMON THEMES

The portrait, landscape and still life are the most common themes used by both historical and **contemporary** artists in artworks. Artists are constantly looking for new, creative and imaginative ways to present these themes.

We interact with people daily, live in some kind of landscape and we are constantly surrounded by different groups of objects. We can certainly use these themes as a starting point to produce our own artworks.

Portraits

Taking a portrait of someone captures an everlasting image of them. We have all had our photographs taken at some stage of our lives and we all enjoy looking back at how we have changed as the years have passed. Taking a portrait photograph gives you the opportunity to capture an image of a person in a large variety of different ways. For example, you can:

- capture personality through the use of props
- use make-up and soft lighting to enhance the subject's attractiveness
- record facial expressions to depict different moods
- photograph the subject in a strange environment
- dress the subject in a variety of costumes (see figure 5.2A and section 13.1, pages 220–2).

Figure 5.2A *Galadriel*, Kylie Clark, Year 12, gelatin silver photograph

1. Research the way two different photographers approach taking portraits. Collect examples of their work and comment on the similarities and differences between them. Discuss their approach to the subject matter, techniques, lighting, composition and artistic intention.

2. In small groups, explore the possibilities of portrait photographs. Each member of the group should take it in turns to act as model and photographer.
   a. Select a suitable setting and complete a shoot of approximately 24 shots, experimenting with different lighting, angles, facial expressions, backgrounds and moods.
   b. As a group, develop the film or download the images and print a proof sheet for each group member.
   c. Glue a proof sheet into your workbook or journal and comment on the positive and negative aspects of each shot. You may like to discuss this with the rest of the group before making your final comments.

3. Produce an artwork based on a portrait theme. Decide what kind of portrait you are going to take and how you are going to be creative and imaginative in your approach. Choose a person you know well and who is readily available to photograph. It is important that you know and understand their personality. You may wish to ask a relative or a close friend who is willing to pose for you. Use one of the following ideas as a starting point or create one of your own: a self-portrait; my friend the sportsperson; the different emotions on a face; she looks so stressed; what an attitude; just thinking; a smiling face; my dad the cook; he collects insects; I'm shy; hot and bothered; looking sharp; best dressed.

   In your workbook or journal, proceed though the design process (see section 4.2, page 105) to develop and refine your idea. Include a personal evaluation of your final result.

ASSESSMENT

- Experimental portrait shoot, including proof sheet and comments in your workbook or journal
- A finished artwork (this could be one photograph or a series of photographs)
- The design process recorded in your workbook or journal.
Refer to assessment criteria, page 257.

Landscapes

As you walk in the country, look at the sea or wonder at city skyscrapers, you take in some kind of landscape.

Landscape photography enables you to select a small section of the world and create a picture from it. The landscape is always there and, as a photographer, you have an enormous choice about how you photograph it. You can photograph the landscape from a number of angles, such as looking up or down at it, or on a rainy, windy, overcast or sunny day. You can also photograph it at different times to create different effects (see figure 5.2B and section 13.2, pages 223–4).

Perhaps one of the most important decisions you will need to make is how you will frame and compose the photograph: which section of the landscape you will keep and which section you will omit. Be aware of what your aim is in taking each photograph.

Figure 5.2B *Windmills by lake, Geelong,* Charles Ferry, Year 12, digital photograph

1. Research landscape photographs from different countries, seasons or times of the day. Collect at least one example of a photograph from each of three photographers.

   In your workbook or journal, discuss the following:
   a. the artist's intention in creating the artwork
   b. the qualities found in each landscape
   c. from what viewpoint the landscape was taken
   d. your personal reaction to each photograph.

2. Produce an artwork with a landscape theme. You are not restricted to a country setting — you may choose the city, a street, the bush or sea as the focal point for your artwork. You may decide to depict a landscape for its beauty or for some other reason; for example, it may mean something special to you.

   You can select one of the following ideas as a starting point or you may prefer to come up with one of your own (see section 4.1, pages 102–5, to help you come up with an idea): the street where I live; a beautiful place; where it all happened; a sunburnt country; textures of the bush; a land of all seasons; capturing the wind; the sand and the ocean; life's a beach; the roar of the sea; the city I live in; shapes and lines in the city; lost in the city.

3. In your workbook or journal, proceed through the design process (see section 4.2, page 105) to develop and refine your idea. Remember that this is a creative process, so try to be as imaginative as you can.

4. Print and mount your finished artwork for presentation and assessment.

5. Evaluate your finished artwork in your workbook or journal.

ASSESSMENT
- A finished artwork (this could be more than one photograph; for example, a series of photographs)
- The design process recorded in your workbook or journal.

Refer to assessment criteria, page 257.

Still life

Everyday objects placed in an interesting way or photographed from an enticing viewpoint with stimulating lighting form the basis for a good still-life photograph (see figure 5.2C).
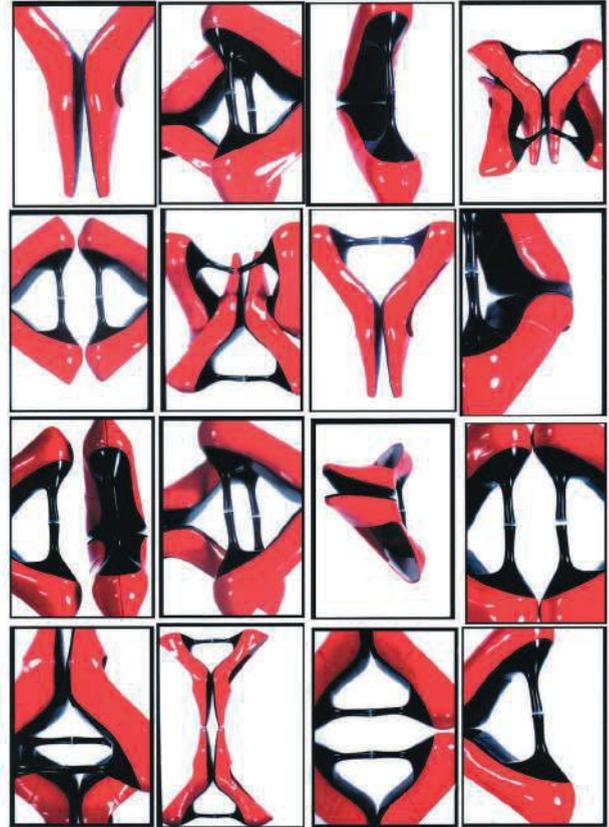
Figure 5.2C *Red shoes,* Stephanie Pirrie, Year 12, taken with the aid of a mirror and enhanced using Photoshop

Still-life photography has been a popular theme since the invention of the camera. It initially followed in the footsteps of the other art media, including painting and drawing. However, still-life photography in today's society is largely used to promote and advertise commercial products. If you look through any magazine you will see dozens of still-life photographs advertising everything from soap to jewellery to saucepans.

1. Find and research an example of a still-life painting and an example of a still-life photograph. Write a brief description of the artworks, taking into consideration the composition, subject matter, lighting and techniques used. Also comment on why you selected each.

2. Find three examples of still-life photographs that have been used in advertising. Compare them to the examples you have selected above, discussing the similarities and differences.

3. Find at least two still-life images that have obviously been digitally manipulated and show the use of special photographic techniques such as superimposing, toning and hand-colouring. Outline how you think they were created.

(continued)

4. Produce a still-life photograph that will form the basis for an imaginary advertising campaign. The photograph will be used in magazines and newspapers to help promote your product. You are required to come up with a product name and advertising slogan. This could be presented in your photograph.

   You may consider using one of these products in your advertising campaign: suntan lotion; sporting product; skin or hair care range; perfume; sunglasses; hats; fruit and vegetables; florist; hardware store; sporting goods; musical instruments.

5. When you have selected your product, work through the design process to come up with the best way to present it (see section 4.2, page 105).

   a. You must consider who you will be trying to sell the product to, the market and what kind of image you want the product to project. Record this in your workbook or journal.

   b. Look through magazines and newspapers to see how other companies promote similar products. Copy these into your workbook or journal.

6. When you photograph your still life try a number of ways of arranging the objects. Also try shooting the still life from a number of angles.

   Composition is the most important design quality in a still life, so you will need to carefully consider where you position each object within the frame. The background will also play a major part, so make sure that you take it into consideration.

7. Print a proof sheet and select your best image. You may like to consider using a computer software package to add and arrange text onto the photograph. Consider the font type and size for the product's name and slogan. Explore different placements for the text, making reference to existing advertisements for inspiration.

8. Mount the finished artwork for presentation and assessment.

9. Evaluate your finished artwork in your workbook or journal.

ASSESSMENT

- A finished artwork depicting an advertisement for a selected product
- The design process recorded in your workbook or journal.

Refer to assessment criteria, page 257.

5.3 SOCIAL COMMENTARY

Artists often choose to comment on certain aspects of the society in which they live. They use their artwork as a means of communicating their attitudes, aspirations, concerns and feelings for the world around them.

Perhaps more than any other medium, photography can document and record the visual world in a very convincing way. Photography can record injustice and aid in rectifying it through documentary evidence. A photographer can capture images of war and starvation in faraway places that are so compelling they cause a major impact on the way we and our government respond to these crises. Photographers also respond to concerns closer to home — unemployment, racism, homeless youth and drug abuse are common issues tackled by photographers.

Photographers do not limit themselves to commenting only on the negative aspects of society. They also present their ideas on community spirit and positive aspects of life. There are several different levels on which an artist can comment, such as current issues relating to themselves, their community and world affairs.

Social commentary is perhaps the most difficult type of artwork to create. It tends to be a lot more demanding in its approach than other artworks. It is a challenge to communicate a personal view of an issue in an artwork or to sum up an opinion within a single image.

Community issues

Issues in the town, city, suburb or street where you live are often considered to be community-based. Even though these issues relate to every person who lives within the community, people respond to them differently because they see the issues differently. Figure 5.3A is an example of a personal response to a community issue.

Figure 5.3A *Save Albert Park*, Shemiah Faith Major, Year 13, hand-coloured gelatin silver photograph

1. As a class or small group, look at the community in which you live. You may consider your street, suburb, town or city to capture and record.

   Together, list and record all the issues that are important to the area. These issues can be both positive and negative.

2. Each member of the group should then decide what issue they would like to deal with and how they intend to record their ideas about it. Work through the design process and record your ideas in your workbook or journal. Negotiate roles for each member of the group, and delegate tasks.

   The main aim of this activity is to see how different people respond to recording a similar section of their community. It is interesting to see how each member of the group deals with a similar issue.

3. Make a photographic record of your idea. It would be ideal if the group or class could go on an excursion and take their photographs on the same day, as this would add to the challenge. However, if this is not possible, the project should be done over one or two weeks.

4. When the task is completed, each member of the group should print their photograph and mount it for presentation, evaluation and assessment.

5. The group or class should consider setting up a display or exhibition of their photographs (see section 6.2, pages 128–34).

6. In your workbook or journal, comment on the results achieved not only by yourself but also by the group. Discuss the similarities and differences in the way the various members of the group handle the project.

ASSESSMENT

- Finished artwork which comments on an aspect of or issue in your community
- Workbook or journal containing a brief design process, record of your studio experience and comments relating to the group's outcome of the project.

Refer to assessment criteria, page 257.

Current affairs

Issues that are currently in the news and are of concern to members of society are commonly used in art (see figure 5.3B). Photographic journalists are always looking for images that reflect current affairs issues. Each time you open a newspaper or magazine you can see examples of this.
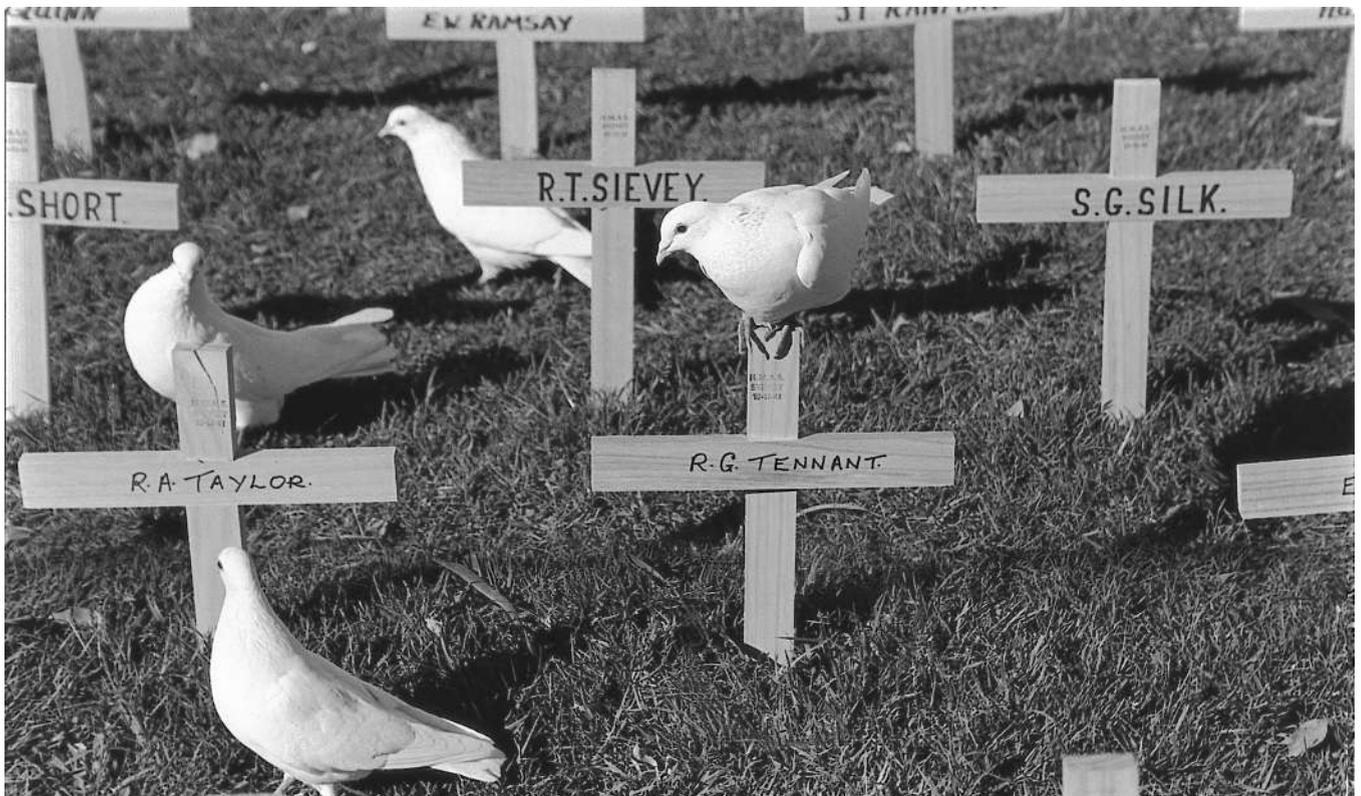
Figure 5.3B *What the recruiting officer never mentioned*, William Swinson, Year 12, gelatin silver photograph

1. Imagine that you are a photographic journalist for a magazine like *Time*. Your task is to produce a photograph for the front cover of the next edition. You are required to produce a photograph commenting on a current affairs issue of your own choice.

2. Start your project by creating a list of all the current affairs issues you can think of. Select one and work out what kind of comment you want to make about it (see section 4.1, page 102).

3. It would be worthwhile collecting a number of *Time* magazine covers to gain some inspiration. (Use a search engine such as Google to find *Time* covers on the internet). Looking through newspapers, magazines and the internet may also give you some ideas. Collect at least three images.

4. Work through the design process (see section 4.2, page 105). Consider all the different options for taking this kind of photograph. For example, you could stage the photograph using actors and a set, or you could take a live action shot at a rally or demonstration. You may also consider digitally creating the image (see figure 5.3C).

5. Produce the artwork and present it as a magazine cover.

6. Evaluate your final result in your workbook or journal.

Figure 5.3C *Netball team of cloned students — prepare for a possible future!,* Frances Anderson, Year 12, digital photograph

ASSESSMENT

- The finished photograph presented as a magazine cover
- The design process recorded in your workbook or journal.

Refer to assessment criteria, page 257.

Personal issues

These issues relate directly to the artist and are normally the hardest felt. Society has an enormous impact on our lives and, to a large extent, we are

Figure 5.3D *It is your loneliness that gives an edge to the shadows*, William Swinson, Year 12, gelatin silver photograph

controlled by the society in which we live. This is not necessarily a bad thing and, if you think about it, you will probably come up with a number of both good and bad personal social issues to explore.

ACTIVITIES

1. Produce an artwork that communicates a personal issue about society. Figure 5.3D is an example of such an artwork.
2. You need to think through all the things that you could comment about and select one (see section 4.1, pages 102–3). Some examples of topics are: the stress of school; your mind; relationships with your family; peer group pressure; the generation gap; the opposite sex; my choices, my future; being a teenager in this generation.
3. In your workbook or journal, work through the design process to develop and refine your idea (see section 4.2, page 105).
4. Consider using special effects and creative mounting in the presentation of your final idea.
5. Evaluate your finished artwork in your workbook or journal.

ASSESSMENT

- Major artwork commenting on a personal issue in society
- The design process recorded in your workbook or journal.

Refer to assessment criteria, page 257.

5.4 CONTEMPORARY THEMES

Modern photographers search for new and alternative subject matter for their photographic artworks. Many photographic artists have moved away from photographing a naturalistic view of their surrounding world and have instead preferred to construct an image themselves using sets, props and actors, as well as digital manipulation and enhancement. These images tend to be a response to the artist's world instead of an accurate record of it.

Surrealism

Surrealism as a theme has been popular since the 1930s. Innovators of this style include artists such as Salvador Dali and Rene Magritte, who explored this theme in paintings, and Man Ray and Dora Marr, who explored it through photography. This approach centres on the notion of creating images that are dream-like and can stem from

the unconscious mind. The images generally depict scenes and subject matter that could only exist in the artist's mind, not in the world as we know it. Surrealism as a theme has been rejuvenated through the introduction of digital photography and the contemporary artist's ability to manipulate and construct a desired subject.

Figure 5.4A *Holding,* Georgina Dempsey, Year 12, digital photograph
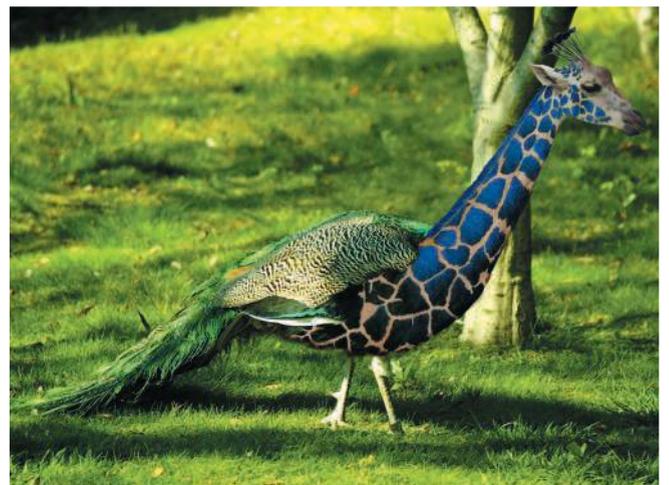
Figure 5.4B *Giracock,* Georgina Dempsey, Year 12, digital photograph

1. Using a computer search engine or your school library, find a work by a traditional surrealist photographer (see Philippe Halsman, *Dali atomicus* figure 10.2H, page 175) and a contemporary surrealist digital artist. Make copies of both artworks and then analyse them briefly. Include an introduction to each work, a brief description of the subject matter and a comparison of the artists' working methods and artistic intention (refer to section 9.2, pages 159–62, for assistance).
2. Produce an artwork with a surrealistic theme. Browse through images on the internet to provide you with inspiration.
3. You could select one of the following ideas to use as a starting point or you may prefer to come up with one of your own (see section 4.1, page 102, for help): the face as you would never see it; what has happened to our school; sorry, teacher, I have shrunk my friends; I didn't know that they could fly; I always new I had magical powers, I live in the ocean.
4. In your workbook or journal, proceed through the design process (see section 4.2, page 105) to develop and refine your idea. This is a creative process, so try to be as imaginative as you can.
5. Create your artwork (see section 2.5, page 50, and section 3.6, pages 91–8, for assistance).
   Print and mount your finished artwork for presentation and assessment.
6. Evaluate your finished artwork in your workbook or journal.

ASSESSMENT

- A finished artwork reflecting the theme of surrealism
- The design processes recorded in your workbook or journal.

Refer to assessment criteria, page 257.

Photographic theatre

The notion of creating the subject matter for a photograph using actors, props and backdrops is often referred to as 'photographic theatre'. This approach to photography has been popular since the postmodern period that commenced in the 1980s. Among the many artists who explore this method in their work are Australian Tracey Moffatt (see figure 11.5A, page 186), Anne Zahalka (see figure 12.5C, page 209), American Gregory Crewdson (see figure 10.2O, page 179) and German Loretta Lux (see figure 12.3B, page 200), who have all explored this method extensively. This approach to image making is not new — high art photography (see section 10.2, page 172)

of the late 19th century explored this approach, as did many early Australian photographers working in the same period. These photographers chose to photograph their subjects in front of painted backdrops; they would direct them into place and would often use props. This was particularly the case with many of the early images of Aborigines, who were often depicted in a staged set with props that included dead kangaroos, spears and a painted landscape scene in the background (see figure 5.4C).
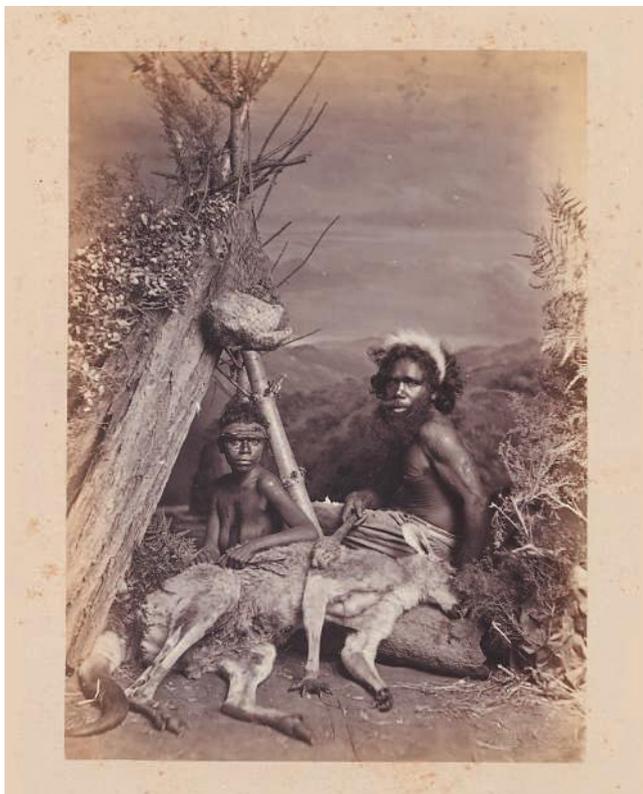
Figure 5.4C *Portrait of an Aboriginal man and woman,* J.W. Lindt, c. 1874, albumen silver photograph

1. Look closely at the Aboriginal image in figure 5.4C and compare it to Tracey Moffatt's image from her *Something more* series (see figure 11.5A, page 186). Briefly analyse boths artworks. Include an introduction to the work, a brief description of the subject matter and a comparison of the artist's working method and artistic intention (use section 9.2, pages 159–62, to assist you).
2. Produce an artwork that has been entirely staged to communicate a creative idea. The idea may be developed from one of the following starting points or you may come up with your own. An updated version of a nursery rhyme or children's story; a re-enactment of a scene from a famous movie; a scene depicting elements of your own life.

3. In your workbook or journal, proceed through the design process (see section 4.2, page 105) to develop and refine your idea. You will need to consider what actors you will require to play the various roles, what props and backdrops you will need to arrange. You will also need to consider lighting as it can play a major role in helping to set the mood of your artwork.

4. Print and mount your finished artwork for presentation and assessment.

5. Evaluate your finished artwork in your workbook or journal.

ASSESSMENT

● A finished artwork reflecting the theme of photographic theatre

● The design processes recoded in your workbook or journal. Refer to assessment criteria, page 257.

Figure 5.4D *He doesn't seem to understand*, Lauren Benson, Year 12, digital photograph

Appropriation

The notion of **appropriation** is to use the subject of an existing artwork as the foundation for a new artwork. The fundamental element of this approach to making artwork is not to copy the work but to reinterpret it, giving it new meaning. There are many reasons an artist may choose to appropriate an artwork; it may be to honour the artist, question or challenge the meaning of the original work or to use it as a symbol to express views and opinions about the artist's world. Appropriation is particularly relevant and of interest to postmodernists, as it provides them with the opportunity to question the significance and value of artworks from the past.
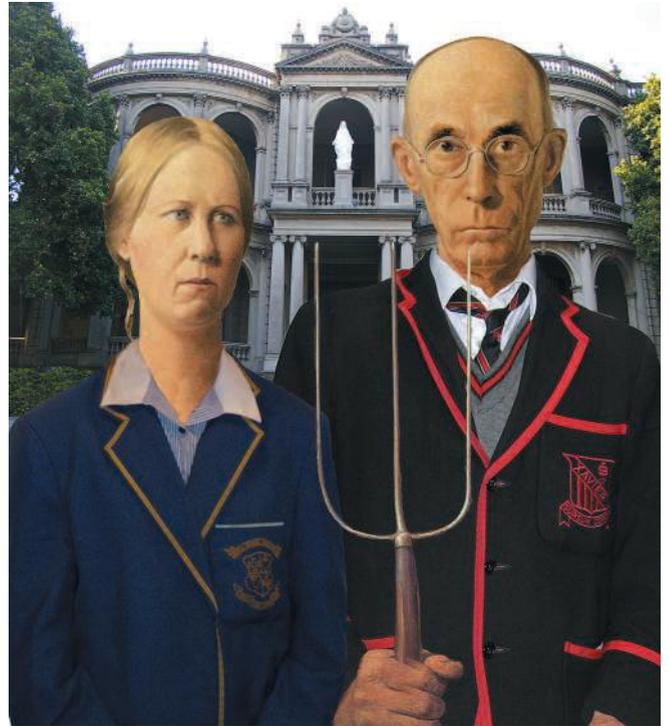
Figure 5.4E *Appropriation of American Gothic,* Alice MacFarlan, Year 11, digital photograph

Figure 5.4F *Appropriation of Da Vinci's Mona Lisa,* Felicity McGlinn, Year 11, digital photograph

1. Compare figure 10.2N, *Daughter of art history A* (1989) by Yasumasa Morimura (page 178), with Manet's (c. 1881) painting, *The bar at the Folies-Bergère* (you could find a copy on the internet). Why do you think that Morimura decided to appropriate Manet's famous painting? Discuss the similarities and differences between the two artworks.

2. As a class, discuss the legal (copyright — which, in Australia, generally exists for the life of the artist plus 70 years) and ethical considerations (moral rights of the artists and the honour of the artwork) that should be taken into account if an artist chooses to appropriate an artwork.

3. Produce a digital photographic artwork that appropriates an image of a famous artwork from the past. The challenge of this task is to reflect elements of your school; perhaps its uniform, buildings, grounds or crest. As a starting point, consider the most famous artworks that you know. Works such as Leonardo Da Vinci's *Mona Lisa* (1503), Edvard Munch's *The Scream* (1893), or Andy Warhol's *Marilyn Monroe* (c. 1964). How could you best adapt these images to reflect an element of your school?

4. Brainstorm additional artworks that you could use as the basis for this work. Look through books or search the internet for famous artists and their works. Collect at least four possibilities. Consider the different ways that you could adapt each of the artworks to reflect the task.

5. Select the artwork that you intend to use. You will need a relatively high-resolution digital copy of the image. Pose a fellow student in the same position as a figure from the artwork and then take a digital photograph of that person. It should be a relatively straightforward process using digital software to dress the figure from the painting in your school's uniform (see section 3.6, pages 91–8), on superimposing). You could also consider including elements of your school in the background of the artwork.

6. Document the procedure of creating your artwork in your workbook or journal and evaluate the final result.

7. Print and mount your finished artwork for presentation and assessment.

ASSESSMENT

- A finished artwork reflecting the theme of appropriation
- The design processes recoded in your workbook or journal.

Refer to assessment criteria, page 257.

PART 3

PRESENTING

6.

Presenting photographs

MOUNTING

Most artworks are created for display, with the artist's intention being to share their response to a subject with the audience. It is therefore important for artists to consider how to present their work. Mounting and framing are used to finish an artwork and give it a professional edge.

The method that you use to mount your work will largely depend on what you intend to do with it when it is complete. You may primarily be concerned with presenting the artwork for assessment, or you may intend to give it to someone as a gift, exhibit it and/or sell it. Whatever the case, you need to consider how you will present the image. It is important to remember that a work is mounted to enhance its appearance and to do this properly you need to develop the necessary skills. A poorly mounted photograph can look shoddy and take the viewer's attention away from the artwork itself.

There are a number of mounting options available. Before you begin, you will need to consider the effect that you want, the costs involved and the time available.

Edition numbers and artist's signature

As with most types of traditional printing techniques, it has become fashionable in recent times for photographers to place edition numbers on their artworks. The artist indicates at the bottom left-hand corner of their work how many prints they have made of the work and which print this photograph is in that edition. For example, 12/15 means that particular artwork is the twelfth printed from a total of 15 prints.

It is appropriate for photographers to sign their artwork. The signature acknowledges the photographer as the artist, the photograph is viewed more positively as an artwork and it is also perceived to be more valuable to collectors. Titles provide a glimpse into the artist's intention and help provide a focus for interpreting the artwork.

For maximum effect, the signature, edition numbers and title are written with a graphite pencil or Indian ink. Examples of an edition number and artist's signature are shown in figure 6.1A.
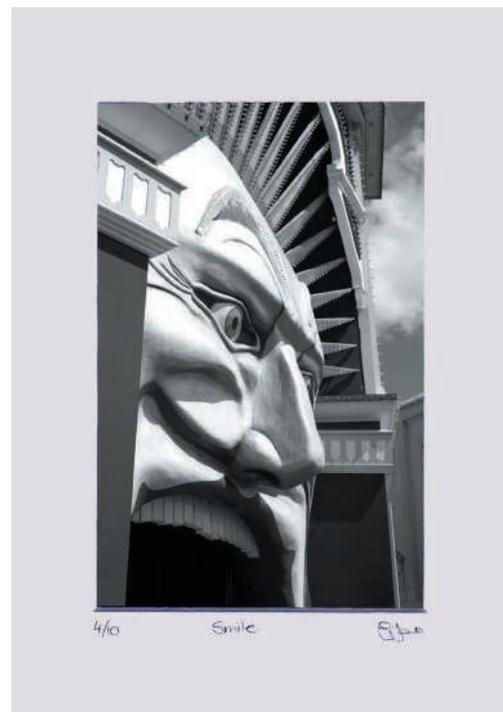
Figure 6.1A
Artwork indicating the edition number of the work, the artist's signature and the title of the work

Artists are not always interested in creating artworks that will last forever. Some artists are concerned with capturing the moment. Installations, on-line and performance art often include photographs that are unmounted and that are presented in an unusual and often unconventional manner.

Figure 6.1B   Carolyn Lewen's and Neil Stanyer's *Blue-gold installation* for the 2007 Castlemaine state festival. The work comprised approximately 40 hangings accompanied by floor text and a musical sound scape by Jeremy Collings. The images are photograms printed onto cotton fabric and were made using common reeds.

Standard mounting

The standard method used to mount a photograph is on white or black card. The type of card used will largely depend on what is available, with cover paper through to expensive acid-free matt board being adequate. Most art and framing suppliers have a wide variety of different paper and boards.

Photographs can either be mounted on the top of the mount or underneath it (window mounting). The photograph should be arranged on the mount board in one of two ways.
1. The lower border is slightly wider than the top, which in turn is slightly wider than the sides (see figure 6.1C).
2. The sides and upper border are the same, with the lower border twice as wide as the other sides (see figure 6.1D).

To correctly mount a photograph you must take the time to measure the borders surrounding it to ensure that they are the required dimensions.
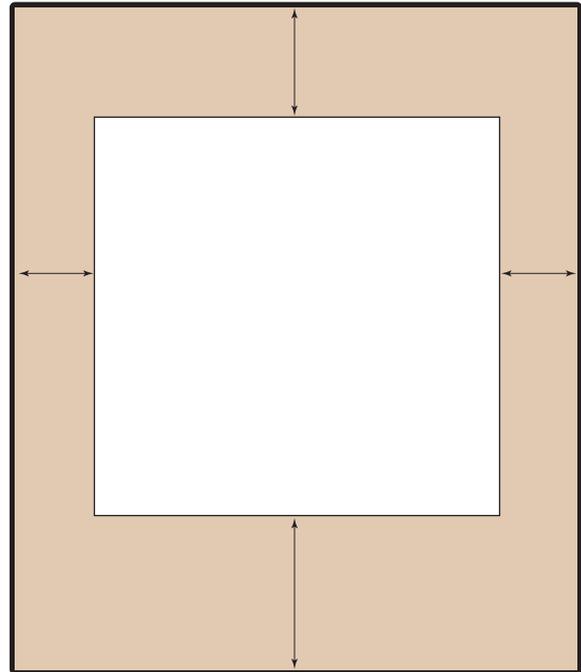
Figure 6.1C   Window mount, where the lower border is slightly wider than the top, which, in turn, is slightly wider than the sides
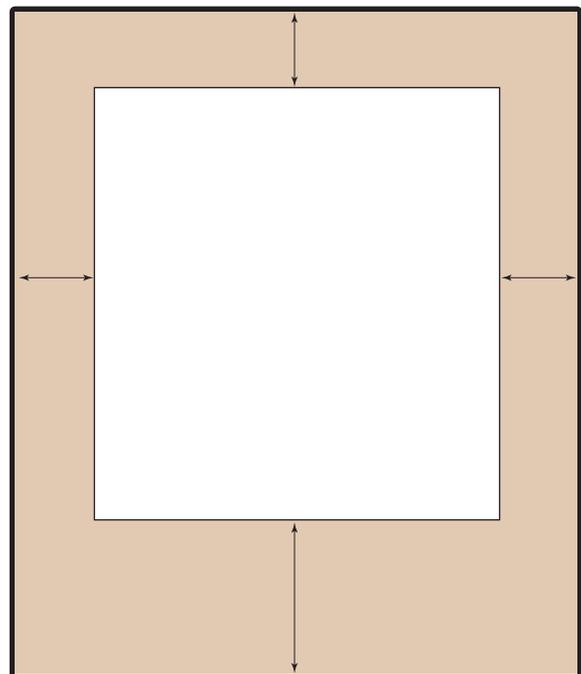
Figure 6.1D   Window mount, where the sides and upper border are the same, with the lower border twice as wide as the other sides

EQUIPMENT AND MATERIALS

To mount your photograph, you will need the following equipment and materials: guillotine; steel ruler; sharp cutting knife; cutting board; soft pencil; cover paper or mount board; adhesive (for top mounting only); masking tape or tailored mounting corners (see section 7.1, page 137).

Top mounting

This is the simplest form of mounting (see figure 6.1E). It involves adhering the photograph directly to the board or paper.

Figure 6.1E Top-mounted photograph

Window mounting

This type of mounting involves cutting a hole in the card or paper the same shape as, but slightly smaller than, your photograph. The mount then sits on top of the artwork and creates a professional border (see figure 6.1F). If you can gain access to a bevelled-edged matt cutter it will further enhance the professional look of your mount.
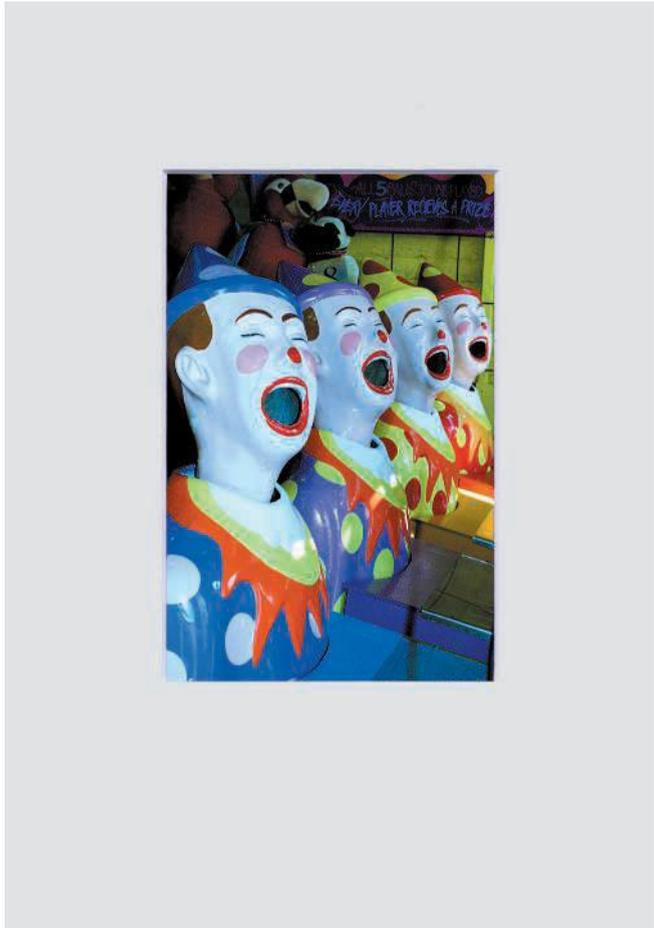
Figure 6.1F Window-mounted photograph

POINTS TO CONSIDER

- It is always important to measure your photograph accurately and cut out your window mount slightly smaller than the photograph. It is wise to print the photograph with a thin white border to ensure that you are not covering too much of your photograph with the window mount.
- The colour or tone you select for your mount is very important. It should complement your print and not compete against it.
- By using an acid-free mount board, combined with acid-free tape and other acid-free materials, you will help to conserve your photograph (see section 7.1, page 136).
- Use the guidelines on page 123 in the layout of your mount.
- Use tape to adhere your photograph to the window mount (see figure 6.1G).
- For a major artwork you may consider double mounting the photograph. First window-mount the artwork in one colour or tone, then remount it with another colour or tone and allow some of the first mount to show under the other (see figure 6.1H).
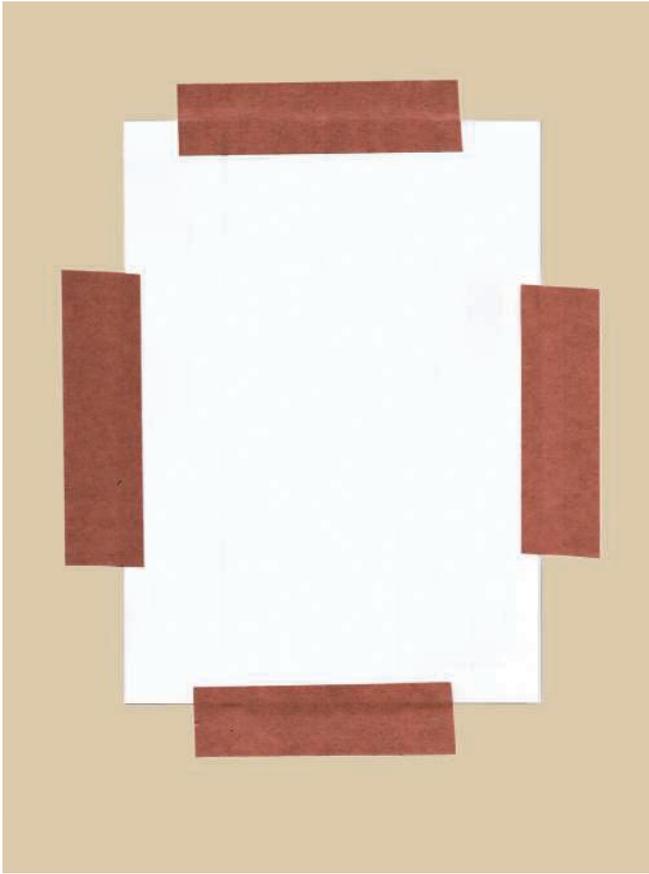
Figure 6.1G The back of a window-mounted photograph. It is not necessary to use a lot of masking tape, as it is better to allow the paper to expand and contract in different weather conditions.
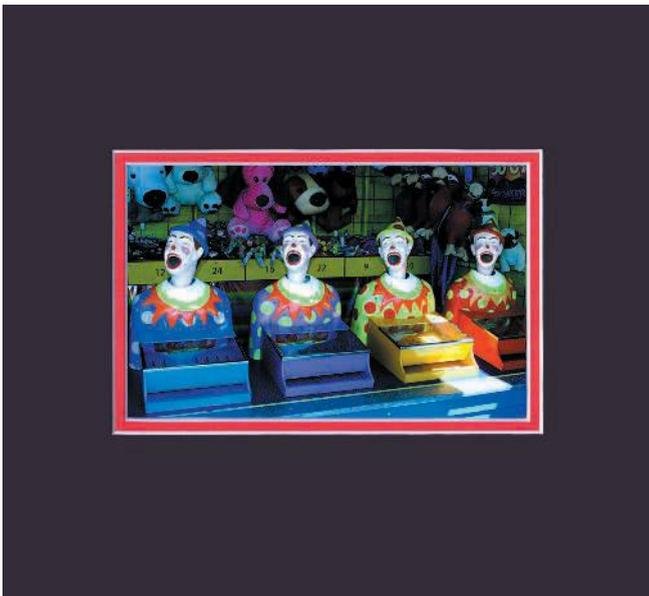
Figure 6.1H Double-mounted photograph

Creative mounting

Exploring the creative possibilities with mounting will allow you a further device to aid in the construction

of your photographic artwork. As an artist, you have the opportunity to explore, trial and refine whatever approach you wish.

Photomontage

Photomontage involves cutting out and mounting parts of one print onto another. This technique has enormous creative potential as it allows you to combine a number of different photographic images (see figure 6.1I).

POINTS TO CONSIDER

- It is important to make sure that the overlapping images blend with the background. The tones in the images should be similar.
- To aid in the combination of the two images, you could spray the completed image with a surface spray (use a matt or gloss pressure pack spray).
- To help add authenticity you can add shadows to the overlay images. These can easily be painted on with watercolours or with an air brush.
- It is important to use a good quality adhesive to ensure the overlaid print is attached correctly to the background.
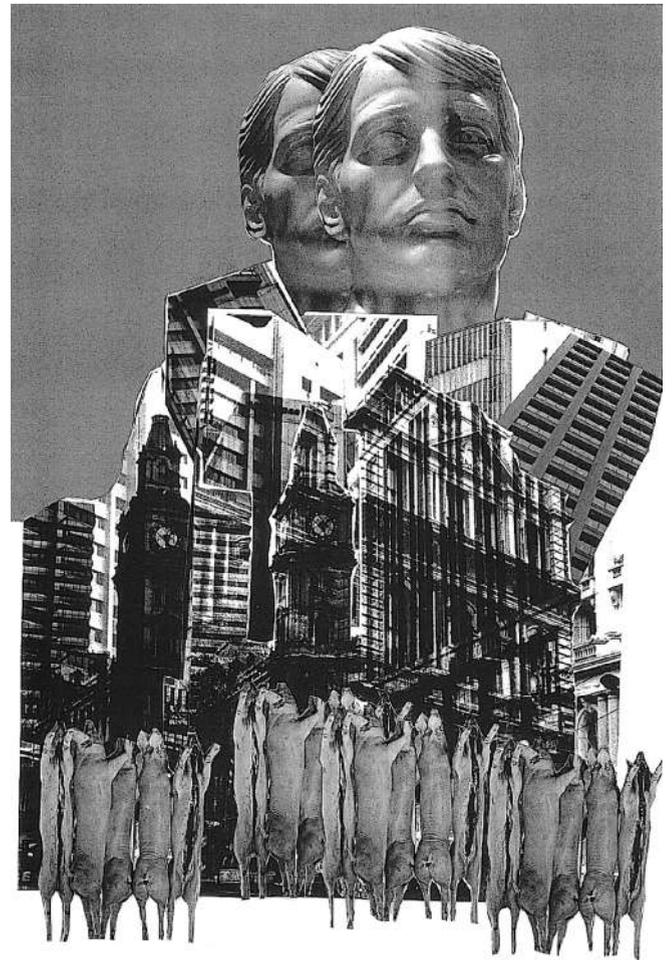
Figure 6.1I An example of a photomontage. *Meat market*, Brett Seakins, Year 12, gelatin silver photograph

Cutting and pasting

The possibilities with cutting and pasting photographs are endless. By playing around with a pair of scissors or a guillotine, you can totally change the structure of your photograph and produce some really creative and imaginative images (see figure 6.1J).

Print a number of copies of the same photograph and experiment with cutting it a variety of different ways. Always use a good quality glue to ensure that the various parts of your photographs adhere correctly.

Printing and mounting reversed images

It is possible to achieve interesting results by combining a standard photograph with a reversed image of the same photograph. The reversed image can be made easily by simply printing the photograph with the negative upside down (matt-side up) in the enlarger. By combining a number of normal and reversed images you can create some amazing artworks (see figure 6.1K).
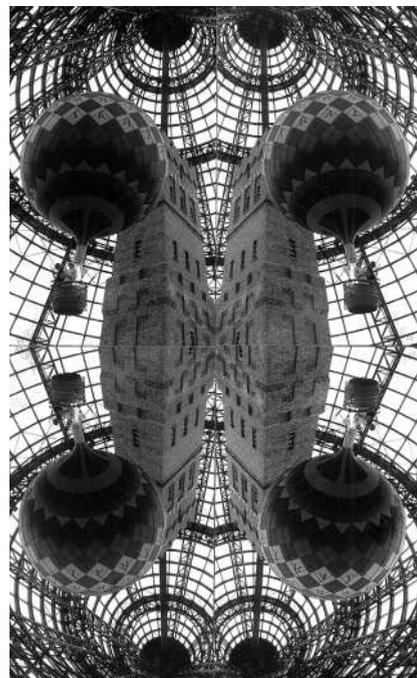
Mounting several photographs on the same mount

There is no rule stating that you must have only one photograph on a mount. There are many possibilities that stem from the combination of many photographs on the same mount (see figure 6.1L).
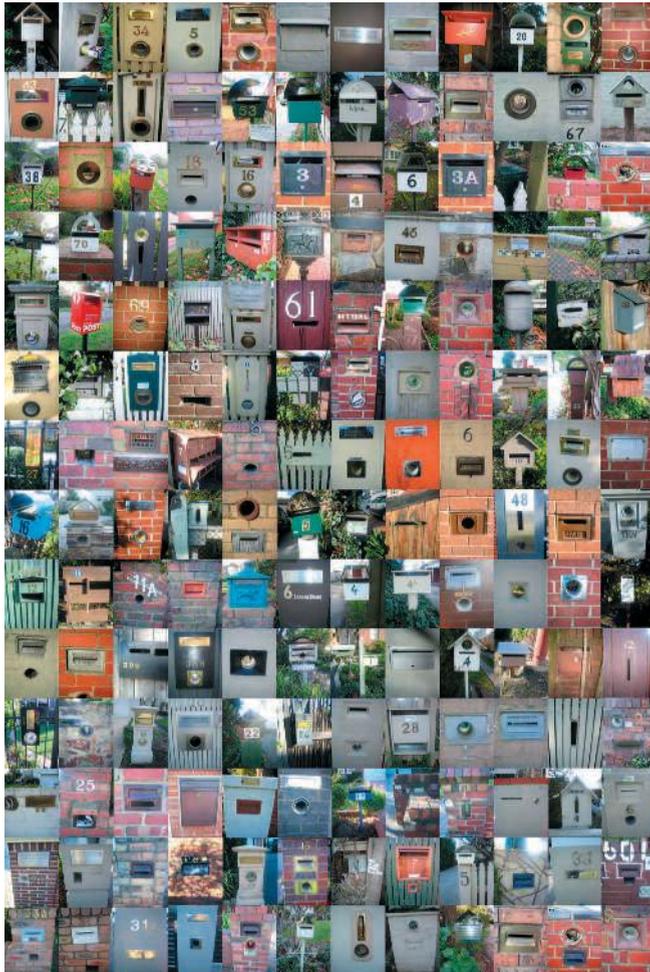
Figure 6.1L An example of many images presented together on the same mount. *Letter boxes,* Elise Nicholson, Year 12, digital photographs

Mounting photographs on non-traditional surfaces

Photographs do not have to be mounted on board or paper. As an artist you are free to select whatever surface you want. A mount can become part of the artwork and as important as the photograph itself (see figures 6.1M (i), (ii) and (iii)).

i. Digital photographs mounted on perspex. *Mind, body, spirit, soul,* Melissa Amore, Year 12

ii. Photographs mounted on wooden boxes. *Boxed in,* Loretta Bourke, Year 12

iii. Digital photographs heat-pressed onto a tablecloth. *A family meal,* Vanessa Blanco, Year 12

Figure 6.1M Examples of photographs mounted on non-traditional surfaces

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ACTIVITIES

Short-answer questions
Complete the following in your workbook or journal.
1. Why do we mount photographs?
2. What type of things do you need to consider when you are mounting your photographs?
3. What is an edition number?
4. Why do artists sign their work?
5. What are the two standard ways to mount a photograph?
6. What are the two standard ways to structure the size of the borders on a mount?
7. Make a list of all the creative ways you can think of to mount a photograph.

Practical tasks
1. Print two photographs. Top-mount one and window-mount the other.
2. Print another photograph and mount it in a creative manner.
3. Consider the three mounted images produced for tasks 1 and 2. Which technique do you think enhances your photograph the most? Explain why.
4. Which of the mounted images from this chapter do you think is the most successful? Explain why.

Figure 6.2A　The National Gallery of New South Wales

6.2 EXHIBITION SPACES

Despite our media-driven world, where thousands of images are displayed before us everyday in magazines, on billboards, television and the internet, and even on phones and iPods, the value of an artistic image is still truly appreciated. In fact, the notion of fine art has become increasingly more accessible, relevant and of interest to the general public. Society has developed a better understanding of the importance of art and, in so doing, has supported the formation and development of exhibition spaces throughout the country. Whether you wish to view significant artworks from ancient Egypt, the works of a great master like Picasso, view an emerging artist's latest exhibition or attend a group show by artists from your local community, today we have a vast array of different types of exhibition spaces to cater for all types of art.

Public galleries

Public galleries are funded by taxpayers to provide cultural resources for the community. These galleries offer people the opportunity to view and learn about significant artworks. Public galleries can vary considerably, depending on their purpose. Larger public galleries, such as the National Galleries of New South Wales, Queensland and Victoria, establish their own collections of traditional and contemporary artworks, and deal with all art media, from craft to fine art. They are the focal point in making art accessible to the general public. Part of their role is to exhibit, conserve and preserve their own collections. They are also responsible for the acquisition of new artworks.

Figure 6.2B　A public regional gallery in Benalla, Victoria

In addition to government funding, public galleries rely on the support of the community through donations and bequests. A significant proportion of the artworks within public art collections have been donated or purchased with money provided by philanthropists, as well as other interested and supportive members of the public.

Public galleries often put together or borrow exhibitions using artworks from other national and international galleries, and private collections. These exhibitions bring together important artworks and provide a valuable opportunity for their audiences to see major artworks first-hand.

Public galleries have a responsibility to make their exhibitions accessible to all members of the public and to different audiences. They do this in a variety of ways:
- guided and audio tours
- tours for students, and the visually and hearing impaired
- the production of educational kits for students of all ages
- by opening the gallery early some mornings and late some nights for special out-of-hours viewing.

They take great care to provide uncomplicated information panels throughout the exhibitions. The aim is to develop a greater public audience that can appreciate and enjoy the artworks displayed in the gallery.

Public galleries do not generally charge a fee to view their own collections. On some occasions they may charge a fee to view major national and international exhibitions. These charges are only put in place to help cover the cost of the exhibition and not to generate profit.

There are many regional public galleries scattered throughout Australia. These galleries provide a smaller, yet similar, service to communities whose members may not be able to visit the major galleries in their capital cities.

Many local and city councils support the arts by providing funding for other, smaller, public galleries. These galleries tend not to have their own collections; they focus mainly on exhibiting travelling exhibitions, and displaying the work of artists who work in a particular style, media, theme or historical period. A public gallery that has been established to cater for a particular media is the Centre for Contemporary Photography in Victoria. This gallery's main focus is to promote and exhibit present-day photographic artworks. Exhibitions that deal with a specific theme are often held in this type of gallery. Retrospectives, group, solo and salon shows are organised by a curator, who coordinates the exhibition schedule for the year. Refer to chapter 14, page 249, for the location of public galleries in your state.

Figure 6.2C   Centre for Contemporary Photography, Victoria

Commercial galleries

Commercial galleries are generally privately owned and are established to display and sell artwork in order to make a profit.

Most commercial galleries represent a group of artists (often referred to as a 'stable') whose work they promote, market and regularly exhibit. It is in the business interests of a commercial gallery to ensure that their stable includes either established artists or highly talented emerging artists whose work reflects a good investment option for the gallery's discerning clients. It is a challenge for young, up-and-coming artists to be selected by commercial galleries. They generally have to submit a folio of their artwork to the gallery's director and hope that that person sees a strong potential in their talent and their artwork. Some young artists try to establish a name for themselves in alternative art spaces prior to approaching a commercial gallery for representation.

Figure 6.2D   Roslyn Oxley9 Gallery, New South Wales

The services that a commercial gallery might offer an artist from their stable include: an annual or bi-annual solo exhibition, involvement in group shows with other artists from the stable, promotion of their artwork on the gallery's website, the marketing of their artwork to public and corporate investors, and publicity through the promotion of their artwork in newspaper and art magazine articles.

Major commercial galleries cover a proportion of the costs associated with the marketing of their artists. These could include set-up costs for an exhibition, invitations, mail-outs, advertising and opening night expenses. In return for such

Figure 6.2E *Bright lights*, alternative art space in Hosier Lane, Melbourne

services, the commercial gallery takes a commission from the sale of the artworks. The commission may range from around 33.3 per cent to 45 per cent.

Smaller commercial galleries may make other arrangements with their artists. Some may not cover all expenses while others may split particular costs with the artist. Refer to chapter 14, page 249, for examples of commercial galleries in your state.

Alternative art spaces

As most artists are not represented by commercial or public galleries, they need to look for alternative venues in which to exhibit their artworks.

Without going to great expense, many artists now create their own websites. This can be seen as an ideal avenue in which to expose their artwork to the world.

Some groups of artists combine and establish artists'-run spaces. These spaces can apply for government funding and/or can generate income by hiring out the venue for some months of the year to other artists.

Increasingly, local and city councils are supporting the arts by assisting with a growing number of unconventional sites in which artists can display their works. In Melbourne, two laneways in the inner city (Hosier Lane — see figure 6.2E — and Centre Place) have been set up

with an array of light boxes, with the space suitably titled *Bright lights*. Artists can apply to exhibit their work on the boxes through a local administrative body.

Most cities have a number of gallery spaces that artists can rent. The artists pay a fee for the rental of the space and then hang, promote, market and sell their artwork themselves.

Restaurant and café proprietors regularly exhibit and promote artists' work, and many banks, hotels and offices allow and encourage artists to hold exhibitions in their premises. The next time you happen to be in a restaurant or café, take note of the artwork on the walls. Refer to Chapter 14 for examples of alternative art spaces in your state.

Roles of people working in a gallery

There are a number of different jobs for people to undertake in an art gallery. Larger galleries employ hundreds of people to ensure the smooth operation of the gallery, whereas smaller galleries may have only two or three staff.

Running an art gallery and putting on an exhibition requires the skills of a number of significant people; in particular, the gallery director, curator, exhibition designer and publicity officer.

The gallery director

The gallery director's role is to oversee the smooth and successful running of an art gallery. In the case of a commercial galley, the director is generally the owner. In public galleries, the director is employed by a government body to administer all aspects of the gallery, including the financial, cultural, social and political components. The director is also ultimately responsible for supervising everything connected with the day-to-day running of the gallery, including the exhibition schedule, staffing, security, conservation and marketing.

The curator

The curator is responsible for the exhibitions presented in a gallery space. If the gallery has its own collection, then the curator is also responsible for the artworks housed within the collection. It is the role of the curator to advise and work with the gallery director to establish the exhibition schedule for the year. The curator will generally suggest possible exhibition ideas, including exhibitions made up of artworks from the gallery's own collection (if they have one), thematic shows (based on a theme), movement shows (honouring a particular style or art period), retrospectives (celebrating the work of an artist over an extended period of time) and media-based shows (where the work of a particular studio form is exhibited; for example, photography).

Once an exhibition has been given the go-ahead, it is the role of the curator to oversee all aspects of the exhibition. This can include:

- Borrowing artworks from other galleries and private collections.
- Organising the transportation and insurance of borrowed artworks.
- Working in conjunction with the exhibition designer to organise the layout and look of the exhibition.
- Working with the publicity officer to organise marketing and promotion.
- Ensuring that the works are maintained and appropriate conservation procedures are followed.
- Researching the artworks that are to be presented in the exhibition and developing a sound understanding of their historical, cultural and social significance.
- Providing education on the exhibition to the gallery staff, members and visitors.
- Writing up information for use in the exhibition catalogue, media releases and articles for newspapers and magazines.

Major public galleries, such as the national galleries in each state, employ a large number of specialist curators to look after the various aspects of their collection and exhibition program. For example, they would have a curator of photography as well as another for textiles, painting, ceramics and sculpture. These curators would also be responsible for advising the gallery director on the purchasing of new acquisitions. Commercial galleries do not generally employ a full-time curator. They may employ a freelance curator to coordinate an exhibition or, in most cases, the gallery's director will take on the role.

Figure 6.2F   Dr Isobel Crombie, Curator of Photography at the National Gallery of Victoria

Exhibition designer

The role of the exhibition designer is to advise and work in conjunction with the curator to establish the look and style of an exhibition. The designer works towards presenting the artworks in a manner that will maximise their impact on an audience. In order to do this the designer may consider:

- The placement and arrangement of the artworks within the exhibition space, including the order in which the artworks are hung — perhaps chronologically (historically) or thematically.
- Ensuring that the artworks are presented in such a way that they complement one another. Consideration is given to the works hanging either side of an artwork, as well as those on surrounding walls.
- Painting the walls of the gallery space a colour that enhances the aesthetic qualities of the artwork, as well as the theme and subject matter of the exhibition.
- Arranging the lighting of the exhibition to create an enhanced atmosphere and mood.
- The framing and mounting of the artworks and the layout of their display. This would include the presentation height of the artworks (refer to page 134) and how they may be presented if they are three-dimensional; for example, in a cabinet or on a pedestal.
- The design of the information panels presented throughout the exhibition. The design of these would need to work in conjunction with the look and style of the remainder of the exhibition.
- Placing signage (perhaps the title of the exhibition) throughout the exhibition to further enhance the established style of the exhibition.

Figure 6.2G Exhibition designers at work

Exhibition designers are also generally responsible for ensuring that the style and look of an exhibition is carried over to any publicity and advertising material.

Publicity officer

It is the role of a publicity officer to promote and market the art gallery and its exhibition schedule, to make people aware of what is going on and to entice as many visitors as possible to the gallery. The publicity officer is responsible for all the advertising and promotion of an exhibition. Their role could include:

- Organising the opening night of an exhibition, including sending out invitations to significant members of the public in addition to government dignitaries, gallery board members, sponsors and the media to preview the exhibition. For major exhibitions there may be a series of opening and preview nights organised.
- Sending out information on the exhibition to gallery members and other interested parties who appear on their mailing list.
- Creating a press release with detailed information on the exhibition and a collection of images for the media to use in articles that they may choose to publish on the exhibition.
- Sending out information on the exhibition to schools and other educational institutions.
- Being responsible for the advertising schedule for the exhibition. This would include working with a graphic artist (possibly the exhibition designer) to establish the advertisements for newspapers and magazines as well as television, radio and billboards.
- Working with the television and radio networks to encourage them to present a story on the exhibition.
- Writing articles about the exhibition for an in-house magazine or newsletter.

Figure 6.2H Publicity officers at work

Conduct an investigation into how galleries exhibit photographic works to audiences in different ways.

Research report

Visit two galleries currently holding photographic exhibitions and use the questions from the proforma below to aid your investigation. Summarise your findings in a report, with a conclusion explaining how and why the practice of each of your chosen galleries is different. Do you think the galleries are catering for different audiences? Explain your answer. Does the gallery have a website? What can be discovered before the visit?

The gallery

Name of gallery _____

Location of gallery _____

What type of gallery is this?

    Public gallery

    Commercial gallery

    Alternative art space

Who owns the gallery? _____

When did the gallery open? _____

What is the main purpose of the gallery? _____

_____

What type of artwork is exhibited in the gallery? _____

What is the criterion for the selection of artwork for exhibition? _____

_____

How would an artist approach the gallery in an attempt to have their artwork exhibited? _____

_____

What does the physical space of the gallery look like?

_____

_____

How is the gallery funded? _____

The photographic exhibition

Title of exhibition _____

Name(s) of exhibiting artist(s) _____

What are the main features of the exhibition? _____

_____

Who is the curator of the exhibition? _____

What is the curator's main role in this exhibition?

_____

_____

_____

Has an exhibition designer been involved in this exhibition?

_____

If not, who has coordinated the hanging of the exhibition?

_____

How have the artworks been displayed to maximise their impact on their audience? _____

_____

_____

_____

How is the artwork labelled? _____

How has the exhibition been promoted and marketed?

_____

_____

How has the exhibition been funded? (For example, government, sponsorship, through the sale of artwork)

_____

Does the exhibition have a sponsor? _____

If so, who are they and how have they supported the exhibition?

_____

_____

Putting on an exhibition

To place your artwork on display is to present your images and artistic ideas to an audience. It can be a time of excitement and anxiety. The feedback that you receive from the public's viewing and response to your work will give you an insight into the qualities that your work contains.

There are no hard and fast rules for displaying and exhibiting artwork and the organisation of the display will depend on the type of images you are presenting.

A successful exhibition needs a lot of preparation and planning. If you intend holding an exhibition you should consider the following points.

- Who is involved? Is it a solo or group show?
- What brings the artists together? Is it a theme, style, common interest or medium?
- You must consider your audience. Who are you trying to reach? Is it your parents on open day, your peers, or your teachers and classmates?
- What is left out of an exhibition is just as important as what is put into it. Be ruthless in your decisions about which artworks will appear in the exhibition.
- The organisation of an exhibition must deal with a number of design problems, such as the different sizes and shapes of the photographs, the different tones in the works (from light to dark) and the hanging of the works (some may need to hang vertically while others hang horizontally).
- Draw a detailed plan of the exhibition. This may change as the exhibition is being hung; however, it is an important tool in the production of the show.

- Ensure all works are mounted appropriately (see section 6.1, pages 122–7).
- Many artists give their artworks a title. Will the intention of your artwork be clearer to the audience if it has a title?
- Artworks are generally classified in exhibitions by placing a label next to them which states the name of the artist, the title, date and medium.
- Hanging an exhibition takes a lot of time and patience. You may like to change and adjust particular pieces as you see fit.
- There is a height standard for hanging artworks. This measurement is taken from the ground to the centre of the artwork. For small artworks, the measurement is 155 cm and for larger works it is 185 cm (see figure 6.2I).
- Ideally, an invitation should be sent to your audience. The invitation should state relevant information about the show, such as the exhibiting artists, venue, date and times. The invitation may show an image or several images from the exhibition (see figure 6.2J).
- The highlight of the exhibition is the opening. The school principal or local member of council may be interested in opening your exhibition. Contact you local paper for publicity.
- The utmost care must be taken of artworks on display. The exhibition should be continually monitored.

ACTIVITIES

1. At the end of the semester, organise for your class to put on an exhibition of the artworks that your have produced. Select a class member to take on the role of curator, and then appoint a team of exhibition designers and publicity officers. You will also need to appoint a number of students to mount and hang the show under the direction of the curator. You may also consider offering achievement awards and, if this is the case, a number of students could be responsible for organising them.
2. Organise a display of artwork for a particular audience. This may be for parents on parent–teacher nights, or for the general public on open day. Consider using the local bank or another public space to exhibit your artwork.
3. An exciting activity is to place your artworks in competitions and local and city fairs. Ilford Photographic Company holds a school competition every term; contact your local photographic supplier for details.
4. Discuss with your teacher the possibility of holding an annual school art show. This is an ideal place to present your artworks to the school and wider community.

i. Small artworks are hung so that the centre of the artwork is 155 cm from the floor.
ii. Large artworks are hung so that the centre of the artwork is 185 cm from the floor.

Figure 6.2I The height standard for hanging artworks
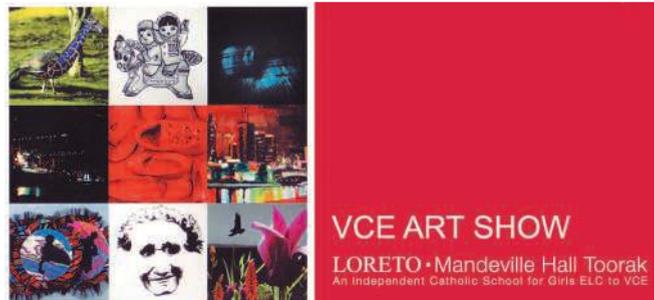
Figure 6.2J An example of an invitation to a school art show

Figure 6.2K An annual school exhibition
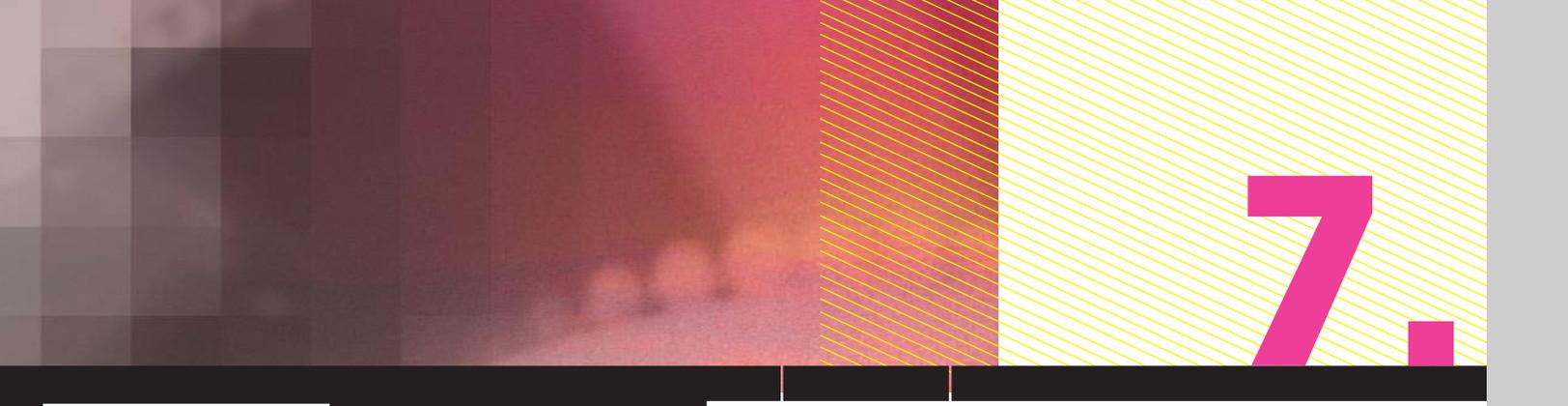
Preservation, conservation and restoration

7.1 PRESERVATION AND CONSERVATION

Artworks generally reflect aspects of the time in which they were made and therefore can be seen as a creative record of an ever-changing world. When you walk through a gallery you are given the opportunity to view artworks from many cultures and civilisations. By looking at these works you can learn a little more about the way other people lived. It is satisfying to think that in hundreds and possibly thousands of years, people will be looking at our culture through the artworks that we have produced. However, if we do not consider the way we conserve and look after artworks, there is a good chance that many will not survive. The preservation and conservation of artwork centres around caring for the work and helping to prevent any foreseeable damage; that is, safeguarding the artwork for the future.

Over the past 40 years the importance of photographic preservation and conservation has been recognised. Photographers have become concerned with the use of processing techniques that will guarantee the maximum life for their images. Furthermore, photographers are now aware of the importance of proper display and storage to help prevent damage to artworks. In addition to most galleries, museums and collectors, artists are now able to clearly see the value and importance of looking after and maintaining photographs in prime condition.

One of the major concerns in photographic preservation and conservation is the make-up of photographic paper. The problem stems from the construction of the paper, which consists of a number of different layers of complex chemical materials. These layers can react to external factors differently and the layers can separate, damaging the photograph. It is important that the layers maintain a stable relationship if they are to be successfully conserved and preserved.

Digital photographic paper comes in a variety of different qualities for a diverse range of purposes. Thicker, high-quality papers tend to be similar to the more traditional types of photographic paper that consist of several different layers. Thinner papers are exposed to different problems because of their delicate and fragile nature.

External dangers

The main external dangers facing photographs (and any artworks produced on paper) are light, temperature, humidity fluctuations, fungus, atmosphere pollution, acidity, insects and general handling.

Light

All light can cause problems to artwork produced on paper, particularly the ultraviolet (UV) and infra-red (IR) rays found mainly in natural and, particularly, in artificial light. Strong light can damage artworks by causing them to fade and/or discolour.

The safest lighting condition for any kind of artwork is total darkness. When photographs are displayed, it is important to keep the effects of light to a minimum. Some ways of doing this are:

- not hanging a photograph in direct sunlight
- photographs should be framed under ultraviolet-absorbing glass or perspex
- light generated from a spotlight should not create additional heat on the photograph

- the intensity of the light should be kept to a minimum. Photographs are exhibited at the National Gallery of Victoria under 50 lux of light intensity. Lux (or luxen) is the measurement of light energy. A bright sunny day measures 6000 to 10 000 lux. A rainforest measures about 2500 lux. Light levels are monitored for every exhibition with a special light meter.
- when a photograph is not being displayed it should be kept in a completely dark storage area.

The National Gallery of Victoria and the Art Gallery of New South Wales have a policy to display photographs on a ratio of 1:3 (that is, exhibit for one month, rest for three months) to conserve the photographs.

Temperature and relative humidity

Temperature and relative humidity (the measurement of moisture in the air) are related; therefore, if the temperature in a room is constantly changing, so is the relative humidity. This can cause paper to expand and contract (the paper becomes brittle in a dry atmosphere, then becomes moist in conditions that are damp). The fluctuating and changing conditions of a room tend to stress and ultimately damage an artwork. State public galleries such as the National Gallery of Australia and the National Gallery of Victoria use building automated systems (BAS) to control and record temperature and relative humidity via computers and sensors in gallery spaces. In addition to the BAS, they sometimes still use portable data loggers to extract data via computer.

Figure 7.1A The building automated system at the National Gallery of Victoria

Older style hydrothermographs are still used in some galleries to monitor and record the temperature and relative humidity in a room (see figure 7.1B).
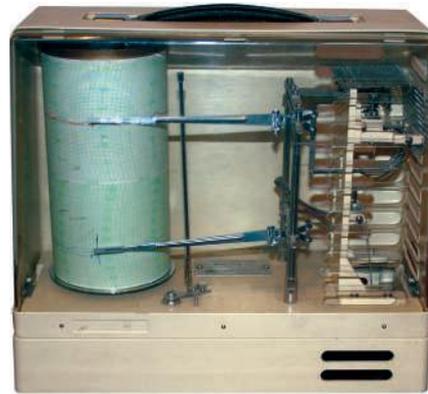
Figure 7.1B
A hydrothermograph

Of particular concern to photographers is how the different layers of photographic paper react with each other. If, in dry conditions, one layer shrinks more than the layers underneath, it could detach itself from the other layers. This can cause the emulsion to crack and flake and, unfortunately, the damage tends to be irreversible.

If the relative humidity surrounding an artwork extends beyond 60 per cent, mould can begin to grow on and within an artwork. It is important to consider the following:

- photographs should be kept at a constant temperature and relative humidity (international exhibiting and storage conditions are between 18–20 degrees Celsius and at a humidity of 45–55 per cent)
- photographs should be checked occasionally for potential problems, such as mould spores and fungus, that could damage the artwork.

Acidity

Many types of paper produced over the past few hundred years contain residual acid. If this acid is not neutralised it can ruin the paper. Artworks have been known to discolour and, ultimately, be burned by paper containing acid.

Nineteenth-century photographic paper contained acid. Since then manufacturers have realised the potential problems associated with acidity and used this information to enhance the production of their photographic paper. However, if photographs are mounted or displayed on paper that contains acid, the print can still be damaged or ultimately destroyed. Therefore, it is important that artworks are mounted and stored in an acid-free environment.

Ideally, photographs should be mounted under a window mount made from an acid-free matt board (see section 6.1, page 124). The photographs should be attached to the baseboard using acid-free mounting corners rather than hinges and glued with acid-free, water-based glue. These corners allow for easy removal from the mount if required. For the best protection, the window mount should be attached to the baseboard using gummed linen tape (see figures 7.1C and 7.1D).

An international standard for testing materials for their reactivity with photographs was developed by the Image Permanence Institute in America. This test is known as the photographic activity test, or PAT. Here, this test is performed at the National Archives of Australia. In their advertising, many companies mention that their produce has passed the PAT, meaning it is safe to use near or against photographs.
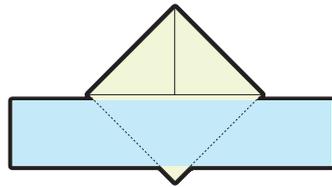
Figure 7.1C
Close-up view of a mounting corner

Figure 7.1D Ideal mounting system for a photograph

Photograph: Ansel Adams *Photo booth* self-portrait, 1936
Ansel Adams, photographer,
1 photographic print: silver gelatin; 08 × 07 cm.
Courtesy of the Katherine Kuh papers 1908–1994,
Archives of American Art, Smithsonian Institution

Insects

Artworks should be regularly checked for insect attack to prevent damage occurring.

Insects can infiltrate an artwork and even breed within mounts and frames. Insects such as silverfish have also been known to eat the surface of the paper. If insects are present they must be removed. However, be aware that most commercial insect spray repellents will stain artworks that are on paper. Most galleries use insect traps to manage the problem.

Atmosphere pollution

Artworks should be displayed and stored in a pollution-free environment. Cigarette smoke, car fumes and other air pollution can damage an artwork through constant exposure. Public state galleries have air filtration systems that minimise the exposure of their artworks to pollution.

Handling

Photographs should be handled with the utmost care. The grit, grime, grease and oil on hands can damage the work. It is therefore important for people handling photographs to take protective measures. Wearing clean cotton gloves or using paper fingers (a piece of acid-free paper folded in half — see figure 7.1E) is often advisable when working with photographs. The handling of artwork should be kept to a minimum to prevent accidental mishandling.

Figure 7.1E   Using paper fingers when handling photographs

Storage

Photographs are generally stored by galleries, collectors and museums in solander boxes (figure 7.1F). These boxes are lined with acid-free material and are light-tight, provide an environment of relatively stable humidity and temperature, and protect the artworks from atmospheric pollution and insects. Acid-free clear plastic is placed over photographs in storage. Students can use acid-free tissue paper.

Figure 7.1F   A solander box

Figure 7.2A A conservator restoring an old photograph at the National Gallery of Victoria

7.2 RESTORATION

'Photographic restoration' refers to bringing back or replacing what has been damaged, thereby restoring the photograph to the best condition possible.

Old photographs are no longer valued only for their documentary importance, they are also valued for their artistic merit. The recognition of the importance of photographic conservation is relatively new and we are now faced with the problem of the ongoing deterioration of many old photographs. The damage usually appears as faded and bleached images, purple and brown splotches, fungus, prints sticking together, physical damage (for example, rips and tears), insects eating the work and acid mounts burning the sides of the photographs. What can we do about this damage? Should we accept that, as these photographs are old, damage is part of their existence, or should we attempt to repair the damage caused by time and restore the photographs to peak condition?

It is generally accepted that photographs can and should be restored. However, the restoration should in no way create an artistic forgery or historical falsification. The restorer needs to keep in mind that the photograph was created by an artist and should in no way attempt to reflect any of the restorer's own artistic ideas on the work, even if they believe they understand the artistic intention of the work. The restorer should also be careful not to remove elements of the work that provide evidence of its age. In most cases photographs are dated by the procedures and techniques used.

Conservators work under ethical guidelines that mean all changes and treatments made to an artwork should be reversible. They do not work towards changing the artwork permanently in any way.

There will always be an ethical debate over the extent to which an artwork should be restored. If an image has greatly deteriorated, should we attempt to reconstruct it? If we do that, are we re-making the work and, therefore, to be considered the artist of the work?

The restoration that takes place with a photograph will largely depend on what is appropriate. Restoration is a delicate procedure and should generally be handled only by a competent professional. Most processes used in the restoration of photographs are very delicate and the restorer should have a detailed scientific knowledge of the products being used. In particular, very old photographs (for example, daguerreotypes, see figure 10.1D, page 168, and collodion images) need specific attention, and an

inexperienced individual could cause greater damage than already existed by attempting to restore them.

When restoring a work it is desirable to restore the actual photograph; however, this may not always be possible. An alternative is to duplicate the image, creating a copy of the photograph. However, it is important to remember that original photographs have certain qualities that no copy can match. Colour photographs processed in the 1960s will lose their colour definition, with the greens and blues beginning to dominate. Many galleries collecting photographs are reprinting the photographs from the original negatives, even though this conflicts with most collection policies of purchasing mint photographs (photographs printed by the photographer and/or photographer's assistant the year they were taken).

ACTIVITIES

Short-answer questions

Answer the following questions in your workbook or journal.

1. Why is the conservation and preservation of photographs so important?
2. List the main external dangers affecting the preservation and conservation of a photograph.
3. What measures can you take at home to ensure the safekeeping of your own photographs?
4. Why must historical requirements be taken into consideration when restoring photographs?
5. What are the main conservation concerns relating to mounting an artwork?
6. Explain the difference between conservation and restoration. Include a definition of each.
7. List the main forms of damage to photographs that require restoration.
8. Why do you think it is important to restore an original photographic artwork? Would it not be easier to scan the image and then enhance it in Photoshop? Explain your response.
9. If a photograph has deteriorated significantly, should we attempt to reconstruct it? Do you agree or disagree with this question? If we do that, are we re-making the work and, therefore, to be considered the artists of the reconstructed work? Explain your response.
10. With the increased use of the internet by photographers to display their artwork and the whole notion of a digital image that can be so easily reproduced and stored, do you think that in time we will no longer need photographic conservators? Explain your response.

Research report

Different galleries have different concerns in regards to the conservation, preservation and restoration of photography. Compare the concerns and actions taken to protect and restore photographs in a major public gallery with those taken by a commercial gallery.

Use the questions in the following proforma to aid in your investigation of each gallery. Summarise your findings in a report, with a concluding paragraph noting the differences and similarities between the two.

Name of gallery _____

Location of the gallery _____

Type of gallery: public, commercial, alternative art space

How are the works displayed? _____

What type of lighting has been used? _____

How long does the exhibition run? _____

What efforts are made by the gallery to control temperature and humidity? _____

What is the gallery's policy on the storage and handling of photographic artworks? _____

_____

Does the gallery go to any measures to protect the photographic artwork from atmospheric pollution, insects and acid? _____

_____

If so, what measures are taken? _____

_____

Practical task

1. Look through your parents' or grandparents' photographs. Find at least one that may need some kind of restoration. Make sure that you ask permission and take great care with the print.

   Scan the image (see page 89) and use a computer software package (such as Photoshop, see section 3.4, page 80) to enhance the image's tone, colour, brightness and contrast. If the image has any marks or scratches you could hide them using a cloning tool. Consider anything else that may need to be restored, and possible techniques that you could use to further enhance the image. Print out a before and after version of the photograph for assessment. In your workbook or journal, document the procedure that you followed in restoring the photograph.
2. Compare the original and restored versions of your photograph. Which image do you think holds more 'value'? Consider sentimental value and historical value.

i. Photograph before restoration

ii. Photograph after restoration
Figure 7.2B

PART 4

ART CRITICISM AND AESTHETICS

8.

Aesthetic elements in photography

8.1 COMPOSITION

'Composition' refers to the way various components within a frame are arranged. Anyone can point a camera at a subject and create a photographic image. However, the way you compose the subject within the picture frame — where you put it, how close you get to it, at what angle you photograph it, how you use perspective, and what is placed in front and behind it — will govern the success of the image. Composition allows you to capture your own creative and individual interpretation of a subject (see figure 8.1A).

The difference between a snapshot and an artistic photograph depends greatly on composition. Good composition is vital to the production of a quality image.
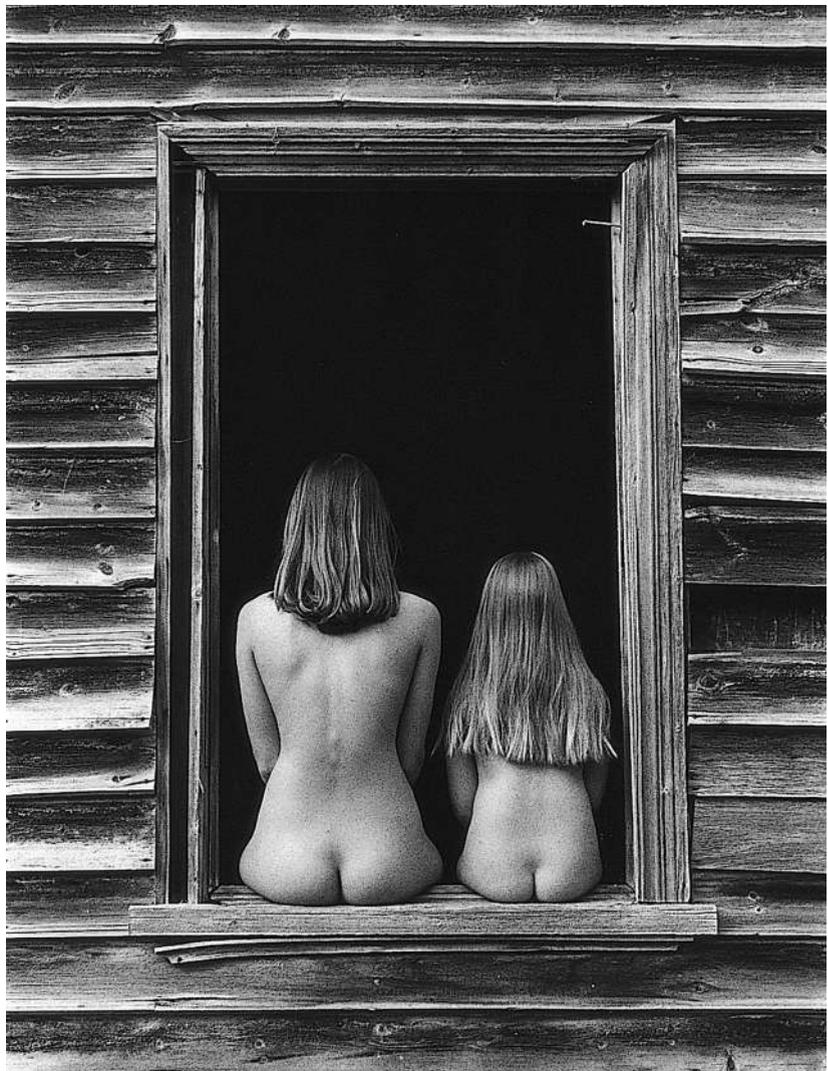
Figure 8.1A A frame within a frame is a common method used to create interesting composition. *Bums on seats*, Annetta Brown-Shepard, Year 12, gelatin silver photograph

i. A photograph where the photographer has not paid attention to the background. The tree appears to be growing from the subject's head.

ii. The same subject as (i). However, in this photograph the photographer has paid attention to the background.
Figure 8.1B

POINTS TO REMEMBER

- Get close to your subject. One of the biggest mistakes made by the novice photographer is not getting close enough to the subject. The main subject of the photograph should generally take up most of the frame. Beginners often photograph mostly the background, making the main subject appear almost insignificant (see figure 1.6B, page 27).
- Pay attention to the background. What appears in the background of a photograph generally has a direct influence on the subject. If you are photographing a portrait, make sure that there are no overpowering images in the background (for example, trees appearing to grow from the subject's head — see figures 8.1B(i) and (ii)). Whenever possible, the background should complement the major subject. For example, to enhance a portrait of a pilot, the background of the photograph could contain an aircraft or airport.
- Hold the camera level. A common mistake made by beginners is to photograph a landscape or subject with a tilted horizon line. Always ensure that you hold the camera level, ensuring the horizon lines runs horizontally across the photograph (see figure 8.1C).
- Edit the image. It is up to you to select how you are going to approach a particular subject. Be creative and always think beyond the obvious — consider different angles, viewpoints and backgrounds (see figure 8.1D). Only items that enhance the whole image should be in your photograph. Ensure that you eliminate anything that does not directly contribute to the total image. This may not be easy, but in most cases it will be possible with a little creative thought and planning.

i. A photograph with a tilted horizon line

ii. A photograph with a horizontal horizon line
Figure 8.1C
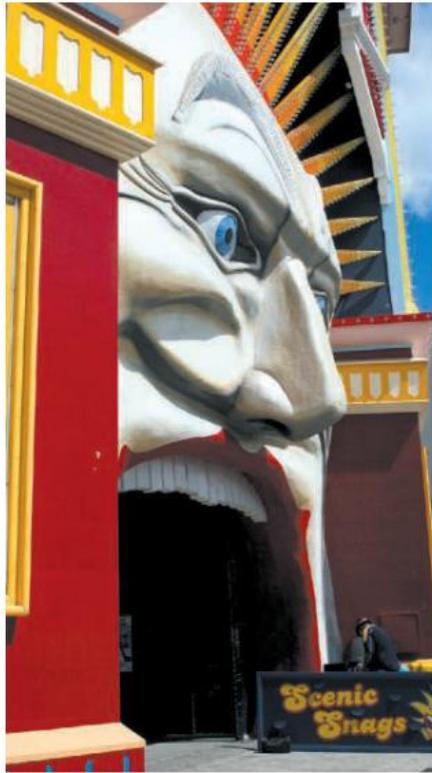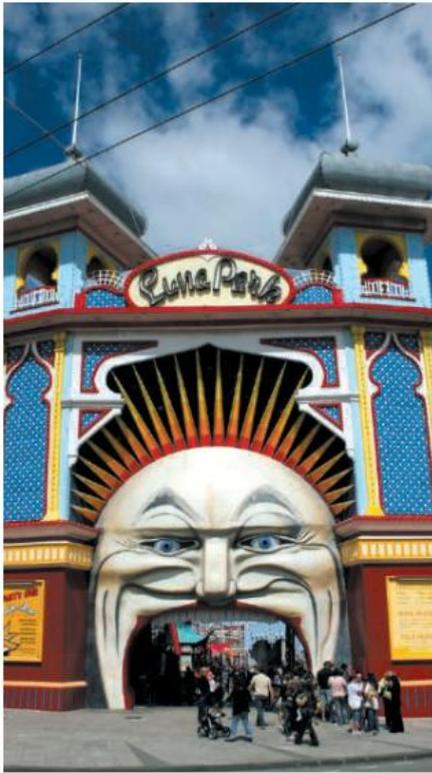
i. Front view   **ii.** Side view   **iii.** Close-up view

Figure 8.1D   Three photographs showing how the same subject can be photographed in a number of different ways

Figure 8.1E   *Newsstand*, Jacob de Weger, Year 10, digital photograph

Cropping

Although **cropping** should be seen as a last resort, you can often improve the composition of a poor image by cropping it. Traditionalists argue that a photograph should be printed as it was shot. These photographers traditionally print the entire negative, with a thin black border around the frame to indicate that no cropping has occurred (see figure 8.1E). However, when learning and developing skills in photography, cropping can greatly contribute to the success of some of your photographs, so it should be encouraged and used as required (see figure 8.1F).

i. A photograph before cropping

ii. The same photograph as (i) after cropping
Figure 8.1F

Rules of composition

There are many rules or formulae for correct compositional structure. Traditionalists believe that photographers should follow these rules, whereas contemporary photographers use their own compositional formats.

When learning about composition it is wise to be aware of these rules, then you can decide whether your photograph would be enhanced by the use of them or not. You may decide to pay attention to some of the rules and ignore others. As the creator of the image, you have that freedom and choice.

1. A horizon line should never cut the photograph in half. Consider having a low or high horizon line.
2. If you are photographing a portrait and the subject is not looking into the camera but across the frame, more space should be given to the direction of their gaze (see figure 8.1G).
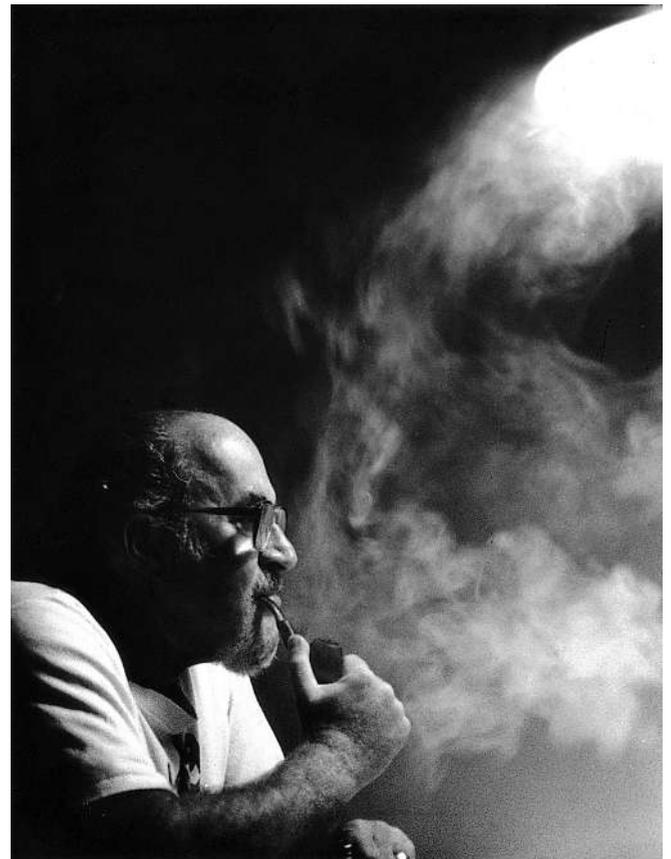
Figure 8.1G   A portrait where more space is given to the direction of the subject's gaze. *Dad*, Nadine Newell, Year 11, gelatin silver photograph

3. If a subject is moving across the frame it should move from left to right.
4. The 'golden section' (or golden mean) refers to the most common compositional structure of a picture. It basically means that the structure and positioning of images within a frame should have

an approximate ratio of 5:8. It is believed that at this ratio the composition has a better proportion, the location of the centre of interest can be found and a fixed position for a horizon line can be established (see figure 8.1H).

5. The 'rule of thirds' suggests that you divide your picture frame into thirds, both horizontally and vertically. The best location for the main subject of the photograph is at one of the points where the lines intersect (see figures 8.1I and 8.1J).
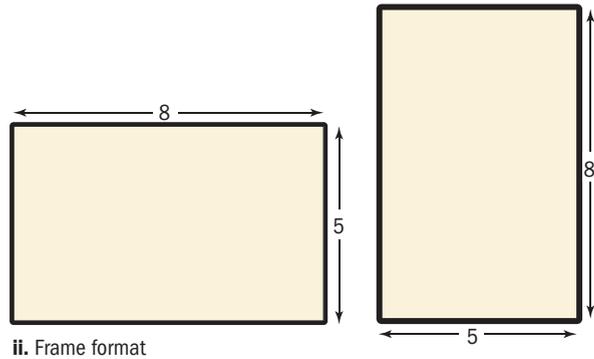
ii. Frame format

i. Horizon line
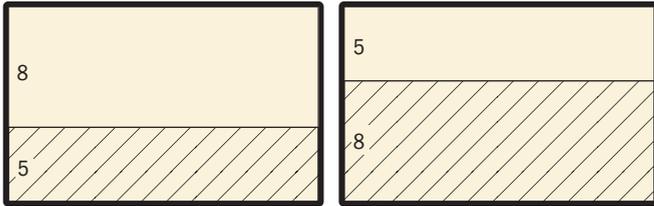
iii. Position of main subject

Figure 8.1H Diagrams showing the 'golden section'
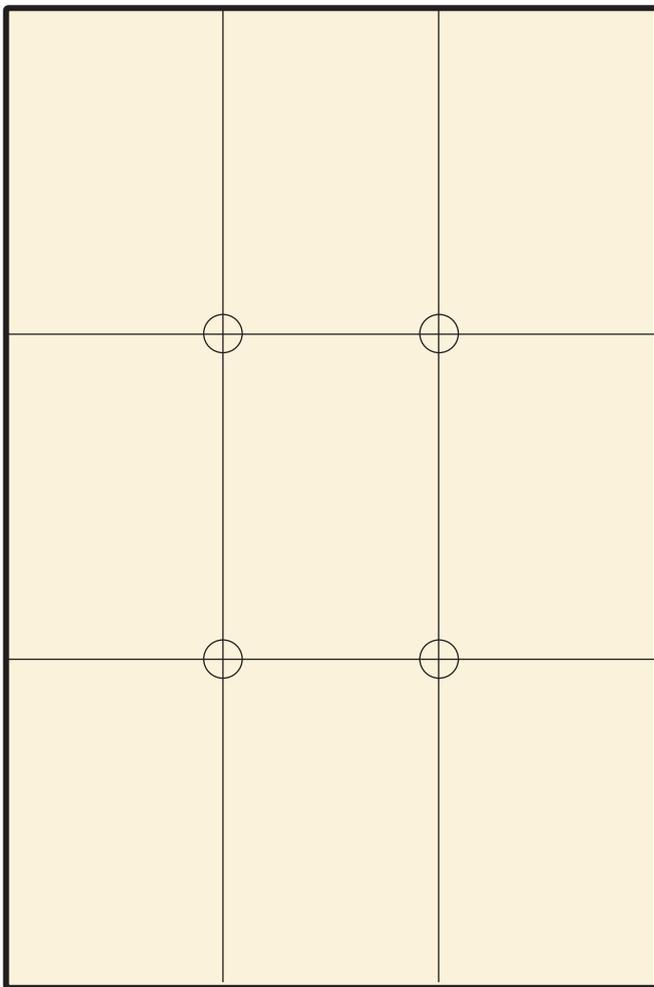
Figure 8.1I According to the 'rule of thirds', the points where the lines intersect are the best places to position the main subject of the photograph.

Figure 8.1J This photograph demonstrates the 'rule of thirds' at work.

i. Horizontal composition   **ii.** Vertical composition   **iii.** Open composition   **iv.** Closed composition

v. Rule of thirds   **vi.** Golden section   **vii.** Simple composition   **viii.** Tight
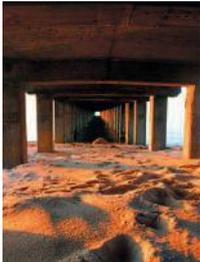
ix. One-point perspective   **x.** Moving across the frame   **xi.** Small depth of field   **xii.** Panoramic

Figure 8.1K   Examples of different types of compositional formats

8.2 THE ELEMENTS OF DESIGN

The elements of design are the major features available to you when you create a photographic image. Your use of these elements will directly influence the aesthetic value of your image.

The elements of design are line, shape, tone, texture, pattern and colour. A photographer may concentrate on one design element or use a combination of different elements in their work. You can use these artistic elements to enhance the design **qualities** in your photographs.

Line

The use of line in a photograph has endless possibilities. Line can lead the viewer's eye towards the focal point within a photograph, unify different sections of a picture by leading the eye from one area to another, create depth through linear perspective, create pattern through repetition, and divide the photograph into different sections of interest. Lines can be horizontal, vertical, thick, thin, straight, curved, strong, bold, transparent, repetitive, natural or created (see figure 8.2A).

Figure 8.2A   This photograph demonstrates good use of line. Shannon Henwood, Year 12, gelatin silver photograph

Shape

Objects are often recognised by their shape. When creating photographs you can use shape to give structure, meaning and purpose to your picture. Shape may be defined as a line that joins itself at both ends, but shape can also be created through contrasting blocks of colour or tone.

Shapes are generally considered to be two-dimensional (for example, a circle, square or triangle). By adding tone to a shape you can convert that shape into a form, or three-dimensional image (for example, a ball, box or cone).

It is possible to enhance the main subject or features of a photograph by simplifying, removing or suppressing some of the surface detail and allowing the shapes to become more obvious. This can be particularly effective if the image is photographed against a plain background, such as the sky.

A variety of different shapes can appear in a photograph to make it interesting. Shapes can be natural, organic, hard-edged, bold, subtle, common, unusual or silhouetted (see figure 8.2B).

Tone

Most black and white photographs contain a variety of tonal gradations. Tone is very important in black and white photographs. A standard black and white photograph should contain an area that is black, another that is white and the remaining areas should have a variety of grey tones. A particular effect can be achieved by only using grey tones in the photograph. Alternatively, a highly contrasted image can be created through the use of black and white.

Tones can be soft, harsh, contrasting, complementary, subtle, subdued, limited or various (see figure 8.2C).

Figure 8.2B This photograph demonstrates bold shapes produced by shadows. Hugh Laurence, Year 11, gelatin silver photograph
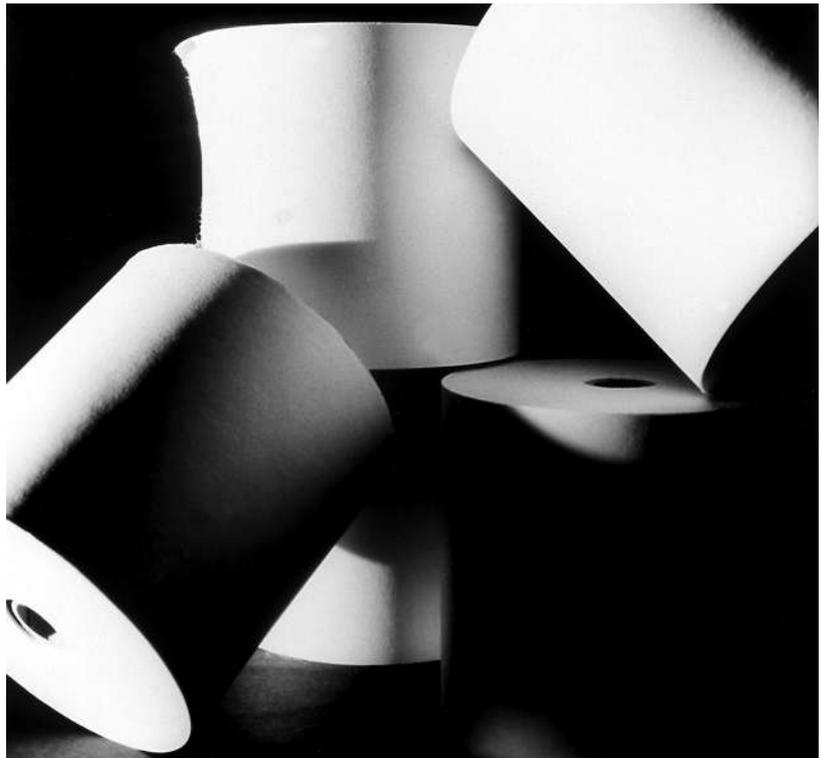
Figure 8.2C A photograph demonstrating good use of tone. Shannon Henwood, Year 12, gelatin silver photograph
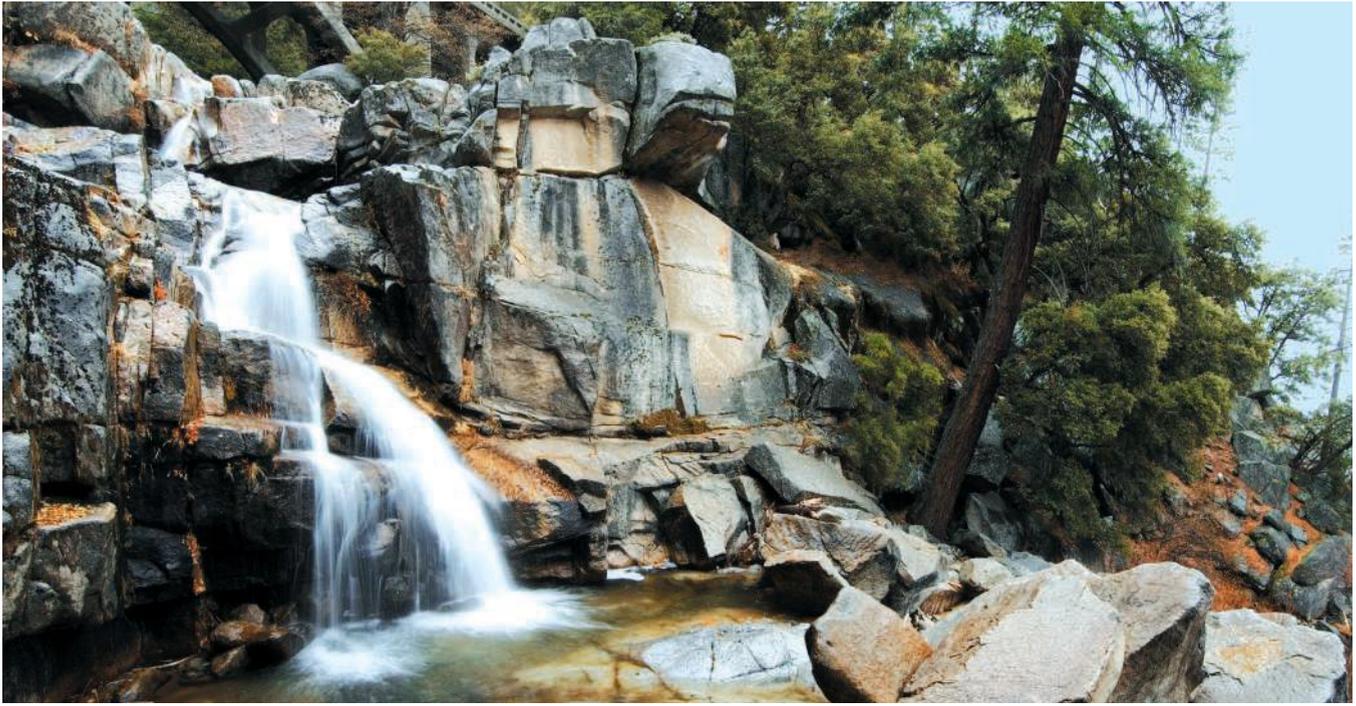
Figure 8.2D This photograph demonstrates good use of texture. *Yosemite Valley,* Charles Ferry, Year 12, digital photograph

Texture

'Texture' refers to the surface characteristic of a subject. Texture can add a tactile quality to shape, tone and form. It can give depth, character and realism to an image. A strong tonal range will help reveal the surface qualities of an image. The most effective means of controlling the textural appearance in a photograph is the direction of light.

The close-up lens or filter can be used to exaggerate the surface texture of an object. Texture can reveal the nature of a surface, enhance the quality of an image or it can become an image itself. Textures can be rough, smooth, sharp, soft, furry, prickly, pitted, dull, shiny or grainy (see figure 8.2D).

Figure 8.2E A photograph demonstrating good use of pattern. *The screen*, Eleanor Adams, Year 12, gelatin silver print

Pattern

The element of pattern can be used effectively in a photograph to create rhythm, harmony and compositional structure. By repetitive use of line and/or shape, a pattern can be created. A pattern can be the main subject for a photograph or it can be used to aid in the design of a picture. Patterns have strong decorative qualities that can reflect an aesthetically pleasing view of the world.

When photographing a pattern, consider the framing and viewpoint of the picture. A more powerful image can sometimes be created by taking a close-up view of the image.

Patterns can be decorative, repetitive, derived from nature or created (see figure 8.2E).

Colour

When referring to the concept of recording a photographic image or digitally manipulating an image on a computer, we refer to colour in terms of the colour spectrum of light (**RGB** or **CMYK**, see figure 3.2C, page 73). When analysing photographs and physically mixing colours in art, we refer to colours in terms of colour pigments. These colours are structured around a different colour wheel, with the primary colours consisting of red, yellow and blue.

In photography, colour can play a significant role in the overall aesthetic quality of an image. Like tone, colour can give an object solidity and form, as well as enhancing the emotion, mood and atmosphere of a photograph.

It is important to understand the basic principles of colour, as they can greatly assist you in determining your approach to its use.

There are three basic categories of colour. The first group are called the primary colours (red, yellow and blue) and these form the basis of all other colours. The second group are called secondary colours. They are orange, green and purple, and are made by mixing two of the primary colours together. The third group of colours are called the tertiary colours, and they include khaki, burgundy and brown. They are made by mixing different amounts of the three primary colours together.

i. Example of complementary colours: purple and yellow, blue and yellow

ii. Example of harmonious colours: orange and yellow, green and yellow
Figure 8.2G

Colour, although not necessarily an important design element in black and white photography, can be added to an image to give it a further dimension.

Colour can be added to black and white photography through toning and hand-colouring (see section 2.5, pages 50–7 and section 3.6, pages 93 and 94).

Figure 8.2F Colour pigment wheel: looking at a colour wheel helps you to understand how different colours work together.

Colours that appear opposite to each other on the colour wheel are called complementary colours. Because they are direct opposites they create a striking contrast when placed beside each other. Colours that appear next to each other on the colour wheel are called harmonious colours, as they match each other by appearing similar.

Certain colours can also appear warm, such as red, yellow and orange, or cool such as blue, green and purple.

Figure 8.2H This photograph demonstrates good use of colour. *Coloured face,* Jessica Minear, Year 12, digital photograph

Figure 8.2I   This photograph demonstrates deep space and an example of one-point perspective with all the lines leading to one point.
Lorne, Charles Ferry, Year 12, digital photograph

Figure 8.2J   This photograph demonstrates space created by looking through one object to view another. *Observational Deck, Tokyo Tower,* Charles Ferry, Year 12, digital photograph

Space

'Space' refers to the notion of **depth** within an image. Photographs are two-dimensional, flat pieces of paper. In order to create the impression of space within this picture plane, the image needs to rely on design elements such as tone, colour, line and shape. The design elements can work on their own or together to create the illusion of space. Space can be deep (you can see fair distance into the background, see figure 8.2I), shallow (you can only see a small way into the image, see figure 8.2H) or flat (there is no evidence of space). Space can be created through perspective, with objects becoming smaller as they move towards a vanishing point. Tone and colour allow objects to appear darker and more detailed in the foreground and lighter and less detailed in the background.

The visual awareness of space can also be created; when objects are overlapped, to produce the appearance that the object in front is closer than the one behind it; and, by looking through one object to view another, such as a window (see figure 8.2J).

Negative and positive space

'Space' can also refer to the area that the subject matter is taking up within the frame, this is called positive space. The remaining space within and around the subject is called negative space (refer to figure 8.2E). In figure 8.2K, the space the jelly fish are in is the positive space and the black background is the negative space.

Figure 8.2K   This photograph demonstrates negative and positive space. Laura Petrucci, Year 12, digital photograph

8.3 THE PRINCIPLES OF DESIGN

The principles of design are used in artworks as a means of bringing order and balance to your photographic images. Awareness of design principles can aid you in the design and layout of your images. The design principles are devices that you can use to help make your artwork hold together and achieve a strong aesthetic quality. When you are looking at one of your photographs you may feel that it is not looking right, that it is not visually holding itself together. Through gaining an understanding of the design principles you can learn to identify the cause and the solution to this problem.

Unity

In order to create an image that is whole and united, it is necessary to consider the placement of the design elements within. Unity is achieved by creating an attachment between each of the elements, whether they are placed close to each other, touch, overlap or come together to form part of a sequence.

Unity is also created through compositional structure. An implied triangle is often used to create a sense of

unity within a composition. By placing the elements and/or subject matter in the arrangement of a triangle or a series of triangles it is possible to make a united picture. The base of a triangle is solid and stable; therefore, it is an ideal structure to use in an effort to achieve wholeness within a composition.

Figure 8.3A
Implied triangle used to create unity. *Young woman*, Eleanor Downie, Year 12, digital photograph

Figure 8.3B The proportions of the various components of this image have been manipulated to create interest. *The farm*, Alice Halpin, Year 12, digital photograph

Proportion

The relationship between the size of the various objects within an artwork and the size of the artwork itself has a direct bearing on how the work is seen and interpreted by the viewer.

When we look at an artwork we expect items to be in an acceptable proportion to one another. We are accustomed to viewing the outside world and, therefore, when we see objects represented in an artwork we have a natural desire to view them in the same proportion. Artists are generally aware of this and, as a result, can manipulate their images to create a particular reaction from the viewer. Proportion can help to imply emphasis; this is achieved by representing the most significant subject of an image larger than all else. When manipulating proportion within an artwork it is necessary to compare the size of one object against another. We cannot see how large or small an object is unless we have compared it to another (see figure 8.3B).

Emphasis

By allowing one area of an artwork to dominate, an artist is able to create a **point of interest** to attract the attention of the viewer. The emphasis of a particular part of an image often makes it the focal point. The focal point is achieved through a number of techniques. These include:

1. *Placement:* the subject is placed in or close to the centre of an artwork.
2. *Scale:* the subject is made larger than any other feature in the artwork.
3. *Detail:* the subject is given greater detail.
4. *Isolation:* the subject is placed on its own or away from other features.

5. *Contrast:* the subject looks different or opposite from the rest of the work.
6. *Line:* the use of line to lead the viewer's eye towards the subject.

Repetition and rhythm

Through repetition of a similar design element throughout an artwork, the viewer's eye can see continuity and order. By matching each element with its repeated counterpart, the eye is able to see the similarities within the image and is given direction to move easily and freely around the work. Whether it is a line, shape, texture or colour, the repeated element allows a pattern to be created and, as a result, a harmonious balance is often established within the work.

Figure 8.3C Photograph illustrating repetition. *Dance*, Madeline O'Bryan, Year 12, digital photograph

Rhythm is created within an artwork when there is ordered repetition, this often resembles the reoccurring beats in music. Just as music is made up of a

combination of repeated beats, so too an artwork can create rhythm through a duplication of similar elements. For example, if a series of small, medium and large shapes recurred as a pattern throughout an artwork, they would create a rhythm (small, medium, large — small, medium, large — small, medium, large).

Balance

In order to achieve a composition that is visually pleasing, one that generates a feeling of equilibrium and order, it is necessary to structure an artwork so that it appears balanced. There are two different ways an artist can choose to **balance** a picture.

Figure 8.3D Photograph illustrating symmetrical balance. *Tram tracks, Melbourne*, Charles Ferry, Year 12, digital photograph

Figure 8.3E Photograph demonstrating asymmetrical balance. *Cityscape (Yarra River), Melbourne*, Charles Ferry, Year 12, digital photograph

1. 'Symmetrical balance' refers to offsetting the weight of the design elements on one side of a central axis by mirroring them on the other. If a large shape appears on one side of an artwork, then a shape of the same or a very similar-size would need to appear on the other.

2. Asymmetrical balance is achieved when opposing elements on different sides of a central axis are evenly weighted. They do not have to be the same shape or size or, for that matter, even be the same design element; however, they do have to have the same visual weight.

Discussing and analysing photography

9.1 THE PROCESS OF ANALYSING PHOTOGRAPHS

By looking at and studying the different ways artists approach photography, you can learn much that will aid you in your own photographic work. It is important to develop the ability to know what to look for and evaluate what you see. By studying and analysing photographs you can develop an understanding of how different photographers work, what their concerns are, their techniques and influences, as well as gaining an awareness of what makes a successful photograph.

Every day we are confronted with hundreds of photographic images in newspapers, magazines, books, the internet, television, or on billboards. We accept them as part of our daily lives and flick past these images without even noticing them. However, if we want to develop a better understanding of the artistic approach to photography we must learn to look more closely at photographs. We need to establish a formula to help us to evaluate the photographic images we see. Following is a good procedure to use when analysing a photograph.

Procedure for analysing a photograph

Introduce the artwork
Provide the name of the artist, the title of the artwork, its date and media (for example, Lewis W. Hines, *Breaker boys*, c. 1910, gelatin silver photograph).

Describe the photograph
Your description should include a detailed outline of what is in the photograph, including the main subject matter and what is in the background and foreground. Describe the picture so that someone who has never seen the photograph can visualise what is in it by reading your description.

Analyse the techniques used
Discuss how the artwork was made, including the techniques, equipment and materials used. Has the image been manipulated? Was it photographed in a studio or outside? How has the photograph been lit? Was it created using film or is it a digital image? Has the image been manipulated? If so, how?

Analyse the design features
Discuss how the photographer has composed the image (refer to figure 8.1J, page 146). What are the most significant design elements evident within the image? Describe how they have been used (refer to section 8.2, page 148). Have any of the principles of design (refer to section 8.3, page 153) enhanced the aesthetic qualities of the image? If so, how?

The meaning and/or intention of the artwork
What was the photographer trying to achieve by producing this photograph? Was the artist trying to tell a story, or make a comment or judgement? Was the artist primarily concerned with capturing images in nature, or concerned with creating their own image?

Look for clues when analysing photographs. Everything from the title of the work to the subject matter, date and the way it has been photographed will give you some idea of what the artist was trying to achieve.

Evaluate the artwork

What are the **qualities** of the photograph? What are the successful and unsuccessful elements in the photograph? Has the artist been influenced by photographic traditions? If so, how? Do you like the photograph? Is it considered an important photograph? Why/why not?

Figure 9.2A   Lewis W. Hines, *Breaker boys*, c. 1910, gelatin silver photograph. Courtesy George Eastman House

9.2 FORMAT FOR ANALYSING PHOTOGRAPHS

Many students find it difficult to talk and write about artworks. This section provides a format to assist you to develop your confidence and ability to analyse photographs. You are required to work through the format by ticking key words and noting important points that relate to the photograph being analysed. You can use these key words and terms as the basis for your written analysis. After completing this you should be able to write the information as a report.

You may need to photocopy this format each time you plan to use it to analyse a photograph.

After using the format a few times you will be able to analyse photographs without it, as you will have developed your skills and knowledge in discussing and analysing photographs.

ACTIVITIES

Analysing a photograph

1. Write a detailed analysis of the photograph on page 158 by Lewis W. Hines. Photocopy and use the format in this section on pages 159–62, to assist you with your analysis.

   Lewis W. Hines was born and raised in America. He was one of the foremost photographers to concern himself with social issues. Hines photographed the underprivileged and outcast members of the community. In one series of work, Hines toured America attempting to capture and document the exploitation of child labour in factories, mills and mines. By recording these images, Hines attempted to draw people's attention to the appalling conditions by presenting photographic documentary proof that could not be disputed. Hines's photographs helped prompt the government to improve the working conditions of children.

2. Select a photograph that you like and/or are inspired by. Complete a detailed analysis of it, using the format given in this section.

FORMAT FOR ANALYSING A PHOTOGRAPH

INTRODUCE THE ARTWORK

The artwork to be analysed is .... *(title of artwork)*
by .... *(name of artist)*.
It is a .... *(gelatin silver photograph,
type C colour print, digital photograph, photomontage, installation)* and was created in .... *(date)*.

DESCRIBE THE PHOTOGRAPH

.... *(title of artwork)*
depicts ....
....
....

(Describe the subject matter of the image; for example:
Breaker boys depicts a large crowd of young boys dressed in old and dirty overalls, jackets and caps. In the background, a group of older boys are gathered in the centre propped up on a ledge. The faces of the children seem grubby as if they have just finished a long day of hard labour. They appear to be standing very still and stare expressionless towards the camera. A mood of quiet sadness is reflected throughout the image.
Use as many descriptive words as you can. You must describe the image in a manner that will enable someone who has never seen it to be able to visualise it from your description.)

ANALYSE WORKING METHOD

.... *(artist's name)* has created this work using ....
.... *(traditional and/or contemporary)* materials and techniques.
.... *(artist's name)* has photographed this image ....
....
....

(continued)

(Discuss how the artwork has been made; for example:
- *in a studio using traditional photography*
- *in a studio then manipulated and distorted it in the darkroom/or using Photoshop*
- *as he/she found it in nature and has used traditional photography, without any manipulation and/or distortion*
- *of an entirely constructed scene. He/she has created the scene using a set, actors and props.*
- *as it was found in his/her surrounding world and has captured it as a record of time to document an issue or idea. The image is naturalistic (true to life) and has not been manipulated or distorted.)*

The image has been photographed .... *(inside, outside, in a studio)* using

.... *(dramatic, soft, even)* ....

(natural, artificial, studio, flash) lighting.

The techniques that .... *(artist's name)* appears to have used in this work include

....

- *Traditional processes*
- *Digital enhancement*
- *Superimposing*
- *Solarisation*
- *Hand colouring*
- *Sepia toning*
- *Negative imaging*
- *Large or small depth of field*
- *Frozen motion — captured using a fast shutter speed*
- *Blurred motion — captured using a slow shutter speed*
- *Panned motion — captured while panning with the moving subject using a slow shutter*
- *Slow shutter.*

(You should go into some depth about the techniques used, explain how it was done.)

In order to produce this work .... *(artist's name)* would have needed
to use the following materials:
- *Black and white film*
- *Colour film*
- *Slide film*
- *Processing chemicals (black and white developer, stop bath and fixer)*
- *a stage/set constructed using fabric, paint, wood, props and costumes*
- *Photographic printing paper.*

.... *(artist's name)* would have also needed the following equipment:
- *Camera*
- *SLR 35 mm camera (If you are not sure, say 'possibly')*
- *SLR digital camera*
- *Photoshop software*
- *Tripod*
- *Studio lighting*
- *Processing equipment (trays, developing tanks, enlarger)*
- *Flash*
- *Printer*
- *Other.*

(If the artwork is contemporary and/or postmodern it may be relevant to include the following:
In many contemporary works artists no longer see the need to take or process their own photographs.
So there is a chance that .... *(artist's name)* may have directed
a technician to photograph and/or process this work under his/her supervision.)*

ANALYSE THE STYLE AND DESIGN FEATURES

The style that _____ (artist's name) has chosen for the work reflects elements of

_____

(traditional pure straight photography, pictorialism, photo secessionalism, modernism, postmodernism, photographic theatre, surrealist, narrative, naturalism, documentary and/or photographic journalism (see section 10.2, pages 172–80)), in that _____

_____.

(You need to explain how the image reflects the style you have mentioned.)

The artwork contains a _____

(closed, open, tight, traditional, unusual, vertical, horizontal — see figure 8.1J, page 147) compositional format.

The image has been taken at _____

(eye level, worm's-eye view, bird's eye view, a low/high, highly unusual) angle.

The most significant design elements that _____ (artist's name) has chosen for this work include (see section 8.2, page 148):

- Tone (highly contrasted, large variety of tone, limited tone, high key)
- Use of colour (soft, subdued, bright, dull, dramatic, strong, contrasting, harmonious, primary, secondary, tertiary, warm, cool, dark, high key)
- Texture (for example, vast array of different textures, strong solid rough textures, soft subtle textures, other words, smooth, shiny, sharp, furry, prickly, natural forming textures)
- Shape (for example, common bold shapes, uncommon natural forming shapes, other words, soft-edged, hard-edged, geometrical, organic)
- Line (for example, straight, curved, fuzzy, vertical, horizontal, diagonal, thick, thin)
- Focus (large or small depth of field, clear sharp image, a soft-focused image)
- Space (deep, flat, shallow).

Order and harmony have been created in the image through the use of _____

_____ (unity, proportion, repetition, rhythm and/or emphasis (see section 8.3, page 153)).

This is a result of _____

_____ . (You need to discuss how this has been achieved.)

The artwork is _____ (asymmetrical, symmetrical, a bit asymmetrical, see page 155) balanced.

Balance has been created through _____

(placement of subject matter, repetition, colour, line, use of implied triangles).

DISCUSS THE MEANING AND/OR INTENTION OF THE ARTWORK

In creating _____ (title of work) _____ (artist's name) has approached the subject matter of a _____ (outline the basic subject matter of the work; for example, a portrait of a woman) in a _____

(traditional/contemporary/innovative/sensitive/thought-provoking) manner.

I feel that _____ (artist's name) has captured his/her image in this way in order to _____ . (Make a statement about an issue, reflect on something about the time in which it was created, capture the true essence of the photographic medium, explore new and innovative image making, explore the aesthetic elements of the subject matter, record an event, zcapture the beauty of nature, reflect an artistic idea, suggest a narrative, create a false reality.)

The title suggests _____.

(Does the title assist in the interpretation of the work? If so, what does it tell us?)

The main features about this work that reflect this intention are _____

_____

_____ .

(You need to mention the main qualities in the work that reflect the artist's intention; for example, choice of subject matter, placement of subject matter, composition, techniques.)

(continued)

The historical and/or cultural context in which it was made suggests that _____.
(You need to mention if the time and/or place in which the artist worked may give an insight when trying to interpret its meaning.)

EVALUATE THE ARTWORK (NOT REQUIRED FOR EVERY ANALYSIS)

I believe that _____ *(name of artist)* has taken a _____
_____ *(creative, imaginative, innovative, expressive, highly significant, clever, well-documented)* approach to the subject matter. His/her use of technique is _____
(highly skilled, innovative, traditional, conservative, outlandish). What I like most about the work is the _____
_____
(choice of subject matter, technique, design, idea behind it, other).

Art historians/critics _____ *(note author and source)* suggest
_____ *(title of artwork)* is _____
_____
_____
(refer to commentaries on the artwork).

I agree/disagree with these statements because _____
_____
_____.

9.3 HOW TO WRITE A COMPARATIVE ESSAY

Comparative essays form the basic structure for most art appreciation writing. They provide you with the opportunity to investigate the various influences, approaches and interests of artists and, in doing so, compare their similarities and differences. Artists often have their own personal creative aims and working methods that they use for making art. By making comparisons between the artistic aims of one artist or movement with those from another, you are given the opportunity to make clear contrasts between the two. This also provides you with the chance to illustrate an argument relating to how one artist or movement may differ from another.

Process

1. Research the topic, making notes and recording sources of information for your bibliography. Remember, if you are quoting directly from a text, you must use footnotes. The more reading that you do on a topic, the greater your understanding of it will be; therefore, the easier it will be to put the information into your own words.
2. Select examples of an artwork from both of the artists or movements that you are studying. Make sure that the artworks you select clearly illustrate the points that you intend to make. When comparing artworks it is also easier to do so if they have something in common (for example, both are portraits).
3. Use the 'Format for analysing a photograph' on pages 159–62, to assist you when discussing and analysing artwork.
4. Within your notes make a list of the similarities and differences between the two artists or movements (photocopy the table opposite to assist you with your note-taking).
5. Format your essay using the essay plan on the next page.
6. Construct your bibliography at the end of the essay.

POINTS TO REMEMBER

- Once you have introduced the artist using their first name and surname, you then need to only mention the artist by surname. Do not discuss the artist by using only their first name.
- Select the most obvious and relevant artwork to analyse. Ensure that the work reflects everything that you will or have been discussing about the artist's work.
- Whenever you discuss an artwork you must always provide the title, date and media. You should then go on to discuss why it is a good example of the topic being discussed.
- Younger year levels may consider discussing only one artwork by each artist. If this is the case, they should be completed at the end of the essay and the analysis format on pages 159–62 could be used to assist.
- Include copies of all the artworks being analysed in your assignment.
- Use art words and correct technical terms whenever possible.

	FIRST ARTIST OR MOVEMENT	SECOND ARTIST OR MOVEMENT
Similarities		
• *Influences*		
• *Artistic aims*		
• *Stylistic features*		
• *Subject matter*		
• *Techniques used*		
• *Use of design elements and principles*		
• *Meaning and or intention*		
• *Artistic qualities*		
Differences		
• *Influences*		
• *Artistic aims*		
• *Stylistic features*		
• *Subject matter*		
• *Techniques used*		
• *Use of design elements and principles*		
• *Meaning and or intention*		
• *Artistic qualities*		

Essay plan for comparing two artists

You could adapt this essay plan to compare two art movements.

1. Introduction
Introduce the topic.

2. Introduce the artists
Introduce the artists that you will be discussing and mention why you think they are good examples for the topic. Outline the time and place in which they worked as well as any other directly relevant information. This introduction should be no longer than a couple of paragraphs.

3. Influences
Discuss the influencing factors on your first artist and how these affected the development of their artwork — include historical, cultural and artistic influences. In contrast, discuss your second artist and the influencing factors that affected the development of their artwork — include historical, cultural and artistic influences.

4. Working method
Discuss the working method of your first artist. Include their use of materials, techniques and processes. Discuss the process they used toward the creation of their work.

Provide an example of their artwork to present evidence about their working method. You could use the working method section form the analysis format proforma to assist you (see pages 159 and 160).

Now, discuss the working method of your second artist. Include their use of materials, techniques and processes. Provide an example of their artwork to present evidence about their working method. You could use the working method section from the analysis format proforma to assist you (see pages 159 and 160).

5. Style and approach to subject matter
Discuss your first artist in terms of style and approach to subject matter. What are the distinguishing stylistic features evident in their work? Include an example of their artwork to provide evidence of their style. You could use the style section from the analysis format proforma to assist you (see page 161).

Now, discuss the style and approach to subject matter of your second artist. What are the distinguishing stylistic features evident in their work? Include an example of their artwork to provide evidence of their style. You could use the style section from the analysis format proforma to assist you (see page 161).

6. Communication of ideas and meaning
Discuss the artistic intention of your first artist. What did they attempt to communicate in their work? What is the meaning behind their work? Provide an example of their artwork to present evidence about their artistic intention. You could use the meaning and/or intention

section from the analysis format proforma to assist you (see pages 161–2).

Now, discuss the artistic intention of your second artist. What did they attempt to communicate in their work? What is the meaning behind their work? Provide an example of their artwork to present evidence about their artistic intention. You could use the meaning and/or intention section from the analysis format proforma to assist you (see page 161).

7. Conclusion

In conclusion, refer back to the topic and discuss how you have addressed it in your response.

8. Bibliography

ACTIVITY

Write a comparative essay on the following topic:

How does the time and place in which artists work impact on their approach to art making? Discuss with reference to two artists and their artworks from chapter 12, pages 190–218.

Figure 9.3A Students using a variety of resources to complete a research assignment on a photographic artist

PART 5

PAST AND PRESENT CONTEXT

10.

History of photography

TECHNICAL DEVELOPMENTS

Exploring the possibilities of photography

In ancient times, stories were told of a contraption that could permanently record images seen through a mirror. Inventors, scientists and artists are known to have considered the principles of photography for many hundreds of years. However, it was not until early in the 19th century that they had any real success.

In order to produce a photographic image, two things were required — a mechanism to project an image onto a surface and a surface that could capture the image permanently through exposure to light.

How to project an image onto a surface has been known since ancient times. By placing an object in front of a small hole (later a lens) outside a darkened room with no windows, light rays would reflect off the object through the hole and create a reversed image on the opposite wall (see figure 10.1A). Artists traced the projected image from the opposite wall, creating an exact likeness of the subject (figure 10.1B). This device was known as a *camera obscura* (Latin for 'dark chamber') and was the forerunner of the modern camera.
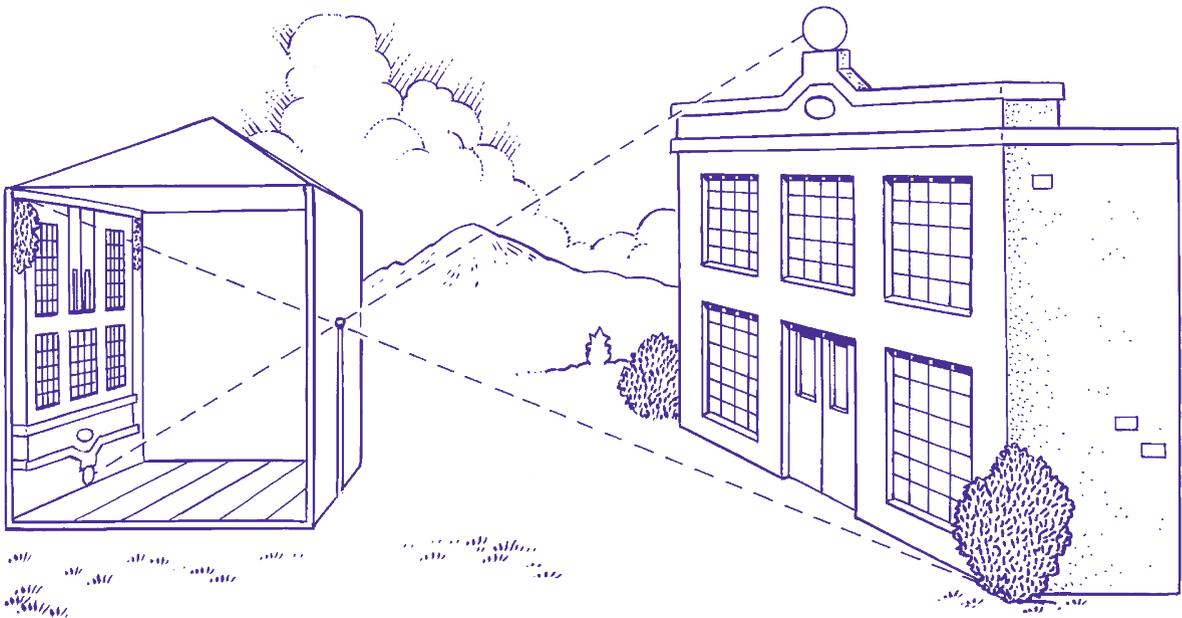
Figure 10.1A
Example of how a *camera obscura* works
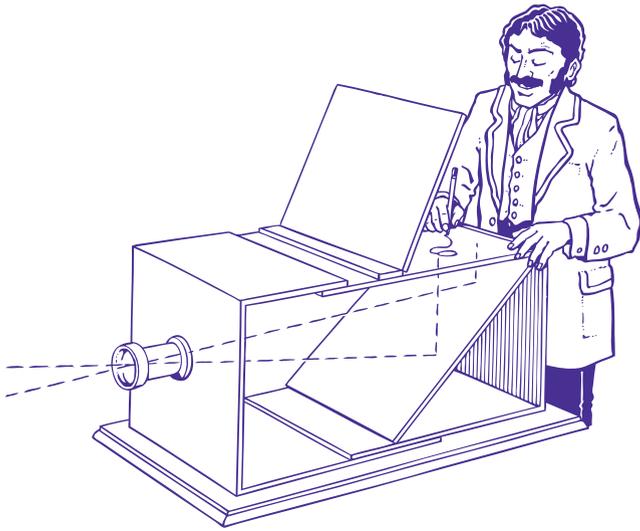
Figure 10.1B *Camera obscura* being used as an aid in drawing

Throughout history people have known that light can chemically change a surface by either darkening or lightening it. This is seen in the way that the sun's rays darken the colour of our skin and light fades fabric. In 1725, a German professor, Johann Schulze, discovered that light darkened a solution of chalk mixed with silver salt. Schulze created the first photographic images when he placed a chalk and silver salt solution in a glass container covered with opaque paper. He cut letters and shapes out of the paper and exposed it to sunlight. The solution became dark purple in the places where the light reached it. The rest of the solution remained white. However, when Schulze removed the paper from the container the rest of the solution also went dark, so the recorded image was lost. The problem remained of how to fix the image.

In the late 18th century, Thomas Wedgwood, the son of the famous English potter Josiah Wedgwood, explored how to permanently record images. Wedgwood used his father's *camera obscura* to experiment with capturing images on paper and leather coated with a silver nitrate solution. Although he was successful in recording images of objects such as leaves and lace placed directly on the surface of the paper or leather, he failed in his attempts to make the images permanent. He also failed to successfully capture an image created by a *camera obscura*, as the image was far too faint.

The first photograph

In the early years of the 19th century a Frenchman, Joseph Niépce, also attempted to capture images from the *camera obscura*. He also sensitised paper with silver salt and was able to capture faint images, but was unable to make them permanent. After further experimentation, Niépce found that by applying a light-sensitive varnish containing bitumen of Judea (a kind of asphalt) to a metal plate, exposing the image, then dissolving the unexposed parts of the plate in an oil of lavender solution, a permanent image was created. This process worked on the principle that the bitumen solution hardened instead of turning black when exposed to light, leaving the unexposed part soft and therefore easy to remove.

Between 1826 and 1827, Niépce recorded what is believed to be the first permanent photographic image using this process. He called the images 'heliographs' or sun drawings. The heliographs were captured using a *camera obscura* made by combining a microscope lens with a small wooden box. The image took an exposure time of eight hours to record and depicted a view from an attic window of his house (see figure 10.1C). Although effective, this process was not really practical because of the long exposure time required.

Figure 10.1C The first recorded photograph — the view from his window at Gras, 1826–27, by Joseph Niépce

The daguerreotype

A painter working in Paris, Louis-Jacques-Mandé Daguerre, became interested in Niépce's work and persuaded him to go into partnership in 1829. When Niépce died four years later, Daguerre continued Niépce's work with Niépce's son Isadore. In 1835, Daguerre developed a new method of preserving the image using a silver plate. The plate was sensitised with fumes of iodide, placed in a *camera obscura*, exposed to light, then to a mercury vapour and finally 'fixed' with a salt solution, resulting in the creation of a visible permanent image. The process, called the **daguerreotype**, produced a much clearer photograph and the exposure times were substantially reduced from eight hours to around 30 seconds. As Daguerre perfected the technique, the exposure time was further reduced, allowing portrait images to be captured. However, the exposure times are long when compared to today and the sitter had to remain perfectly motionless. If the subject moved the image would blur, which made it difficult to photograph children. Adults often took on stiff poses and sometimes had their head and hands braced into position.

After details of the process were published in 1839, the procedure became increasingly popular and was eventually used all over the world. A daguerreotype was taken in Australia only two years after it first appeared in Paris. Because the image was captured directly onto the silver plate, no negative was produced and as a result no copies could be made of the image. Another disadvantage was that the images could be viewed only from certain angles because they were produced on a shining polished-metal surface. Daguerreotype images were often stored in specially designed wooden cases lined with velvet which sometimes had glass covering the photograph. As a result of their durability and these specially designed cases, many daguerreotypes have survived (see figure 10.1D).

Figure 10.1D   A daguerreotype portrait

Fox Talbot's collotype

At the same time, in England, William Henry Fox Talbot was working on a method to permanently preserve the image created by the *camera obscura* using a chemical process. Scientists knew the effect light had on silver nitrate and Talbot decided to experiment with this. Talbot discovered that by coating paper with salt and silver compound, he was able to produce a negative image. He also discovered that he could fix this image with a strong solution of salt water. Talbot then placed the negative image over a sheet of prepared paper and exposed it to light, producing a positive image on the second sheet. This process, the *collotype* (Greek for 'fine image'), meant multiple copies of the image could be produced. However, the image was not as clear as the daguerreotype.

The collodion wet plate

In 1851, another Englishman, Frederick Scott Acher, introduced a process where glass plates, not paper, were covered with a light-sensitive solution. While they were still damp, the plates were put into the camera and exposed to the subject, then developed before they had dried. This process was known as the 'collodion wet-plate process' and produced high-quality images through a glass negative. Initially, a black backing was placed behind the glass to produce a positive image. These early collodion images were called 'ambrotypes'. However, as time progressed the images were printed from the glass negative onto tin (known as the tinotype) and eventually onto paper. This allowed photographers to print multiple copies of the same image.

Although extremely effective, this process also had disadvantages. The photographer needed a darkroom close by in order to prepare the glass plates prior to exposure and to immediately develop them. As a result, photographers often improvised and created mobile darkrooms on the back of horse-drawn carts and in tents (see figure 10.1E).

Photography became increasingly popular with many wealthy people, who enjoyed recording images as well as having their portraits taken.
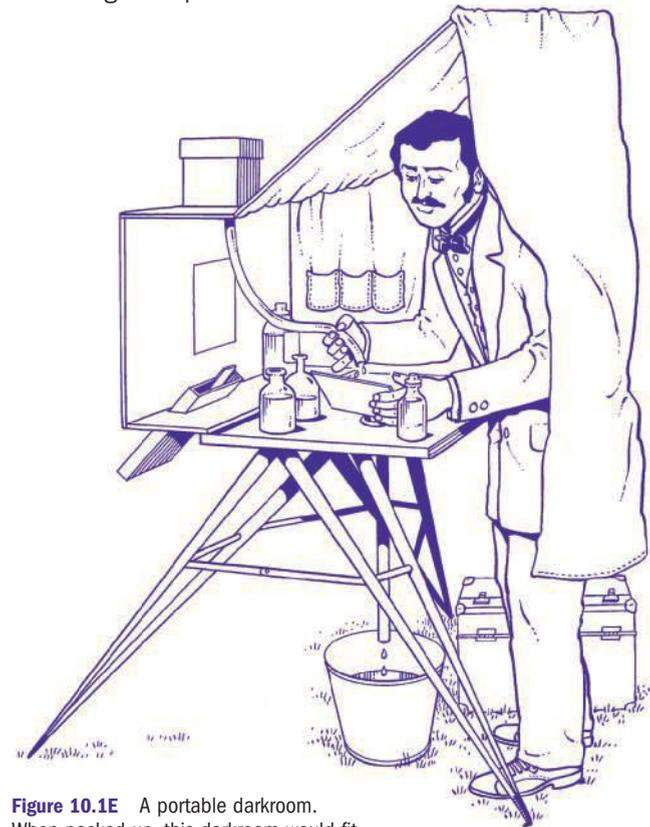
Figure 10.1E   A portable darkroom. When packed up, this darkroom would fit into a suitcase. This type of darkroom was commonly used by travelling photographers around 1862 for the collodion wet-plate process.

Another popular innovation was a process known as stereo-photography. This process involved the photographer

taking two photographs of the same subject at the same time. The photographs were placed in a stereoscope and, when viewed, the images merged to form one three-dimensional image (see figure 10.1F).

Figure 10.1F *Stereoscope equipment and photographic images*

The dry plate negative

In the latter part of the 19th century Richard Kennett devised a dry plate negative that did not need immediate development. This meant the photographer could do away with the tedious procedure of Archer's wet-plate process. No longer was it necessary to have a darkroom on hand. This technique accelerated the development of photography.

With this new technology came much faster exposure times, which freed the camera from the tripod. As a result, many small hand-held cameras were developed. These enabled people to take instant snapshots and led to the beginning of the modern era of photography.

Photography for everyone

An American, George Eastman, started a company which aimed to bring photography within everyone's reach. He chose the name Kodak because it was a nonsense word that sounded snappy and could be pronounced in nearly every language. Eastman explored the possibilities of producing a roll of film which would allow a photographer to take numerous photographs without reloading their camera. By 1890, Eastman had developed the first Kodak camera. Although very basic, it was easy to use and contained a film with enough exposures to take one hundred photographs. When the film was completed the camera was returned to Eastman's company, where the photographs were processed. The camera was then reloaded with another roll of film and returned to its owner. Eastman's Kodak camera, the Box Brownie, was easy to use, affordable, produced good results and became popular all over the world.

In 1925, a miniature camera known as the Leica was developed by Dr Oscar Barnack in Germany. This camera was the first to use 35 mm film and was much more sophisticated than the earlier Kodak camera. The Leica's popularity confirmed the position of amateur photography as an international pastime.

Throughout the 20th century, film, cameras, lenses and photographic paper continued to improve. Photography became increasingly popular and an integral part of our society. The technology available allowed photographers to photograph the depths of the ocean, distant planets and inside the human body. It also gives us the opportunity to capture the memories of a family, the horrors of war and the beauty of our world, as well as providing us with a vehicle for self-expression.

The development of colour photography

Ever since the early development of photography, the search to create coloured images has been underway. Early daguerreotype photographs were often hand-painted by artists in an attempt to bring colour to the image. This practice continued into the early 20th century, with no other creditable and affordable alternative available to those desiring colour.

The foundations for colour photography were established in 1859 by the Scottish scientist James Clerk Maxwell. Maxwell established that all colours were made from combinations of the three primary colours of light. In 1861 he took three black and white photographs through red, blue and green filters, then projected them as slides together, in line with the same coloured filter (see figure 10.1G). Maxwell created what is believed to be the first colour photograph. His method is referred to as 'colour separation'.

Figure 10.1G *James Clerk Maxwell's first colour photograph of a tartan ribbon, 1861, taken and projected separately through red, blue and green filters*

By the early 20th century two French brothers, Auguste and Louis Lumière, used this knowledge and coated plates with tiny grains of red, blue and green starch dyes. The dyes acted as filters over a silver bromide emulsion. With reversal processing, a light shone through the plate, showing the original colours. This process was called Autochrome and, although considered groundbreaking, the colours produced were soft pastel shades that often appeared dark.

By 1935, George Eastman's Kodak had established the principle that film could be coated with thin layers of emulsion, each responsive to the primary colours of light. This film was known as Kodachrome; it produced a positive image and was renowned for its strong colours and sharpness. However, Kodachrome processing was seen to be very complex and was not generally available.

From the 1950s, Kodak produced the Ektachrome range of reversal films using the E3 process, which was much simpler than the Kodachrome method. This enabled photo labs and professionals to exploit the possibilities of processing. This film was further enhanced over time and, by 1976, the E6 process was released. This process proved so superior to others available that it was adopted by Kodak's main competitors, Agfa and Fuji, and remains the universal professional colour transparency process. Colour transparency films produced positive images and were mainly used for projected slides by amateurs. Professionals used colour transparencies to supply photographs for reproducing in magazines and other printed material.

Most amateurs, together with wedding photographers, wanted printed photographs. For those purposes, and for the fast-expanding motion picture industry, colour negative processes were required.

Eastman's Kodak marketed Kodacolor colour negative film from 1942, using a secret process and selling film with processing charges included. This meant that if you used Kodak film, you had to have it processed by Kodak. A major legal case in 1954 found this was illegal and Kodak had to make the process freely available. This they did in 1955, the process being called 'C22'. It was the beginning of privately owned colour laboratories as we know them today. The main problem with C22 was that the coloured dyes faded quite quickly. A similar problem affected other early colour negative processes like Agfacolor.

A major improvement was released in 1972 with Kodacolor II and the C41 process. The dyes were much more permanent, which meant more widespread adoption of the Kodak process, which is still used and is the industry standard. Kodacolor II was the first film to be made in a miniature (110) size for 'Instamatic' cameras, and so started the manufacture and widespread use of small, easy-to-use snapshot cameras. These replaced the bulky box cameras that had been used by amateurs since the early 1900s. By the end of the 1970s mini photographic laboratories began to pop up in shopping centres throughout Australia, allowing the public the opportunity to have their colour photographs printed inexpensively in the space of an hour or two.

The digital age

Until the end of the 20th century, photography was dominated by chemical processes. Since then, imaging based on electronics, using metallic and silicon chips, has all but taken over the new camera market. This technology appears in digital SLR cameras, compact pocket-size 'point and shoot' cameras and even digital sensors in mobile phones. Many prints are still made through traditional chemistry but are exposed by laser beams. Increasingly, inkjet printers, controlled by computers, are being used.

Digital photography was motivated by the space race of the 1950s and 1960s in the competition between America and Russia. The Americans wanted a way to send pictures of the Earth, moon and planets from their satellites and spacecraft back to Earth. Initially, they used radioed television signals, but these lacked tonal qualities and fine detail.

In 1969 William Boyle and George Smith of the Bell Laboratories in America invented a sensor that emitted electric signals when light fell on it. This was called a 'charge coupled device' (CCD). Shortly after that, another sensor, the CMOS, was invented by Eric Fossum. Such a device was first used in a camera by Steven Sasson at Kodak in 1975. It had an array 100×100 pixels (0.01 MP) and took 23 seconds to take and record a photograph. Since then, companies in America, Europe and Japan have produced a rapidly increasing number of digital cameras. Solid sensors have increased in **resolution** and dropped in price. Many professionals now use SLRs with over 20 MP. The first professional digital SLRs recorded only about 1 MP and cost $50 000. Use by the public of digital cameras was slow at first because of the low quality. By 2005, digital camera quality equalled or exceeded film and the cost had dropped to a few hundred dollars.

Many artists and the general public have since moved on from using film to recording their photographs digitally and they now download their images onto computers or directly to printers. Digital cameras allow photographers to view their images instantly and, as result, they can delete unwanted photographs and re-shoot if need be. Cameras are no longer solely objects within themselves but have become a major part of the mobile phone phenomenon. Advancements in technology have allowed small yet highly effective cameras to be built into the bodies of mobile phones, enabling people to carry a type of camera around with them most of the time. Many amateur and professional photographers have developed skills in photographic software and now enjoy enhancing their images on computers.

This new age has revolutionised the immediacy of the production, consumption and distribution of photography. Sports photographers can take a photograph of a sports event and then instantly email it to a newspaper editor to go to print within hours. The same can be said for photographic journalists, who capture moments of war overseas or events as they happen in Australia.

Scientists, engineers and software programmers continued to work on digital devices that are smoother, cheaper, of higher quality and easier to use than ever before.

The history of photography is relatively short and it is exciting to imagine what the future has in store for this incredible medium.

Figure 10.1H   A selection of digital cameras, mobile phone cameras and a printer

ACTIVITIES

1. Draw a diagram showing the principles of the *camera obscura*.
2. What was the major flaw with the technique developed by Thomas Wedgwood?
3. Discuss the positive and negative aspects of the daguerreotype and Fox Talbot's processes.
4. What was the major restriction of the collodion wet-plate process?
5. Why was the photographic technique developed by Richard Kennett so significant?
6. Explain the principles of the first Kodak camera.
7. Using a diagram, briefly describe the basic principles of colour photography.
8. What are the major differences between film and digital photography?

Written report

9. Interview your parents, guardian or grandparents about their memories of taking and processing their family photographs at least 20 or more years ago. Produce a report that includes the following information:
   - Documentation about the people you are interviewing and the historical period they are recalling
   - The types of camera they used
   - An explanation of how they went about getting their photographs developed
   - Details about the quality of their photographs and, if possible, a copy of one picture
   - Discussion of how the process of creating family photographs has changed. Record the type of camera you and/or your family are currently using.
   - Consideration of the quality of the images produced today and the options presently available for processing and printing your photographs
   - As a result of your investigation, outline what you think have been the most significant developments in family snapshot photography over the past 20 or more years.

Comparative task

10. Compare a portrait taken in the 1800s to another taken in the 2000s. Discuss how each image was made, including the techniques, processes, equipment and materials used. Consider the quality of each image (use the proforma on analysing an artwork on page 159 to assist you).

10.2 THE DEVELOPMENT OF PHOTOGRAPHY AS AN ART FORM

High art photography

Since the development of photography there has been a lot of debate over its relevance to, and place in, the fine arts. Many people have questioned photography's role, some with the view that it is more a scientific than an artistic medium.

During the 19th century, as scientific advancements were constantly changing and improving the technology of photography, groups of photographers were exploring various ways of capturing, recording and presenting their photographs. One group in particular believed that photography had the potential to be an art form if it copied the traditional ideas of painting. These photographers believed the simple process of capturing an image through the camera obscura allowed for only limited creativity. They developed techniques designed to create pictures that would be considered 'high art'.

The process used by these photographers totally disregarded the unique and individual characteristics of traditional photography and relied on manipulating the negative to achieve the desired result. In their attempts to be recognised as artists, they selected sentimental and emotional story-telling themes, which were planned and staged in a studio environment (see figure 10.2A). Often, four or five different negatives would be cut and pasted

Figure 10.2A
H. P. Robinson
Fading away, 1858
Albumen toned print from five separate wet-collodion negatives
The Royal Photographic Society, Bath, RPS 9997

together to create dramatic images. The art establishment regarded these photographs as a feeble attempt to imitate painting, ultimately resulting in the movement's decline.

The naturalists

During the mid- to late-19th century, photographers became more interested in photographing the real world rather than staged images. Dr Peter Emerson was instrumental in making photography more natural, as he believed that photography should rely on its own unique **qualities**. Using natural light, interesting viewpoints and paying close attention to the subject, Emerson set about photographing the English landscape with beauty and sophistication (figure 10.2B). He rejected any manipulation of the negative or the image that existed in the high art approach. Inspired by the French Barbizon painters, Emerson and his followers (often referred to as 'the naturalists') attempted to capture true-to-life images

Figure 10.2B
Peter Emerson
Gathering waterlilies
c. 1886
Plate IX from
Life and Landscape on the Norfolk Broads
Platinum print
The Royal Photographic Society, Bath, RPS 10213

taken directly from nature. However, Emerson concluded that an artwork could not be created by merely capturing and recording images found in nature; it was the way that a photographer captured a scene that allowed artistic expression.

The early pictorialists

Emerson was instrumental in breaking new ground in creative photography. However, some people did not agree with all of his theories.

By the late 19th century, the **pictorialists** persisted with the idea that photographs should still be created along the same lines as paintings. With the **romantic** and French impressionist painting movements receiving critical acclaim throughout Europe, the pictorialists set out to copy and recreate the essence of these styles in their photographs. They used soft focus lenses to simulate painterly qualities and selected similar subject matter and themes as those used by renowned painters (see figure 10.2C). In a similar manner to the early high art photographers, the early pictorialists went to great lengths to stage their pictures, often distorting and presenting idealistic visions of nature and even framing the images in the same way as paintings.

Figure 10.2C
Clarence H. White
The ring toss, before 1903
Photogravure
The Royal Photographic Society, Bath

The photo-secessionists

The relationship between art and photography strengthened at the turn of the century with the formation of the photo-secessionists. This group was set up by Alfred Steiglitz in New York. Steiglitz believed in many of Emerson's theories and ideas about the development of photography as an independent art form. Steiglitz believed that photography had its own unique artistic qualities that were separate and independent from painting. He promoted the idea that photographers were restricting themselves by holding onto the **conventions** of painting and saw the need to develop a style of photography that was totally separate and independent. Rejecting any past ideas of manipulating, retouching and staging photographs, Steiglitz and his group established a pure method of working within the medium. This **straight** approach to photography enabled artists to use elements of photography to record images of the world around them. The photo-secessionists captured scenes of daily life that in many cases were thought to be unsuitable, boring and mundane by most mainstream photographers (figure 10.2D).

Figure 10.2D
Alfred Steiglitz
Sun rays, Paula, Berlin, 1889
Gelatin silver print
22.0 × 16.2 cm
© George Eastman House

The photo-secessionists worked in opposition to previous groups, promoting an individual and personal approach to photography. They mastered the use of small hand-held cameras and created an opening for future photographers to be considered artists rather than mere documenters.

At the same time as the photo-secessionists were using the medium of photography to create artworks, many well-established painters were using photography to aid in the development of their work. Some of the French impressionists (such as Degas), as well as the German expressionists (for example, Munch), used the camera to record images which they used in their paintings (see figures 10.2E and 10.2F).

Dada and surrealism

By the 20th century, the gap that photographers sought to bridge between art and photography started to disappear. Artists began to capitalise on the magic of the camera, bringing motivation, spontaneity and experimentation to the process. New art movements appeared as artists responded to an ever-changing world. The **dada** and surrealist movements that began early in the century recognised the unique characteristics of photography and used them to play a key role in their art. **Surrealism** centred on the notion of creating dream-type images that stemmed from the subconscious, while dadaism questioned the notion of art and created works that were nonsensical. These artists exploited and experimented with the photographic process, producing strange and often quite eerie images. One of the most innovative artists to work with this new technique was American Emmanuel Radnitzky, known largely as Man Ray. Working in the 1920s in France, Man Ray established himself as an artist who swept aside the traditional values of art. He became obsessed with exploring revolutionary techniques in the darkroom. Man Ray was a tireless experimenter with photography. He used darkroom techniques that were previously considered mistakes, such as solarising the image by exposing it to light during processing. He was a prolific and accomplished artist who worked in many media.

Figure 10.2E
Edvard Munch
Portrait of Charlotte Dornberger, 1889
Oil on canvas
47.5 × 35.3 cm
Private collection
Munch Museum/
Munch Ellingsen Group/
BONO 2008
© Munch Museum

Figure 10.2F
Carte-de-viste photograph
of Charlotte (Meisse)
Dornberger, c. 1880

Figure 10.2G   Man Ray, *Le violon d'Ingres*, 1924, gelatin silver photograph

Figure 10.2H Philippe Halsman, *Dali atomicus*, c. 1948, gelatin silver photograph. Photograph by Phillipe Halsman © Halsman Estate. Courtesy George Eastman House

However, he was renowned for his photographic images, possibly due to the sheer volume he produced. His willingness to explore photography and his unusual technical approach (strongly associated with dada and surrealism) established Man Ray as one of the most innovative and exciting artists of the 20th century.

Artists of this era expressed a very personal view of the world. One of the most notable surrealist artists, Salvador Dali, was an eccentric who was often photographed posing in front of strange, surreal images (see figure 10.2H).

The traditional role of art expanded as individuals began to create works of art in response to a constantly changing world. During the two world wars, artists banded together to create propaganda posters which expressed outrage at people's inhumanity to fellow humans. The art of photography played a significant role in this form of expression as artists embraced the idea of incorporating photographic imagery in their work (see figure 10.2I). This led to the creation of new art forms such as **collage** and photomontage.
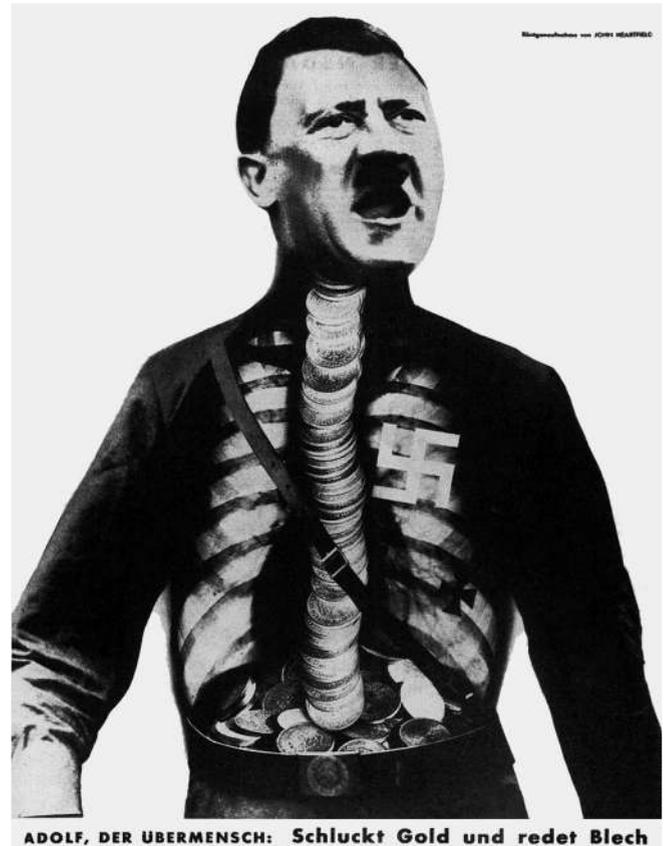
Figure 10.2I John Heartfield, *Adolf the superman: swallows gold and spouts junk*, 1932, photomontage

Modernism

Modernism refers to a movement in art that occurred in the early 20th century. These artists created artworks that were considered highly progressive for their time. The move towards the simplicity of design and the idea of creating works that relied on aesthetics, rather than thought-provoking content, was a popular approach. Artists such as Paul Strand and Bill Brant searched their surrounding world for subject matter that centred on compositions containing a creative combination of shapes, textures, tone and lines. They often photographed their subjects from unusual viewpoints and paid particular attention to light and shadows, and/or closing in on the content to create an abstract view. These modernists brought fresh new aesthetics to photography.

Figure 10.2J *Abstraction, porch shadows*, Connecticut, 1915, Paul Strand, Copyright © Arpeture Foundation Inc., Paul Strand Archive

Group f.64

Two great American photographers, Ansel Adams and Edward Weston, formed Group f.64 in the 1930s.

They called themselves Group f.64 because the **aperture** setting was fundamental to the group. At an aperture of f.64 the camera captured the ultimate clarity of focus, providing the optimal depth of field (see page 191). Leading Group f.64, Adams and Weston aimed for technical excellence in the photographic process. They made the most of the fundamental qualities of **straight photography** and enhanced past ideas with their own unique approach (see figure 10.2K). Inspired by earlier modernist images, Adams and Weston captured their subject matter in a very honest and yet dramatic way, showing precision and attention to detail in addition to a particular respect for light in their compositions. Their photographic works were immaculately presented (often referred to as the 'fine print tradition') and they became known for their perfectionist approach to photographic techniques.

Group f.64 photographed the world in which they lived in a very personal way, giving life to ordinary everyday subjects and turning them into works of art. (For information about Ansel Adams, see section 12.1, page 190.)

Figure 10.2K *Nude*, 1936
Photograph by Edward Weston
Collection Center for Creative Photography
© 1981 Arizona Board of Regents

Postmodernism

Anyone can take a simple picture, but it is the artist who realises the camera's potential. The postmodern age allows for personal and individual responses to the medium of photography, without the boundaries created by an established style or movement. A personal interpretation that allows the expression of ideas is favoured and encouraged. Some artists' exploration of lighting, film, cameras and lenses exemplify a creative response. Some artists explore the creative potential of the darkroom, while others build and construct imaginative scenes to be photographed, disregarding any technical expertise in favour of using a technician.

David Hockney, an English artist often associated with the British pop art movement, is known mainly for his paintings and printmaking. However, he has also earned significant praise and notoriety for his photographic images. Hockney is greatly inspired by Picasso and his images often have a cubist influence. Hockney's photographs challenge traditional ideas of photography. In a series of works he presents multiple views of the same subject placed on top of each other (see figure 10.2L). Hockney produces provocative and startling works that distort the traditional notion of perspective and foreshortening within photography.

Figure 10.2L David Hockney
Mother 1, Yorkshire Moors, August 1985
Photographic collage
18½ × 13"
© David Hockney

Cindy Sherman, a New York postmodern photographic artist, has spent most of her career recording narrative portraits with herself playing the central figure. Dressing as various characters and posing in different settings, Sherman uses the camera and herself to explore themes of feminine identity, female fantasies and nightmares, the depiction and role of woman in art and films and the representation of women in **contemporary** society (see figure 10.2M). Sherman has created many series of images that suggest possible scenes from life, films or the media. Her subject matter often seems vaguely familiar yet has no definitive tale; it is up to the viewer to create their own story.
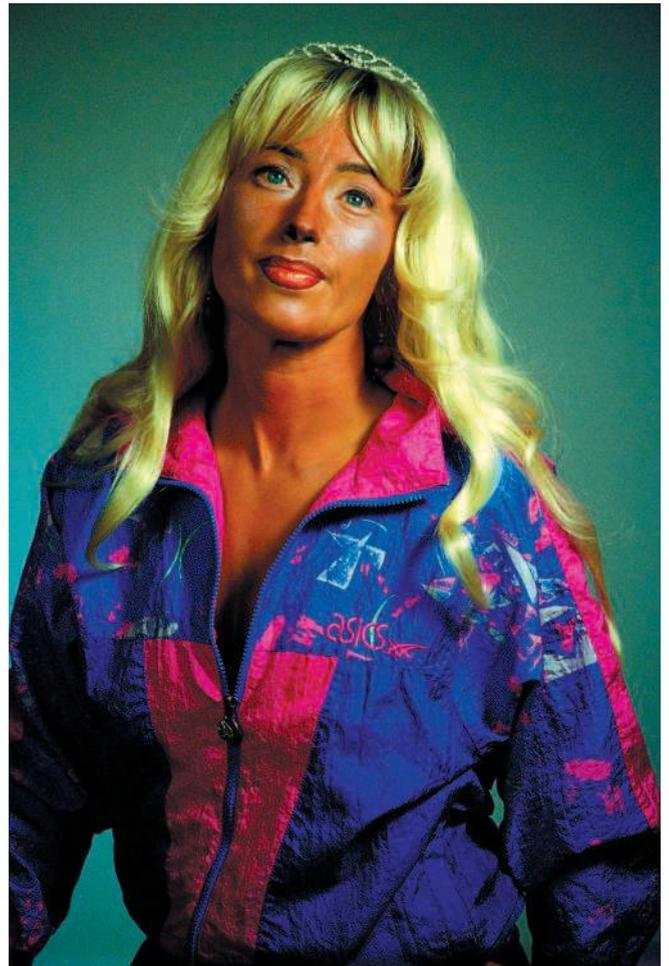
Figure 10.2M Cindy Sherman, *Untitled #397,* 2000, colour photograph. Photograph courtesy of Cindy Sherman and Metro Pictures Gallery

Japanese born Yasumasa Morimura also explores the concept of using himself as the cental figure in his photographic artworks. His images explore many of the postmodern conventions including **appropriation**, where he challenges the idea that an original artwork can lose its meaning and purpose through mass production. He also questions the thought that nothing is original in art anymore, it has all been done before. He confronts traditionalist ideals in art by crossing the boundaries

Figure 10.2N Yasumasa Morimura, *Daughter of art history (theater A),* 1990. Coloured photograph, transparent medium, 180 × 246 cm. © The artist. Collection private collection in Japan. Private collection in US. Photograph courtesy of the artist and Luhring Augustine, New York.

between Eastern and Western art, photography and painting and gender. By placing himself as the central female figure in Manet's (c. 1881) painting, *The bar at the Folies-Bergère,* he presents his audience with a confronting, updated version of Manet's image, highlighting many of his interests and intentions in contemporary art making (see figure 10.2N).

American photographer Gregory Crewdson goes to great expense to design, build and construct elaborate sets in which to stage the scenes for the content of his photographic images. He works more like a film director than a photographer, producing his photographs rather than taking them. Inspired by film makers such as Steven Spielberg, Crewdson creates dramatically lit, disturbing and peculiar scenes set among small town American suburbia. He explores themes such as anxiety, loneliness and separation (see figure 10.2O). Crewdson's father, a Freudian psychoanalyst who worked from home during his childhood, can also be seen as an influence on his choice of subject matter. His images appear like stills from a movie, yet they are created in isolation, leaving viewers to

create their own story about what has led up to the incident and what will happen next. This initiative of linking the production of photographic art to film making is popular in contemporary photography, as too is the notion of creating and photographing constructed and false realities.

Until digital photography, photographers were mainly trying to describe the world as they saw it. The new medium increased the number of people who used photography to describe the world as they could imagine it.

New media and converging technologies

In the 21st century, many devices perform functions that previously required a number of devices. For instance, we now have small machines that can send faxes, scan documents, photocopy, print pictures and be used as telephones. Computers and mobile phones can be used to take both moving and still pictures.

The advancement of technology has also allowed photographers to combine sound with images, resulting in the production of installations where the viewer can walk into a constructed environment and experience still and moving images, as well as sound, within staged structures (see figure 6.1B, page 123).

These innovative approaches to displaying photographic works provide artists with new opportunities in art practice. Installations and projections are not only in art galleries but also in museums, tourist venues, libraries and, at times, presented on the external walls of significant city buildings, as well as many other places. Such revolutionary methods of exhibiting photographic images allow a greater audience to view and experience the creative ideas expressed by a range of contemporary photographic artists (see figure 10.2P).

Photography is now firmly established as an art form and exists alongside painting, sculpture, writing and the performing arts. The approach that various artists take to the medium is as diverse and creative as that of any other art form. The history of photography is relatively short in comparison to the other arts. As a result, there is a lot of scope for the development of new and innovative ideas. Combined with this are the enormous advancements being made with cameras, film, papers, digital photography and computer software. With each innovation comes new scope for artists to explore the creative potential of photography.

Figure 10.2P New York City, *Monument to smile* (05/31/07−06/09/07).
Agnes Winter exhibits *Monument to smile*, a massive, 50-storey projection of over 250 photographs of smiling New Yorkers that brings public art to the walls of the Rockefeller Center. Transmitted by 12 large projectors.
© Agnes Winter
May 31st – June 9th 2008
Rockefeller Center — New York

ACTIVITIES

Group task

1. In small groups, create a photographic timeline (this could be done as a poster to be displayed around the classroom). The timeline must contain the following information:
   - an outline of major technological developments in photography
   - an outline of major artistic movements in photography
   - an outline of major historical and social events.

   Where possible, include photographs to highlight the information presented.
2. Once your timeline is complete, as a group, discuss the following questions and record your answers.
   - What do you think is the most significant development in the history of photography? Give reasons for your response.
   - What is your favourite photographic movement or artist? Give reasons for your response.
   - What impact do you think photography has had on society? Discuss with particular reference to the late 1800s and today.
   - Considering the developments in photography over the past 10 years, what developments can you imagine might take place, both technologically and creatively, in the next 10 years?

Short responses

3. Discuss the approach taken by Munch in adapting the photograph of Charlotte (Meisse) Dornberger into a painted image (see page 174). Discuss the similarities and differences between the photograph and the painted image. What do you think that Munch was trying to achieve by altering this image?
4. Compare H. P. Robinson (1858), *Fading away* (see page 172) with Gregory Crewdson's *Untitled (sod man)*, 1999 (see page 179). What similarities can you see in the artist's working method (action) and artistic intention (ideas)?
5. What do you think John Heartfield was trying to communicate about his world in his *Adolf the superman: swallows gold and spouts junk* (1932), photomontage (see figure 10.2I, page 175)?
6. How has Paul Strand used composition and the design elements to enhance the quality of his 1915 photograph, *Abstraction, porch shadows*, Connecticut (see figure 10.2J, page 176)?
7. Why do you think Cindy Sherman is such a popular and successful artist? What is it about her work that people respond so positively to?
8. What aspects of Yasumasa Morimura's photographs reflect elements of postmodernism?
9. Look closely at Gregory Crewdson, *Untitled (sod man)*, see figure 10.2O, page 179. Create your own story relating to the image about what has just happened and what is going to happen next.
10. What impact do you think *Monument to smile* (figure 10.2P, page 179) would have had on the people of New York and its visitors? Explain your response.

Extended responses

11. Research and write a response to the following statement: 'Photographic artworks are a true reflection of the world in which they were created.' Do you agree? Provide reasons for your argument and refer to specific artworks to support points made.

Or

Select three photographs from this chapter. Record the artist, title, date and media of each work, then identify the features that distinguish each work as being part of a particular style, time and place (world).

Research assignment

Select a photographer from this chapter that you admire. Research this person, using the following points as an outline for your written assignment of approximately 1000 words. Use diagrams and reproductions as appropriate.

- Background of the artist
- Style and influences
- Techniques and processes/working method (actions)
- Artistic aims and intentions (ideas)
- Unique qualities of the artwork.

Select and analyse an artwork (see chapter 9, Analysing a photograph, page 157).

Your class may decide to present each report as a class talk or PowerPoint presentation. This would allow the class to develop an awareness and understanding of a number of different photographers.

History of Australian photography

11.1 THE EARLY YEARS

In the past, most art forms in Australia were governed to a large extent by overseas trends and traditions. What was fashionable in Europe soon became fashionable in Australia. This was the case with photography. Overseas travel, combined with immigration and imported literature, enabled Australians to become aware of, and keep relatively up to date with, the technical and artistic advances in photography.

Photography in Australia was initially used largely to record the unique aspects of the land, its fauna, flora and people (see figure 11.1A). It was also used to document the development of the colony, which included the growth of railways, buildings and townships. These images were often sent back to Europe as a way to inform and advise people of developments in the settlement of Australia. However, the most popular use of photography was to create miniature portraits that captured personal records of the settlers.

On 12 December 1842, George Goodman opened what is thought to be the first portrait studio in Australia. This popular studio was set on the roof of Sydney's Royal Hotel and Goodman used the daguerreotype process (see section 10.1, page 167) to create a likeness of many Sydney citizens.

In 1850 Fox Talbot's collotype was introduced, but it was soon superseded by the collodion wet-plate process (see section 10.1, page 168). The population of the colony trebled during the gold rush of the 1850s and 1860s. The number of photographic studios increased dramatically and many photographers, both professional and amateur, began to explore this new medium.

During the 1880s dry-plate negatives and small hand-held cameras became available. These innovations put photography within the reach of many Australians. As a result, amateur photography became increasingly popular throughout most major towns and cities. By the late 19th century, photography in Australia was well established — with many professionals making a living from photography, and amateurs enjoying the thrill of capturing and recording images.

Figure 11.1A
Freeman Brothers, Sydney
1854–1900
William Freeman, born England 1809, arrived Australia (early 1850s), died 1895
James Freeman, born England 1814, arrived Australia (early 1850s), died 1890
Walter Davis (c. 1860)
Ambrotype, colour dyes, wood, leather, velvet, glass and gilt metal (case)
9.1 × 6.8 cm irreg. (10.2 × 8.2 cm (case) (closed))
National Gallery of Victoria, Melbourne
Gift of Warwick Reeder, 1991

Around this time many photographers made a conscious decision to use photography more creatively. Images could be copyrighted by Australian photographers. A debate over the legitimacy of photography as an art form was initiated. As the dispute ripened in Europe, the controversy spread to Australian shores. Some believed that photography was a threat to painting because the camera could create a more exact likeness of a subject. Some Australian photographers were happy not to be called artists, recording their portraits and images in a very methodical way. However, another group was determined to gain the acknowledgement of photography as a respected art medium.

Figure 11.1B Advertisement for George Goodman, *Australian*, 9 December 1842

Figure 11.2A
Tom Roberts
Born Great Britain 1856, arrived in Australia, 1869, died 1931
Shearing the rams, 1888–90
Oil on canvas on composition board, 122.4 × 183.3 cm
Felton Bequest, 1932
National Gallery of Victoria, Melbourne

Figure 11.2B
© Alfred Wilkinson
Australia, 1869–1940
Shearing, c. 1900–27 Poltalloch, South Australia
Carbon photograph
35.3 × 26.0 cm (image)
Gift of Mr Keith D Bowman 1927
Art Gallery of South Australia

11.2 THE AUSTRALIAN PICTORIALISTS

With the adoption of European ideas, in particular those of the **pictorialists** (see section 10.2, page 173), a group of Australian photographers attempted to justify the artistic merit of photography by capturing images in a similar way to accepted painting styles. They often tried to reproduce the ideas, painterly qualities and subject matter of the popular artists of the time (see figures 11.2A and 11.2B).

By the end of the 19th century works by French impressionist painters such as Renoir and Monet were influencing Australian artists in their approach to technique and subject matter. This influence can be seen in the

Figure 11.2C
Henri Mallard
Nearing their journey's end, 1920s
Gelatin silver photograph, 14.6 × 24.1 cm
Gift of Paul Mallard 1978
Collection: Art Gallery of New South Wales
Photograph: Mim Stirling

Figure 11.2D
PRG 737/3 *The spirit of endurance*,
c. 1936 by Harold Cazneaux ©
Photograph courtesy of the State Library of South Australia

works of the Heidelberg school and the Australian impressionists such as Frederick McCubbin and Tom Roberts.

The early Australian pictorialists used soft focus and diffused outlines to record **romantic**, **picturesque** and sentimental visions of nature, showing a similar approach to their subjects as the Australian impressionists did in their paintings (see figure 11.2C). They turned their lens on the real world, rather than studio-created scenes, to capture subtle and subdued interpretations of the Australian landscape, the character of the Australian people and nationalistic ideas. These images were seen more as personal interpretations of subjects rather than merely records of them.

In 1916 a group of Australian photographers formed a distinctive Australian school of pictorialism. They called themselves the Sydney Camera Circle and attempted to establish photography as an art form separate from painting. They aimed to rid photography of painterly qualities and traditional subject matter. This group of photographers, which included Henri Mallard (figure 11.2C), William Stewart White, Harold Cazneaux (figure 11.2D), Cecil Bostock and James Sterning, gained respect for Australian pictorialism through their work, which was displayed nationally and internationally.

11.3 THE AUSTRALIAN MODERNISTS

In the early 1930s a small group of Sydney-based photographers set out to explore the artistic potential of photography in the mechanical age. This group, led by Max Dupain, included the young David Moore and Wolfgang Sievers, a newly arrived immigrant from Germany. These men were to change the face of Australian photography. Strongly influenced by American and European modernist art styles, particularly the Art Deco and German **Bauhaus movements**, the group developed a modernistic approach to photographing their subject matter. They further developed the ideas of the Sydney Camera Circle and searched for images containing bold content, abstract beauty, geometric shapes and clean crisp lines. Dupain, Moore and Sievers demonstrated the essence of **pure** or **straight photography** by capturing images that previously may have been seen as uninteresting and dull. Making a living through government commissions, commercial photography and photographic journalism, they used their free time to photograph images of personal concern and interest.

Max Dupain demonstrated his passion for the beach and the idealistic post–World War 1 vision of the Australian way of life through a series of works photographed at beaches around Sydney Harbour. This ideal is epitomised in the 1937 photograph *Sunbaker*, which has come to symbolise the Australian lifestyle (see figure 11.3A).

David Moore trained as a photographer under Max Dupain in a Sydney advertising agency. Moore rejected the artificial nature of the subjects in his commercial photographs and attempted to photograph and document the realities of the human condition. He spent many weekends photographing the poverty-stricken and depressed areas of Sydney. *Redfern interior* (1949) captures the essence of Moore's concerns (see figure 11.3B). The photograph depicts an emotional moment in the life of an ordinary household.

Figure 11.3A
Max Dupain
Sunbaker, 1937
Gelatin silver photograph
46 × 41 cm
© Max Dupain Exhibition Negative Archive

Figure 11.3B
David Moore, 1927–2003
Redfern interior, 1949
Gelatin silver photograph
38 × 27 cm or smaller
© Queensland Art Gallery

Wolfgang Sievers obtained a great deal of work as an industrial photographer. He combined the elements of German art school design with dramatic lighting to create an artistic interpretation of man and the machine. This is clearly revealed in his work *Gears for mining industry* (1967), which reflects an ideal vision of man and machine working together (figure 11.3C).
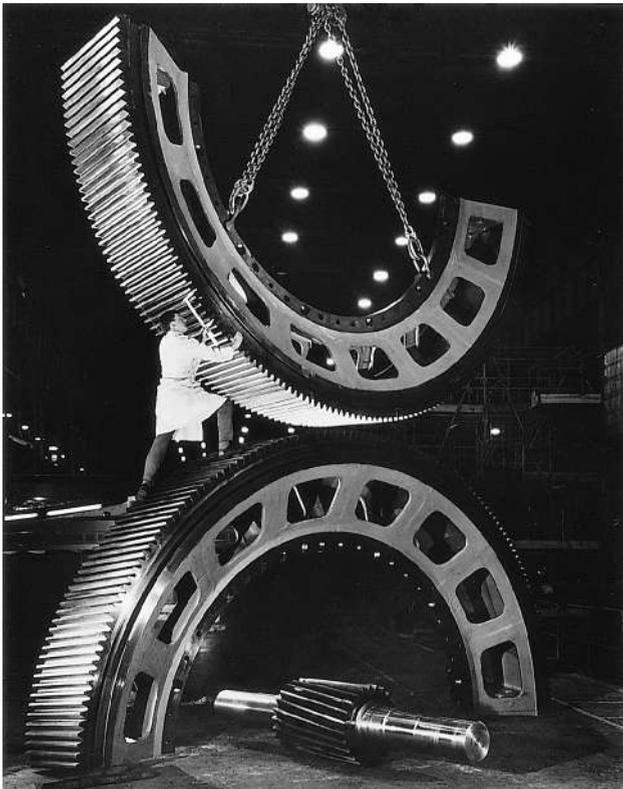
Figure 11.3C
Wolfgang Sievers
Gears for mining industry, 1967
Gelatin silver photograph
© Queensland Art Gallery

PHOTOGRAPHY AS ART

In the early 1970s in Australia, photography as art gained major acceptance and widespread support. Its endorsement by state and commercial galleries, educational institutions, business and private collections brought about a renewed respect for the medium. In 1972 the National Gallery of Victoria appointed a Curator of Photography. This was a significant step, as the curator's role was to develop Australia's first major collection of national and international photography. Other states soon followed Victoria's lead and established their own photographic collections.

The introduction of courses in the art of photography by universities and colleges of advanced education encouraged the development of new styles and forms of creative expression in the medium. The Prahran College of Advanced Education in Victoria introduced the first creative photography course in the late 1960s. Until then, photographers had either been self-taught or trained as technicians, gaining skills primarily by photographing images for the commercial market. As a result of tertiary inclusion, by the mid 1970s a new generation of Australian photographers was emerging from art colleges. They were willing to explore fresh and varied avenues of individuality and developed their own style and personal response to the medium of photography.

Until the mid 1970s photography in Australia was generally black and white, and featured images of natural themes such as these shown in figures 11.2B, 11.2C, 11.2D and 11.3A. However, by the late 1970s the diversity in photographic artistry was evident, as was the move away from black and white to colour photography.

Technological advancement in colour processing, in particular, **C-type colour** processing, brought new **aesthetic** qualities to Australian photography.

11.5 POSTMODERNISM IN AUSTRALIAN PHOTOGRAPHY

Australian photographers

Tracey Moffatt explores the use of bright, vibrant colour in her 1989 series *Something more*. Moffatt's works borrow the stylistic features of 1950s B-grade movies and attempt to challenge viewers' perceptions of the dreams and desires of the disadvantaged members of society. *Something more* presents a series of moving, theatrical photographs that tell the story of an Aboriginal woman

(played by Tracey Moffatt) leaving a country town in search of a new and better life in the city (see figure 11.5A). Moffatt has reflected and created a response to issues concerning her own Aboriginal heritage.

The approach Moffatt has taken in recording these images can be described as 'photographic theatre'. The photographer creates a setting, then positions subjects within the setting. The photographer acts as a director, producing and controlling the images being photographed. This approach to picture taking was very popular during the 1980s and can be seen in the work of Robyn Stacey, Rose Farrel and George Parkin, Anne Zahalka and Anne Ferran, as well other Australian photographers.

Appropriating or borrowing images from famous artworks is a common practice in contemporary Australian art. Artists who **appropriate** artworks provide themselves with the challenge of reinterpreting the work to give new meaning to the image and perhaps question aspects of the original artwork.

In the series, *Bondi: playground of the Pacific*, Anne Zahalka attempts to recreate well-known images from Australian paintings and photographs of the 1930s and 1940s. Through these images she rejects the idealistic visions of Australians presented in these earlier works and chooses to create an updated, **postmodern** (and perhaps more realistic) vision of the people of Australia.

In her photograph, *The sunbather*, *#2*, 1989 (figure 11.5B), Zahalka colourfully reconstructs Max Dupain's *Sunbaker* image (figure 11.3, page 184). However, instead of selecting a strong, clean-cut masculine figure, she has presented a slim, long-haired, redheaded figure whose gender is not specific. Zahalka is suggesting that Dupain's *Sunbaker* is an unrealistic representation of a picture of a typical Australian male of the 1930s. The artist states that *The sunbather #2* is an attempt to rewrite this history by replacing the stereotype with those figures not generally represented.

Many contemporary artists explore a variety of media in their art making and do not submit themselves to a signature style. They often choose to reinterpret themselves with each new series of images. They also tend to create artwork in series and not as a single image produced in isolation.

Sydney-based artist Julie Rrap works not only in the photographic media but also in painting, sculpture and performance art. Her style and subject matter can vary considerably from one series of work to the next. She has been interested in appropriation as well as the representation of the human form in art. Rrap is also known to use herself to play the central character in her artwork (see Sherman and Morimura in chapter 10, pages 177 and 178 and Moffat in figure 11.5A).

Her 2002 series of digitally-created, morphed figures in land and seascapes, entitled *Fleshstone*, brings into question the notion of truth in contemporary photography. Photography was once considered as an authentic and truthful representation of the world; this is no longer the case. As a result, viewers of contemporary photography will question the honesty of the images as they are presented. More often than not, they will find them to be fabricated pictures, created from the mind of the artist. In this series of works, Rrap also brings into question any preserved ideas that art needs to be aesthetically beautiful by presenting us with grotesque interpretations of the human form.

Figure 11.5B
Anne Zahalka (Australia, b. 1957)
The sunbather #2, 1989, from the series
Bondi: playground of the Pacific
Type C photograph on paper
Roslyn Oxley9 Gallery

Figure 11.5C
Julie Rrap
Pearl John, 2003
Digital print
126 × 218 cm
Edition of 9
Fleshstones
Roslyn Oxley9 Gallery

Bill Henson (see figure 11.5D) is a contemporary Melbourne-based photographic artist who adapts many of the traditions of the past to create his photographic works. He is a highly trained craftsman and takes pride in his skill and knowledge of the camera, in addition to established darkroom processes and procedures. Much of Henson's work explores the concept of transition and, in particular, the moments between night and day, and childhood and adulthood. His photographs have a transient quality and rely on dramatic lighting to create compelling moods and atmospheres within his scenes. His images of young teenagers are staged to capture powerful emotions on the faces of the models, often suggesting something is about to happen or something has just happened. He explores the notion of a fleeting moment which, once passed, is gone forever. Some art critics argue that Henson is more of a traditionalist than a postmodernist. Whatever the case, he creates aesthetically enchanting images that deal with contemporary themes in a thought-provoking manner.

Fine art digital photography has become increasingly fashionable at tertiary institutions throughout Australia, such institutions now honour more graduates in this form of image-making. Just as, in the past, many institutions struggled to accept straight photography as an independent art movement, digital image-making has had its own battles to find its place alongside more traditional art media.

Design school graduates Charmaine Hardy and Simon Strong are part of a new breed of contemporary digital photographers. Through their commercial work as graphic designers they have developed an interest in exploring issues relating to the media, popular culture, gender roles, stereotypes and advertising. They are interested in the way we live our lives and the influencing factors that control our desires. Their digital compositions are generally constructed from numerous photographs combined and manipulated together to form large detailed prints (see figure 11.5E). Their **narratives** can be light-hearted at times, poking fun at past cultural stereotypes and domestic roles. At other times, their work can appear to have a more serious side, exploring the impulses of human behaviour and our need to conform to social expectations.

The future of photography in Australia

The scope for the future of photography in Australia is virtually limitless. Australian photography has come of age, with many photographers working, studying and exhibiting overseas, and gaining recognition at an international level. By seeking inspiration from within Australia and overseas, Australian photographers have gained respect and recognition, forging their own identity in the artistic medium of photography.

ACTIVITIES

Extended responses

1. You are a 19th-century newspaper reporter sent to Goodman's studio to write a story about the new photographic process. Imagine that you have seen the process of photography for the first time. Write an article about your experience.

2. Look closely at Max Dupain's 1937 *Sunbaker* (page 184), Anne Zahalka's 1989, *The sunbather #2* (page 187) and Julie Rrap's 2003*, Pearl John* (page 187) and then answer the following questions*:*

   a. What characteristics of the artist's world (time and place in which they lived) do you think are reflected in each of these works?

   b. How do you think audiences would react to these photographs? Which image do you think would be the most popular? Explain your response.

   c. Explain how you think each artwork was made.

   d. What do you think was the idea (artistic intention) behind each of the works?

   e. Discuss the compositions and use of design elements and principles in each of the works (see page 159 for assistance).

3. **Research assignment**

   Select two artists from this chapter and complete a research assignment that compares their artistic approaches to photography.

   Use section 9.3, How to write a comparative essay (page 162), to assist you with your essay plan. Analyse an artwork by both artists to provide evidence of points you made in your essay (see section 9.2, Format for analysing photographs, page 159).

4. **Practical assignment**

   Create a photographic image that shows a significant influence from one of the photographers mentioned in this chapter. Your work should reflect a similar choice of subject matter, composition, use of lighting and techniques as your artist. (Look at the student work by Clair Weller, figure 13.5B (page 230), and compare it to Gregory Crewdson's figure 10.2O (page 179), as an example of the task.)

5. Complete the following in your workbook or journal:

   a. Brainstorm possible artists.

   b. Select an artist and outline their choice of subject matter, style and working method (action).

   c. Collect a number of images by your artist to use as inspiration.

   d. Brainstorm possible approaches that you could take to emulate your selected artist's work.

   e. Plan the production of the work, making an outline of everything that needs to be done.

   f. Produce the work.

   g. Evaluate your finished artwork (see page 258).

   h. Present your finished artwork and workbook or journal for assessment.

12.

A close-up look at significant photographers

12.1 ANSEL ADAMS

Artist and world — structural/cultural

Ansel Adams is one of America's most respected and well-known photographers, revered for his breathtaking black-and-white landscapes of the American West. Throughout his 70-year career he produced a **prolific** body of work, was awarded three Guggenheim fellowships and published a large number of technical and artistic photographic books. He taught, reviewed and wrote articles about photography. His images were included in over 500 exhibitions in his lifetime, and he was integral to photography's acceptance as a fine art. He was also instrumental in establishing photographic departments in a number of museums, including the Museum of Modern Art (MoMA) in New York, the first museum to have a dedicated fine art photographic department (established in 1940).

Adams was an only child, born in 1902 in San Francisco. In 1914 he taught himself to play the piano and was exceptionally talented. His love of the arts continued to grow, fuelled by regular visits in 1915 to the Panama Pacific International Exposition (a world fair held in his home town for a year), where he learned to use a number of scientific and musical instruments, and viewed famous artworks from all over the world.

In 1916, after learning about Yosemite National Park, he convinced his parents to holiday there, and made his first photographs with a Box Brownie camera. Developing a love of nature and the wilderness, he continued to photograph the American West for the rest of his life, promoting preservation of the environment.

In 1892, activist and conservationist John Muir founded the Sierra Club, America's oldest ecological organisation, which was hugely influential in the beginning of the environmental movement. Adams became heavily involved with the Sierra Club from a young age. He wrote for the *Sierra Club Bulletin*, took club tours, held his first solo photography exhibition at the club in 1928 and was elected as a member of the board of directors in 1934, a role he maintained for 37 years. Muir's writings and ideas influenced Adams, who published *Sierra Nevada: the John Muir Trail* in 1938. As a passionate environmentalist, Adams used his images to **advocate** preservation and conservation of wilderness areas and national parks, contacting various American presidents and urging them to consider the environment.

Figure 12.1A
Ansel Adams *Photo booth self-portrait*, 1936 Ansel Adams, photographer, 1 photographic print: silver gelatin; 08 × 07 cm. Courtesy of the Katherine Kuh papers 1908–1994, Archives of American Art, Smithsonian Institution

After Adams died in 1984, an area of more than 200 000 acres of wilderness between Yosemite National Park and the John Muir Wilderness Area was named after him and, on the first anniversary of his death, Mount Ansel Adams was officially named, on the southeast boundary of Yosemite National Park.

Practice

Influences

- Nineteenth-century landscape photographers of the American West, such as Timothy O'Sullivan, Carleton Watkins and Eadweard Muybridge
- The history and science of photography
- The wilderness of the American West
- John Muir (1838–1914), a conservationist and nature writer
- Music — he was a talented, trained classical pianist (his photographs have been described as 'symphonic')
- Photographer Alfred Steiglitz and other contemporaries, including Paul Strand, Edward Weston, Imogen Cunningham and Dorothea Lange (see section 10.2, pages 173–76)

Style

- Sharp and even focus
- Extensive tonal range
- Clarity of detail
- **Straight** or **pure photography** (unmanipulated images)
- Close-up images or expansive sweeping landscapes
- **Majestic**, heroic images, full of national pride

Themes and interest

- The Earth, natural formations, mountainous landscapes and wildernesses
- The changing environment
- A personal, physical and psychological connection with nature, revealing spirituality and meaning through images
- Technical perfection, flawless prints and the potential of photography
- Portraits
- Modernism (see page 176)

Ideas/artistic intention

- 'Pure' photography
- To depict the beauty of the great American landscape
- To convey **metaphysical** meaning in an object or scene
- To provide a glimpse of the world in a new and more spiritual way
- To campaign for the preservation and conservation of the natural world and its resources

Actions/working method

- He primarily used an 8 × 10-inch view camera — a large-format camera, with each frame developed separately. He experimented, however, with different cameras.
- He used a very scientific approach — experimenting with exposure, developing negatives and making prints.
- Working in natural light, he would sometimes wait hours, days or entire seasons for the right light.
- Using a very small aperture, he would make long, slow exposures to maximise **depth of field** and detail, so that everything in the image would be in focus, from the objects closest to him to the point furthest away.
- Knowing his subject intimately — he photographed the same scenes for decades.
- Pre-visualising a scene in black and white prior to releasing the shutter on his camera.
- Using the 'zone system' to more accurately measure exposures and extend tonal range. The zone system is structured to achieve the fullest possible tonal range, with detail in both light and dark areas of a scene.

Artwork

Mountainous terrains, huge skies, dramatic clouds, dark shadows and luminous rays of light — Adams photographed the expansive landscapes of America's West as idyllic, serene and **transcendent**. He was interested in natural beauty and the spiritual quality in nature, whether it was vast or minuscule it was beautiful and meaningful. He was in awe of nature and photographed it with respect and discipline. His pictures were of places Americans wanted to see, as they wanted to see them — untouched. His heroic landscapes expressed an American national identity.

After meeting Paul Strand in 1930, Adams decided to forgo a promising career as a concert pianist and dedicate his life to photography. Seeing Strand's superb negatives and witnessing his devotion to the medium inspired Adams. Although Adams' initial approach stemmed from 19th-century pictorialists who had photographed the land before him (for example, Timothy O'Sullivan, Carleton Watkins and Eadweard Muybridge), he soon abandoned this **romantic**, soft-focus style, which attempted to resemble painting, believing photography was an art form in and of itself and should not be used to imitate other art forms.

Adams was a founding member of Group f.64 (which included photographers Edward Weston and Imogen Cunningham — see page 176), a photographic collective named after the smallest possible aperture. Requiring long exposures, this aperture setting resulted in the greatest possible depth of field and a very sharp focus. The group delighted in the camera's potential to record things as they were. Adams worked alongside his contemporaries, discussing photography constantly. He was an admirer of influential American photographer Alfred Stieglitz and was honoured to exhibit solo in his New York gallery, An American Place, in 1936.

Adams was a very sociable person and had many friends. His photographs of people, although less known than his landscapes and nature images, are wonderful.

Figure 12.1B Ansel Adams, *Georgia O'Keeffe and Orville Cox, Canyon de Chelly National Monument, Arizona,* 1937, gelatin silver photograph

His photograph of his friend, the artist Georgia O'Keeffe, is full of expression, mischief and mystery (figure 12.1B). It displays the signature Adams clarity, magnificent tonal range and contrast, as well as the sense of drama found in his landscapes.

During the Great Depression, American photographic artists began to turn their cameras to social and political issues in an attempt to bring about justice and social change. At this time Adams was being criticised for photographing 'socially insignificant' rocks and plants when people were in need. He was a close friend of Dorothea Lange, who had embraced the documentary movement, and was photographing the poor and deprived. Although Adams initially resisted social documentary photography, he admired her work and they collaborated and assisted each other at various times. By the early 1940s Adams was inspired to campaign for the rights of the Japanese–Americans who were interned in the Manzanar War Relocation Center in California, during World War 2. Depicting their loyalty, strength and courage, he published *Born free and equal*, which included text he had written regarding this injustice.

Photographs of nature, however, remained Adams' primary focus — sweeping landscapes and tiny details.

His macro images of leaves, ferns, underground rock formations or cacti reveal intricate patterns and details. Rocks, ravines and trees close up become almost abstract shapes. He uncovered the essence of his subjects and their fleeting forms in changing light conditions.

In 1941, with Fred Archer, Adams developed the 'zone system' for correct exposure and negative development. To achieve the fullest possible tonal range, with detail in both light and dark areas of a scene, the final print is pre-visualised (in black and white) prior to releasing the shutter. Zones are assigned to parts of a scene, where 0 is pure black and 10 is pure white, with nine varied shades of grey in between. Light readings are taken from these zones, and the exposure adjusted accordingly. Adams primarily used a view camera, taking individual negatives, developed separately, to achieve the desired results. Tonal range varies with the development time of the negative. A shorter development decreases contrast while a longer development increases it.

The Tetons and the Snake River, 1942 (figure 12.1C) illustrates Adams' technical skill and precision, as well as his love of the wilderness. Intense and heroic,

the expansive landscape appears to be timeless. This image is typical of Adams' work, with a large depth of field that ensures every point is in sharp focus. The s-shaped river leads the viewer's eye through each part of the photograph. The dark, dramatic sky and billowing clouds sweep across the rugged, snow-capped mountain ranges, and the winding river is framed by bush and land, balancing the image. The atmosphere is awe-inspiring and powerful but also quiet and spiritual. This image was included in 1977 on the *Voyager* spacecraft, sent to convey information about the world to a possible alien civilisation. Initially, Adams made photographs for their aesthetic value; later, however, he used images to evoke a response. He wanted the public to be aware of environmental issues and to want to preserve wilderness areas. His images reflect the passion he had for the American West. By the 1940s he had developed his distinct style and many of the images he made at that time are his most famous. With clarity, precision and accuracy he recorded things as they appeared, photographing the same wilderness areas repeatedly over many decades and coming to know the land intimately. These majestic scenes are heavy with admiration. Adams became respected both for his artistic vision and disciplined technical proficiency.

Adams had a modernist approach, placing emphasis on line, shape, surface and texture. The science of photography was also very important to him: the way the image was made, as well as its visual and aesthetic values. Sometimes he would wait hours, days or seasons for just the right light, or for a storm. He often released the shutter just as the light was about to fade into night, with only a few seconds in which the light was exactly right for his pre-visualised perfect picture. The quality of light was vital to his images, he used light to reveal surface, texture and shape in rocks, trees, mountains and skies. Images such as *Moon and half dome, Yosemite National Park* (1960) focus on solid blocks of shape, using light and shade to bring the forms to life.

For Adams, nature and wilderness were places of pure beauty; they were symbols of national identity

Figure 12.1C Ansel Adams, *The Tetons and the Snake River,* 1942, gelatin silver photograph
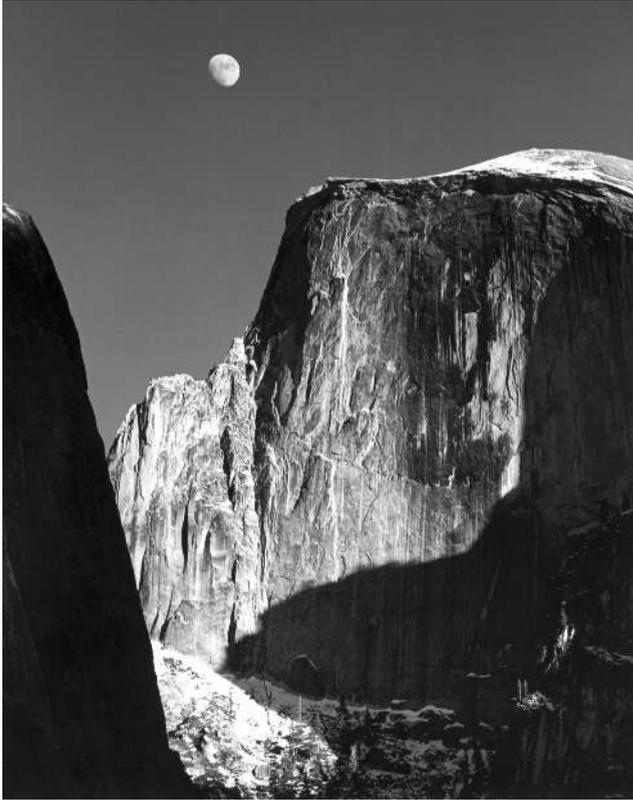
Figure 12.1D Ansel Adams, *Moon and half dome, Yosemite National Park*, 1960, gelatin silver photograph

and pride. He united the environmental movement, nationalism and a fascination with nature to promote conservation. He felt that the intimate connection humankind has with nature is spiritual, material and very meaningful. His images sought to draw out this meaning and, in revealing it, inspire people to respect and conserve the natural world.

In 1980 he was awarded the Medal of Freedom by President Carter, for being 'visionary in his efforts to preserve the country's wild and scenic areas, both on film and on Earth'.

12.2 HIROSHI SUGIMOTO

Artist and world — subjective/postmodern

Hiroshi Sugimoto is one of Japan's most renowned contemporary artists. He has exhibited widely both in Japan and internationally, and has won numerous prestigious awards and grants. Based in New York, Sugimoto also spends a lot of time in Japan and travels frequently to work on projects.

Sugimoto was born in Tokyo in 1948, where he was raised and educated. In the 2005 catalogue for his

ACTIVITIES

1. What aspects of Ansel Adams' world inspired the development of his photography?
2. How do you think Ansel Adams' landscapes could have assisted the environmentalist movement in America?
3. Paul Strand and Edward Weston influenced the development of Ansel Adams' approach to photography. Use the internet to find a photograph by either artist that demonstrates this influence. Include a copy of the work alongside a copy of one of Adams' photographs. Outline at least three similarities between the two images.
4. Imagine you are Ansel Adams and you are staying at Yosemite National Park for a few days to take a series of photographs. Complete an imaginary diary insert of your first day's events. Include what you set out to do in the morning, what equipment and materials you used, how the day's shoot went and a comment on the results you achieved.
5. Using the internet, find an early pictorialist landscape photograph by Carleton Watkins and compare it with one of Ansel Adams' photographs from this text. Include copies of both works and discuss their similarities and differences.
6. Outline how the fundamental principles of Group f.64 are revealed in Ansel Adams' *The Tetons and the Snake River*, 1942 (see figure 12.1C).

7. What do you think alien civilisations who intercepted the *Voyager* spacecraft would have learnt about our world from Ansel Adams' photograph, *The Tetons and the Snake River*, 1942 (see figure 12.1C)?
8. Search the internet to find a photograph by Ansel Adams of Japanese–Americans who were interned in the Manzanar War Relocation Center in the 1940s. Include a copy of this photograph and outline what you think Adams was trying to achieve by photographing this type of subject matter.
9. Why do you think audiences over time have responded so positively towards Ansel Adams' photographic work?
10. Ansel Adams is motivated by the aesthetic beauty of the natural world in which he lives. The structure of his photographs, their composition and use of light, as well as the design elements form the fundamental quality of each image. Select an artwork by Adams that reflects his structural (modernist) approach to image making. Analyse the artwork (use the proforma on page 159 to assist you) to provide evidence of his approach.

    Where possible, use the internet to research and view additional photographs by Ansel Adams.

mid-career retrospective exhibition, he talks candidly about his childhood and first encounters with photography. He was intensely interested in science, and when his primary school teacher invited the children to bring small objects from home for an experiment with sunlight, he was captivated as he watched his bottle opener, comb and a cicada wing form silhouettes on the light blue photosensitised paper in the sunlight. Later, he joined the model train club (for which he needed accurate pictures of real trains to work from) and, with his Mamiya camera, he traversed the city, photographing trains. In high school he joined the photography club and his passion for photography grew. However, he studied economics, not art, at Saint Paul's University in Tokyo. But, in 1970 when he graduated, he moved to Los Angeles in America to pursue his passion for art. There, he attended the Art Center College of Design, and then, in 1974, he moved to New York. In his early days in America he developed an eye for antiques, and earned his living with a successful antique business; a practice he continues.

Practice

Influences
- **Minimalism** — an art movement that started in the 1960s, usually characterised by simplicity and basic abstract or geometric shapes; often associated with repetition
- **Conceptualism** — an art movement in which the idea is more important than any other aspect of the work, particularly the craftwork and aesthetic appeal
- French-born American artist Marcel Duchamp (1887–1968), who is credited for his integral role in conceptualism and known for his involvement in the surrealist and dada movements

- Renaissance painting — a European art movement of the late 15th and 16th centuries
- **Modernism** and **postmodernism** (see pages 176 and 177)

Style
- Conceptual
- Almost always black and white
- Technically impeccable prints
- Considered composition
- Frozen, still imagery
- Images are often not what they appear to be at first glance

Themes and interest
- The nature of photography and its function in our perception of the world around us
- The notion of 'truth' or 'reality' in photography
- Culture — Eastern and Western cultural influences, from his experience of living in both Japan and America
- History
- Time
- Light
- Space

Ideas/artistic intention
- His work undermines the idea of a photographic 'truth'.
- He sets out to investigate intangible concepts like time, light and space.
- Through series, he explores relationships between inherently different things: past and present, East and West, natural and artificial, reality and fantasy, art and science, traditional and contemporary, action and stillness, life and death.
- Sugimoto challenges viewers to reconsider the way they think about particular subjects by showing them from a different perspective, or revealing the artifice, rather than presenting reality.

Figure 12.2B Hiroshi Sugimoto, *Radio City Music Hall, New York,* 1978, gelatin silver photograph

Actions/working method

- He works in series, photographing many various 'types' of the same thing.
- His series usually span several years, sometimes decades.
- Sugimoto starts with an idea or concept, and explores it through repetition in a series.
- Using a large-format camera he usually makes black and white images; with long exposures he increases visible detail, capturing the gradually changing light reflecting on or projecting from his subjects.
- He photographs existing objects or found sets.

Artwork

Hiroshi Sugimoto arrived in America in 1970, when photography was beginning to make an impact on the art world. The medium was changing shape, progressing, and becoming acknowledged and established as a fine art form. In the 1960s, photographers had begun to move away from the craft of photography. Striving to achieve technical perfection was no longer necessary; of importance was the meaning or message in the image, and photographers chose instead to shoot quickly and spontaneously rather than spend hours setting up and composing an image. The everyday and social commentary in snapshot style was popular, and photography's accessibility and function were celebrated. By the 1970s, **avant-garde** photographers were also experimenting with colour photography.

Sugimoto worked against the trend of the time, with heavy 19th-century style equipment. Using a large-format camera and a tripod he photographed in black and white, making long exposures and usually using only available light. Influenced by minimalism and conceptualism (leading artistic movements in America in the 1970s) his work is heavily ideas based, employing simple repetition. Without directing or staging his subjects, he photographs series of what he considers to be found objects or sets. The influence of Marcel Duchamp (the father of conceptualism who, in the 1920s, turned found objects into 'art', and made multiples) is evident in Sugimoto's work. Some of Sugimoto's photographs are directly inspired by Duchamp.

In 1972 Sugimoto made a series of photographs of an electric clock — time was to become central to his practice. Not only does his work invite reflection on the concept of time but most of his series also take a very long time to make, usually many years. He therefore works concurrently on several projects.

Begun in 1975, *Theatres* is a collection of photographs of wonderful Art Deco cinema interiors and drive-in movie theatres. With vast tonal range and details that you can study for hours, these spaces are very engaging. Sugimoto, however, was concentrating on the movie that was playing. With an exposure time the exact duration of the given screening, he literately photographed the entire feature film. Here, he returns the moving image (a series of still images presented at a very fast speed) to a single image. Recording an entire film in this way, however, results in a bright, white rectangle without any detail: pure light — the essence of photography. In capturing elapsed time in this way, he loses the content of the film, and the old entertainment venues (that reference another era) hang heavy with silence. The viewer is left to their imagination, projecting their own stories onto a blank, white rectangle. In his images of drive-ins, elapsed time is also expressed in the slow movement of the stars that leave white lines through the image as they move across the sky.

He also commenced his *Dioramas* project in 1975, continuing this series for over 20 years. Including photographs of animals, birds, life under the sea and scenes of early humans, most of these images look like standard wildlife photography. At first glance the subjects appear real, but there is something odd about them, they appear too frozen, too composed and too detailed. The images are so clean, clear and crisp, that the actual clarity of the photograph infers the photographer has been close up, and used a large-format camera and long exposure time (and thus photographed very still subjects). There is no blur at all, something we are accustomed to seeing in images of wild animals. Images of Neanderthals confirm that these photographs have been made in a natural history museum. It is what we know about photography and about the world that indicates the **deception**. Sugimoto, however, does not want to trick his audience; he highlights photography's role in classifying things in the world, putting them into categories and labelling them; altering our perception. Imitating documentary photography, he makes a copy (the photograph) of a copy (the diorama) of life.

His series *Portraits* (1999) operates in a similar way, Sugimoto made these images of famous historical figures in wax museums. Many of the historical figures have been constructed from paintings made by Renaissance artists. Sugimoto studied the lighting techniques used by 16th-century painters from which the wax figures were modelled. Placing himself in the position of the painter, he then adds another layer to his reproduction. He makes a

replica (photograph) of a replica (wax model) of a replica (original painting) of the subject. His work traces a course of time across several layers of history, capturing images of people who lived before film was invented.

He creates a likeness of our 'idea' of the figure, as we imagine it to be, rather than a portrait of the person. In light of her tragic death, his image of Princess Diana (one of the most idealised figures of our time) is both haunting and compelling. Chased by paparazzi at the time, it has been suggested that our obsession with her (and thirst for images of her) contributed to her death. Although his images look real, and the prints are life-size, Sugimoto's photographs **refute** the modernist idea that the camera records a picture of something exactly as it is.

Figure 12.2C   Hiroshi Sugimoto, *Diana, Princess of Wales,* 1999, gelatin silver photograph

In 2005, in an interview with Hino Naohiko, published in the magazine *Art iT* (vol. 3, no. 4), Sugimoto talks of how ideas for his work usually evolve from a question he poses. *Seascapes* developed from the question: 'Is it possible to recreate today the ocean as it was when the ancients saw it?' he explains. Sugimoto travels the world, recording the union of sea and sky for this ongoing project, begun in 1980. His representations are either divided in two at the horizon, forming two neat rectangles, or presented as one hazy block, when the sea and sky merge as one in a mist. Each picture is defined by the way the light falls on the water, or is reflected from it. Only the titles reveal that the images have been made at different ends of the globe. The serenity, water and sky remain constant and perhaps have always looked the same through all time.

In 1997 he started to make images of iconic 20th-century buildings from all over the world.

Entitled, *Architecture* (1997–2002), this series of modernist constructions is photographed in an anti-modernist way. Reversing his usual sharp-focus style, these images have short exposure times and are pushed out of focus. Real buildings appear unreal; they look like photographs of models or toy buildings. Bold blocks of shape with clean, straight lines and hard edges (modernist constructions) are rendered soft and fuzzy by Sugimoto's camera.

Figure 12.2D   Hiroshi Sugimoto, *S.C. Johnson Building*, 2001, gelatin silver photograph

The images suggest an idea of a building; an architect's vision before the building is built, or the memory of a building after it is destroyed. This feeling is particularly evident in Sugimoto's image of the Twin Towers of the World Trade Center, in the United States.

Sugimoto documents people who are not there, he makes impressive buildings look like toys and photographs films that vanish. He explores the very idea of reality, and the ability that photography has to manipulate the way we perceive it.

More recently, his art practice has diversified, and he has worked across a range of media and disciplines. For example, in 2002 he designed and built a Shinto shrine (a traditional Japanese place of worship and a dwelling for gods). In *Colors of shadow* (2004–05) he made colour photographs of interiors that have virtually no colour. And, for an exhibition in 2007, he photographed contemporary Japanese fashion **reminiscent** of sculpture, with its unique shape and form.

12.3 LORETTA LUX

Artist and world — cultural/subjective

Loretta Lux was born in 1969 in Dresden and grew up in Soviet-occupied East Germany. This was a communist society, monitored by the *Stasi* (secret police). In 1989, a few months before the Berlin Wall came down (allowing East and West Germans to unite), Lux moved to Munich. From 1990 to 1996, she studied painting at the Academy of Visual Arts, but did not start experimenting with photo-based art until 1999. Her first photo works were self-portraits, which look remarkably like grown-up versions of the images of children she began making soon after.

In *The hush* (1999), Lux presents herself immaculately groomed in front of a wall of old-fashioned children's illustrations. With a finger to her lips she silences the audience, indicating the secrecy of the world she inhabits, into which she will allow the viewer a glimpse. She is secretive about her personal identity and life, as well as her practice. In 2000, on the eve of her first show in Germany, she changed her name to Loretta Lux. She does not like to tell an audience how to read her work, nor does she disclose the techniques she uses to create the resulting surreal images of the secret worlds of children.

In 2004, Lux had her first solo show in America, represented by the Yossi Milo Gallery in New York. The widely acclaimed exhibition was a huge success, with her works selling at very high prices for an emerging photographic artist. In 2005 she won the Infinity Award for Art from the International Center for Photography in New York.

Practice

Influences
- As a child she lived with her grandparents, who took her to museums and art galleries where she first saw the works of old masters (European painters who worked before and up to the early 1800s). Some of these became very influential on her practice including: Pinturicchio (1454–1513, Italian), Agnolo Bronzino (1503–72, Italian), Diego Velázquez (1599–1660, Spanish), Francisco José de Goya y Lucientes (1746–1828, Spanish), Caspar David Friedrich (1774–1840, German) and Philipp Otto Runge (1777–1810, German).
- Her training as a painter has also been an influence on her photo-based practice.

Style
- Colour photographs (usually in soft pastel tones)
- Hyperreal and slightly surreal
- Unusual lighting, without shadows in the image
- Her images are composed and enhanced on the computer using digital manipulation software such as Photoshop.
- The images have a particular strangeness. The children in her images seem to be transfixed on something just beyond the viewer's vision. They are lost in their own world; a world to which the audience has no access.
- Often, the size of the head or facial features of the children are ever so slightly out of proportion with the rest of the body.

Themes and interest
- Photographs children almost exclusively
- The innocence and secret world of a child
- The 'idea' of childhood (something everyone will experience, then lose as they grow up)

Ideas/artistic intention
- She creates a vision of childhood for the viewer to project onto and reflect on their childhood.
- She presents the world of a child as a magical, mysterious and sometimes scary place. She intentionally creates very **ambiguous** images, enticing viewers to use their imagination.

- Lux invites reflection on what it means to be a child, as well as adult nostalgia for times past. Childhood, for Lux, is a symbol for paradise lost. Something we have all experienced, but only for a short time before that innocence is gone and there is no way of getting it back.
- Her images also have a strong psychological effect on an audience: while they compel viewers to study the details of a picture, the current climate and debate around images of children questions this inquisitive response. The images can make viewers feel uneasy and invite contemplation about contemporary fascination with youth.

Actions/working method

- Carefully selecting her tiny models, props and retro clothing, Lux photographs the children of friends against a plain white wall in her studio. She then scans the images and reworks them on the computer. Using software programs, she places the children in scenes from other photographs or her paintings.
- Lux controls every single aspect of the picture. Everything is completely staged, directed, manipulated, retouched and enhanced.
- She makes very few images each year, as her images take several months to complete.
- In a similar way to a painting on a canvas, her images are created with Photoshop 'tools' and 'brushes' on a computer.

- Her final images are presented as small Ilfochrome prints in limited-edition sizes (from one digital file she makes only a small, specified number of prints).

Artwork

Loretta Lux photographs the sons and daughters of friends and, although she says the children are recognisable, the images are not meant to be portraits. They reveal nothing about the individuals; instead, they represent the idea of childhood in general. The images draw both on classical painting and contemporary studio portraiture of children, as well as the latest digital technology processes in photography. The children seem both naïve and mature, they appear odd but it is hard to detect in what way. They are photographed in a studio against a white backdrop, the scanned images are then manipulated using computer programs. The proportions of the children are ever so slightly altered, reworked and enhanced, then digitally inserted into various settings (photographs Lux has made on her travels, or her own paintings). The clothes are not the children's own, instead they are carefully selected from remnants of Lux's own childhood or secondhand stores; they are often slightly too big or a little small and mostly reminiscent of another era. Although some of them look distinctly 1960s or 1970s in style, because retro clothing is constantly coming back into fashion it is difficult to place these children in a particular era. They seem timeless, so incredibly real, and at the same time slightly surreal. Bathed in light, they cast no shadows, and never do they smile or laugh. Stark backgrounds, empty rooms and barren landscapes place these children in a time warp. The children in Lux's images disregard the viewer, lost in thought, occupied with something the audience can't grasp or see — a child's world that adults have no access to.

In the corner of an empty room, with wooden floorboards and dirty walls, a small girl with her hair tied into two, tight, neat, blonde buns, stands with one hand clutching her shoulder (see figure 12.3B). She looks worried or upset, staring intently at something beyond the

Figure 12.3B
Loretta Lux
Hidden rooms 2, 2001
Ilfochrome print
© Loretta Lux, Courtesy Yossi Milo Gallery, New York and Torch Gallery, Amsterdam

Figure 12.3C
Loretta Lux
The walk, 2004
Ilfochrome print
© Loretta Lux, Courtesy Yossi Milo Gallery, New York
and Torch Gallery, Amsterdam

viewer's vision. She is dressed in a neat dress of aqua, orange and white checks that could possibly be a school uniform. Around each of her ankles are the impressions of tight bands, a sign that she has just taken off her shoes and socks. **Menacingly**, shattered glass is strewn across the floor behind her and one cannot help wondering if she has just broken something and is expecting to be scolded, or if she is the child of neglectful parents. Like an illustration from the scary fairy tales of the Brothers Grimm, perhaps this little girl has been locked in a room by a nasty stepmother or witch. A story starts to unfold in the mind of the viewer: why is she holding her shoulder, and how was the glass broken? Perhaps Lux imagined these images when she was read stories as a young child, or they could be **autobiographical**, representing events that she remembers from her own childhood.

The walk (2004) features two Asian girls, obviously sisters, with matching hairstyles and buttoned-up coats. They walk along a country path in perfectly coordinated steps, with buckled-up shoes that seem too big for them. Their heads also appear large on their small bodies and they seem to carry the weight of the world on their shoulders, with their serious expressions and mature faces. They might be sad or perhaps just **contemplative**; they do not allow the viewer to read their minds or enter their world — they have each other. The younger sister's pastel-blue coat is stained and dirty, indicating that perhaps times have been tough. Perhaps, like the storybook characters Hansel and Gretel, their parents have abandoned them and they are following a path to try to get home, or maybe they have run away. One of them carries a white handkerchief, but we do not know if it is to dry tears, or is a sign of surrender.

These perfectly composed, mysterious and surreal scenes, in soft pastel tones, are instantly compelling, occasionally sinister and often perplexing. Lux chooses titles that do not reveal too much and she refuses to give

version of Lux's *Study of a girl 1* and *2* (2002). It is difficult to determine the sex of this child, with its cherub-like face, piercing blue eyes and flawless, porcelain skin. It is somehow strange, and yet the **stereotype** of a perfect child. One thing is

away information about the images. Nevertheless, events begin to unfold, as you look at the details. Lux wants her audience to read their own version of the scenario into each picture. Later images such as *The green room* (2005), *Hugo and Dylan 2* (2006) and *The dove* (2006) have even more of a **narrative** sway, as Lux includes more elements and props suggesting interaction and events for the viewer to speculate on.

Unlike most of the other children in her photographs, the child in *The drummer* (2004) stares defiantly at the viewer, arms raised, drumsticks clenched tightly in fists about to break the silence with a beat. This is probably Lux's most well-known image. It has graced the covers of several magazines and the National Gallery of Victoria purchased it for their collection in 2006.

The child has been referred to as a 'drummer boy' (figure 12.3D), but also looks remarkably like an older

certain though, this astonishingly beautiful child, with its angelic appearance, will grow up and be forced to take on the responsibilities of the adult world and learn of its atrocities and hardships. The simplicity of the child's current existence, seated at a well-loved table, in a room with softly striped wallpaper will come to an end; it is as if the drum roll we anticipate signals the next chapter in life. Lux's images invite reflection on Western society's obsession with youth, attracting both critics and admirers. Her aesthetically appealing images are intriguing. The child's world that she invites the viewer to see, but forbids them to enter, is a nostalgic reminder of a lost past. A clever combination of considered composition, graphic design, classical painting and photography, all seamlessly stitched together digitally, has earned Lux not only a fortune for her sell-out shows, but also, in a short timeframe, a rapid rise to stardom in the competitive art world.

1. What do you think Loretta Lux is attempting to communicate about her own childhood in her photographic self-portrait *The hush*, 1999 (see figure 12.3A, page 199)?

2. Outline how Loretta Lux went about creating *Hidden rooms 2*, 2001 (see figure 12.3B, page 200). Discuss how she may have accessed, dressed and photographed her model, where the background of the image came from, and the materials and techniques she may have used.

3. Loretta Lux's artworks are open to interpretation. It is up to the viewer to construct their own meaning. Using all the clues provided, create your own interpretation of *Hidden rooms 2,* 2001 (see figure 12.3B, page 259). Once complete, compare your interpretation with those of other class members.

4. Outline the symbols used by Loretta Lux to assist her audience in interpreting her photographic artwork *The walk,* 2004 (see figure 12.3C).

5. Discuss how Loretta Lux has used composition and design elements to help establish atmosphere and mood within her photographs of children. Use the proforma on page 259 to assist you.

6. What do you think Loretta Lux is attempting to communicate about her world in her photographic images of children?

7. Why do you think audiences respond so well to Loretta Lux's images of children?

8. It is our culture to celebrate youth and, through her artworks, Loretta Lux acts as a social agent, bringing into question adult **nostalgia** for times past. Her photographs ignite our memories and allow us to reflect on our own childhood experiences. Select an artwork by Lux to analyse (use the proforma on page 159 to assist you) and use your analysis to provide evidence that her work is a reflection of the culture in which it was made.

Where possible, use the internet to look up and view additional photographs by Loretta Lux. Login to www.jacplus.com.au to locate the weblinks for this chapter.

12.4 MAX DUPAIN

Artist and world — structural/cultural

Max Dupain was born in Sydney in 1911 and lived there his entire life, photographing the city from the late 1920s until just before his death in 1992. He is one of the country's most revered photographers. Technically and critically acclaimed, his images are included in the collections of most major state and public galleries in Australia. Dupain was given his first Box Brownie camera in 1924 when he was 13; four years later he won the Carter memorial prize for 'productive use of spare time'. He attended Sydney Grammar School, then trained briefly at Julian Ashton Art School and East Sydney Technical College, and also joined the Photographic Society of New South Wales. After studying, he worked for Cecil Bostock at a leading commercial photography studio in Sydney, learning studio-lighting skills, large-format camera usage and the technical skills required for developing negatives and making prints. At that time photographers could not afford to specialise in a particular area of photography, it was essential to photograph everything with expertise. Assignments ranged from product photography to high-end fashion, and Dupain gained a versatile approach to his practice.

In 1934, Dupain opened his own photographic studio. Olive Cotton, who had shared an interest in photography with him since their teens, joined him there as an assistant. They married in 1939, and although they divorced not long after, they continued to operate the studio together. During World War 2, Dupain served in the Royal Australian Air Force (RAAF) and Cotton managed the studio during his absence. Cotton became a well-known Australian photographer in her own right. Dupain re-married and had a daughter, Danina, and a son, Rex, who followed in his father's footsteps, establishing a successful photographic career.

Figure 12.4A
Olive Cotton
Portrait of Max Dupain, 1938
Gelatin silver photograph
gelatin silver matt; image 25.2 × 20.2 cm on sheet 29.2 × 24.8 cm
© Josef Lebovic Gallery

Practice

Influences

- George Dupain (1881–1959), Max's father, who was dedicated to physical education, fitness, diet, health and wellbeing
- World War 2
- The industrial age
- **Modernism** (see page 176)
- Surrealism, and particularly the artist Man Ray
- The **Bauhaus** movement, promoting rational and functional design
- The 'Neue Sachlichkeit' (**new objectivity**) movement, promoting realist art
- The photographic revolution in Europe and America, discovered through books and journals, as well as established European photographers who migrated to Australia (for example, Wolfgang Sievers)

Style

- Dramatic light
- Sharp focus
- Capturing spontaneous moments (glimpses of daily life)
- Unusual angles
- Heroic imagery
- Simple modernist form and light
- Emphasis on geometric shapes, patterns and design

Themes and interest

- Australia and Australians
- Sydney
- Landscapes, streetscapes and cityscapes
- Beach culture
- Portraits
- Nudes
- Still life
- Architecture

Ideas/artistic intention

- His early work was a reaction against the pictorial tradition (a soft-focus, **picturesque** photographic style that attempted to look like painting). Dupain promoted 'new photography', which had developed from other visual movements following World War 1.
- He aimed to make **provocative** images that were reflective of the modern age of machines and industry, and the changing face of Australian society and culture.
- Rejecting staged or directed photography to capture spontaneous moments, he photographed people absorbed in ordinary activities, and everyday objects.
- He loved the 'Australian way of life' and made heroic, nationalistic images promoting an Australian identity.
- He aimed to stimulate thought with his photography rather than merely entertain or amuse.

Actions/working method

- Constantly working throughout his life, Dupain made a **prolific** number of images.
- Working almost exclusively in black and white, he considered colour photography to be restrictive, providing too much information and leaving little room for interpretation.
- He was interested in the potential of photography and experimented with many varied technical applications (for example, incorporating several images to make a single print, montage, solarisation and negative manipulation). The entire process was important, from

Figure 12.4B
Max Dupain
Bondi, 1939
Gelatin silver photograph
30.4 × 29.6 cm
© The Max Dupain Exhibition Negative Archive

the moment of releasing the shutter, to the craft involved in developing the film and printing the photograph.
- He used dramatic, harsh lighting — often bright, natural sunlight.
- Versatility was one of his best attributes; he was trained to photograph a vast array of subject matter.

Artwork

Max Dupain photographed the Australian environment and its social and cultural content. His practice encompassed almost all photographic genres, including portraiture, the nude, still life, architecture, landscape (streetscape, cityscape) and documentary. He is most famous for his personal work celebrating Australian identity, particularly beach culture, including iconic images such as *Sunbaker*, 1937 (see figure 11.3A, page 184), *Bondi*, 1939 (see figure 12.4B) and *At Newport* (1952).

Bondi is taken from below (a worm's-eye view), a perspective which raises the figures to heroic proportions. The viewer looks up at them; two, bronzed, monumental 'Aussies' drenched in light, the sunshine literally glowing on their tanned skin. They look out to sea, ready to 'battle' the surf. The image is livened with humour, as Dupain records the split-second (now immortalised) when the woman adjusts her bathing-costume around her bottom.

Dupain rejected soft-focus, **pictorialist** photography (popular in the early part of the 1900s) as too picturesque and **nostalgic** to capture the modern pace of life. Incorporating European formalism and innovation with Australian culture, he pioneered the 'new photography' movement in Australia (characterised by clean lines, sharp focus and extreme perspectives such as close-ups and worm's-eye or bird's-eye views) that stemmed from the influence of international developments in the visual arts following World War 1. By 1935 Dupain was recognised as Australia's leading modern photographer.

Dupain was an avid reader and he learned about **surrealism** and European photography through international publications. He was particularly influenced by the work of Man Ray, an American-born (often French-based) surrealist photographer, whose style and techniques were fashionable. Adopting the expressiveness of the surrealists, Dupain experimented with combining unrelated objects to achieve poetic or theatrical effects. The formal aspects of the Bauhaus movement (promoting simplified rational and functional forms) also impressed Dupain, and both movements influenced his aesthetic.

Impassioned clay (1936) uses montage to bring together an eroded shell, and a female figure. The soft curves of the shell blend into the woman's body, her perfect, pale skin becomes one with the curved, white surface of the shell. In the 1930s, full photographic nudes were uncommon
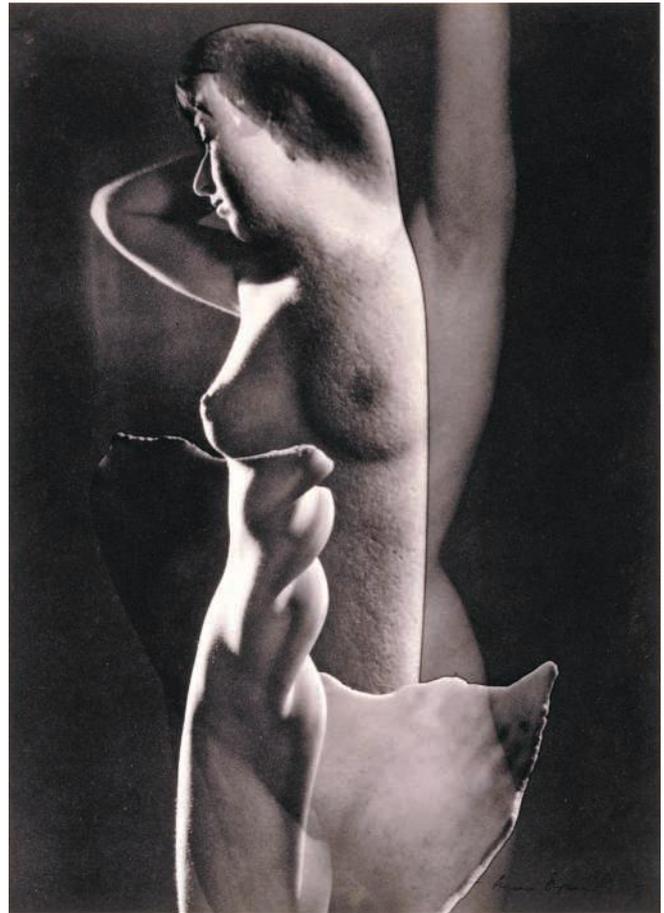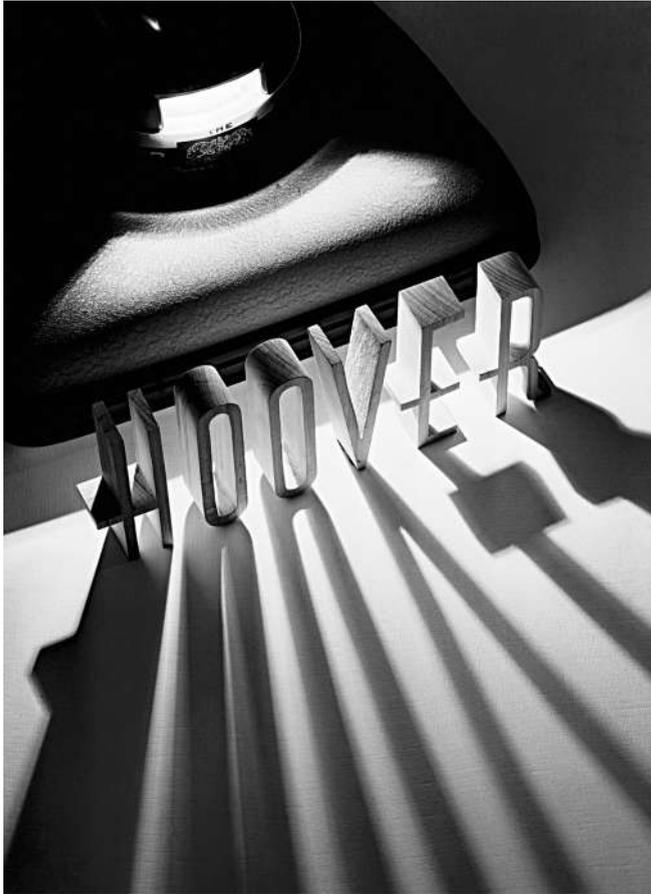

Figure 12.4C
Max Dupain
Impassioned clay, 1936
Gelatin silver photograph, 46.1 × 32.6 cm
Purchased 1976
Collection: Art Gallery of New South Wales

in Australia. Dupain photographed both male and female nudes; he was one of the first Australian photographers to work with figure studies and nudes as a serious genre. He was fascinated with the human form, its vigour and vitality, and often depicted the ideal body. His interest in physicality probably stemmed from his father, who was devoted to physical education, diet, fitness and health.

Dupain's most famous body, *Sunbaker* (see figure 11.3A, page 184), was made in 1937, but it was not until the 1970s that the image gained attention. It was included in a retrospective of Dupain's work in 1975 at the Australian Centre for Photography (ACP) in Sydney and then purchased by the National Gallery of Australia (NGA). Close up, and taken from a worm's-eye view, *Sunbaker* was photographed at Culburra Beach near Jervis Bay. The foreground of the image is filled with sand, while the monumental, heroic, bronzed man is centred, basking in the sun. Still dripping with water from 'riding' the waves, he dominates his environment, the huge sky above and the warm sand below. His athletic frame is foreshortened and presented as a solid shape.

Throughout his career Dupain worked primarily as a commercial photographer for advertising and industrial organisations. Using simple, clean lines, patterns and geometric shapes he introduced a modernist aesthetic to middle-class Australians through his editorial work for mainstream print media. His photographic assignments and commissions were a major part of his practice from 1930 to 1970 and reflect his artistic aesthetic and ideas. A number of images from his commercial engagements have since been purchased for state art collections; for example, *Advertisement for Hoover* (1937), owned by the National Gallery of Australia in Canberra.

Figure 12.4D
Plate 7
Max Dupain, 1911–1992, Australia
Advertisement for Hoover, 1937
Gelatin silver photograph
35 × 25 cm
© The Max Dupain Exhibition Negative Archive

During the war Dupain served with the Royal Australian Air Force (RAAF), working in a camouflage unit in Darwin and Papua New Guinea (one of his few departures from Australia) until he was transferred to the Department of Information (1945–1947). Documentary photography had sparked Dupain's interest, and the opportunity to explore its philosophy (that art should inspire social awareness) arrived with this transfer. He was required to travel the country taking photographs to promote Australian life at the climax of the war. Assignments ranged from 'women at work' to 'queuing for rations'.

Compressed into a shallow space, a line of sullen figures, almost all dressed in black, extends through Dupain's photograph *Meat queue* (1946). Two women at each edge of the photograph, who look out from the queue, frame the image. It is perfectly balanced by a central figure in a lighter-coloured coat disturbing the queue and seemingly upsetting the woman in front. The sign above their heads, reading 'Meat coupon scale', indicates their objective — food rations. The women appear in place of the carcasses that ought to be dangling from the meat hooks above their heads. The expressions on their faces convey the hardships of post-war Australia.

Inspired by the philosophies of John Grierson, who had recently coined the term 'documentary', as well as American photographers who were depicting the Great Depression, Dupain **advocated** the documentary movement in Australia. A book of documentary work by Dupain, entitled *Photographs,* was published in 1948, in which Dupain states:

> modern photography must do more than entertain, it must incite thought and, by its clear statements of actuality, cultivate a sympathetic understanding of men and women and the life they create and live.

After World War 2, Dupain became intensely interested in architecture, and started photographing the works of influential architects. Although new consumerism in the 1950s caused a demand for advertising and promotional photography, truth was now integral to Dupain's practice and emphasis was placed on spontaneous personal recordings. In response to the influence of the documentary movement, he began to move away from superficial commercial work, accepting industrial and architectural commissions. He photographed modern architecture and everyday objects, accurately recording detail with a simple matter-of-factness.

With strong lines, geometrical shapes and a reflection on technology and the machine age, the realist aspects of the *Neue Sachlichkeit* (new objectivity) movement and the simple rationality of the Bauhaus style are evident in a great deal of his architectural and industrial photography. At the crossroads of science and art, the camera was recognised as an ideal tool for the machine age, capturing modern life and industry. In harsh Australian sunlight, Dupain photographed built constructions. Throughout his career, light was a crucial tool for Dupain, its strength and position critical to each image. Light and shade portrayed form and movement; dramatic light emphasised shape and structure, created drama, revealed surface and texture, and gave warmth to an image.

Construction of architect Jørn Utzon's famous Sydney Opera House began in 1959, and Dupain dedicated himself to documenting the process for well over a decade. In 1978, he left Australia again, and spent three weeks

Figure 12.4E
Max Dupain
Meat queue,
1946, Sydney
Gelatin silver photograph
46.0 × 65.5 cm
(image & sheet)
© The Max Dupain Exhibition
Negative Archive

in Paris photographing the Australian Embassy designed by architect Harry Seidler. Dupain's architectural work enhanced and promoted the built form, often with the added documentary appeal of the construction process and building workers. In later years, however, his images gradually became devoid of people and even more formal.

Dupain was awarded an Order of the British Empire (OBE) in 1982, and from 1984 to 1988 he reviewed photography for the *Sydney Morning Herald*. He continued making photographs until just before his death, and is today celebrated for pioneering an Australian photographic style that influenced and inspired many of his successors.

ACTIVITIES

1. What do Max Dupain's images tell us about the world in which he lived?

2. Find a piece of Australian music or poetry from the 1930s or 1940s that reflects an equivalent view of the Australian way of life as Dupain's photographs. Discuss the similarities.

3. What do you think post-war European migrants would have learnt about Australia by looking at Max Dupain's photographs? Provide examples to help clarify points made.

4. What materials and techniques do you think Dupain has used in creating *Impassioned clay*, 1936? (See figure 12.4C and refer to section 2.5 (pages 50–7) to assist you.)

5. Discuss Dupain's use of composition and the design elements in his 1939 photograph, *Bondi* (see figure 12.4B). Use the proforma on page 259 to assist you.

6. Compare *Advertisement for Hoover* (1937) by Dupain (see figure 12.4D) with a contemporary photograph advertising a domestic product (include copies of both images). Discuss the similarities and differences in style and artistic intention (ideas).

7. Look closely at Dupain's *Meat queue,* 1946 (see figure 12.4E) and discuss how this image captures the change in Australian identity after World War 2.

8. Search the internet for an example of Max Dupain's architectural photographs (for example, the Sydney Opera House under construction). Select one image and discuss how Dupain has used light, composition and design elements to enhance the quality of the photograph. Use the proforma on page 259 to assist you.

9. Why do you think Max Dupain is considered such an important Australian photographer?

10. Max Dupain's photographs are considered to be a true reflection of the Australian way of life in the 1930s and 1940s. Select an artwork by Dupain to analyse (use the proforma on page 159 to assist you) and use your analysis to provide evidence that his work is a consequence of the culture in which he lived and worked.

Where possible, use the internet to look up and view additional photographs by Max Dupain.

12.5 ANNE ZAHALKA

Artist and world — cultural/postmodern

Anne Zahalka is one of Australia's most highly regarded artists in photo-media. She has exhibited extensively both nationally and internationally, and has produced many iconic images. Born in 1957 to a Jewish Viennese mother and a Catholic Czech father, who migrated to Sydney; identity, multiculturalism and representation were to become important themes in her practice. She commenced studying art in 1976, and completed her Master of Fine Arts at the University of New South Wales, College of Fine Arts, in 1994.

Figure 12.5A
Anne Zahalka
Artist #33 (Anne Zahalka), 1990
Type C photograph 87.0 × 85.0 cm
Roslyn Oxley9 Gallery

Zahalka started making photographs and participating in exhibitions in the 1970s. It was an exciting time to embark on a future in photo-media, as photography was finally gaining status in Australia as a legitimate art form. Diverse work by talented Australian photographers was being produced, achieving international recognition for Australian photography. The 1960s had been a transitional period, as photography of a more everyday, personal nature gradually emerged — previously photography had been used mostly for commercial ventures, such as advertising, high fashion and photojournalism.

Practice

Influences
- Jewish Viennese and Catholic Czech cultural heritage
- Growing up in Australia at a time when immigration was expanding and including many new and diverse cultural groups
- The question of Australian identity post 1980
- Changing attitudes to cultural and gender stereotypes
- The **postmodernist** movement and the shift towards encouraging a more creative, personal and innovative use of photo-media (see page 177)
- Art styles of the past; in particular, 17th-century Dutch painting

Style
- Artworks reflect a variety of styles and aesthetics
- Experimenting with a range of techniques and approaches and reinventing her style
- Interested in photographic theatre and appropriation, as well as documentary photography

Themes and interest
- Identity and representation
- Gender and stereotypes
- Photographic postmodernism/**appropriation**
- Suburbia and interiors
- Multiculturalism
- The deception of appearances

Ideas/artistic intention
- Working in the 1980s, Zahalka, like many other photographic artists, was not interested in 'capturing the decisive moment'. She moved her camera from the street into the studio and 'directed' her subjects.
- Zahalka aims to challenge and undermine accepted ideas. Applying principles from art history, and using recognised signs, symbols and imagery, she often appropriates or re-stages existing artworks so her audience will recognise the work, but see it in a new light.
- Zahalka uses irony and humour to expose contradictions and show how the way the image is presented can dictate what the audience should think or feel.
- Her constructed scenes are presented as façades and are not meant to appear real. They invite the viewer to reflect on and question what images (and media) tell us about ourselves and the world we live in.
- For her documentary work, Zahalka's choice of subject matter is primarily the many and varied leisure activities Australians enjoy. Exploring the multi-million dollar industry leisure has become, she highlights the environmental impact that the way we live our lives might have on our world.

Actions/working method
- Initially working with medium-format colour positive film and experimenting with camera and darkroom trickery,

Zahalka printed her early images as large **Cibachrome** photographs (high-gloss paper). Later, she created digitally manipulated photographic artworks, enhancing colours and including objects that could not co-exist logically in an environment.

- Works are often staged and constructed. She uses friends, family and acquaintances to pose for her artworks.
- Photographic works are created in series rather than as individual isolated images.
- Her process starts with the conceptual idea, using the photographic medium to create an image to communicate her message.

Artwork

Zahalka's first major body of work evolved in 1986, when she was awarded a residency in Berlin, Germany. A number of residencies have been very important to Zahalka's practice, especially this one, which was a turning point in her career and provided a platform for research and development as an artist. She initiated new ideas and methods of working that resulted in a series that would later be exhibited in several defining Australian photographic surveys, and purchased by many of the state galleries. *Resemblance* (1987) is a direct **homage** to 17th-century Dutch painting, evoking the style and conventions of genre paintings by Jan (or Johannes) Vermeer, in particular, but others also. Zahalka enlists the active participation of viewers to decode the meanings

Figure 12.5B Johannes Vermeer
Woman writing a letter, with her maid, c. 1670
Courtesy of the National Gallery of Ireland
Photo © National Gallery of Ireland

Figure 12.5C
Anne Zahalka
*The cleaner (Marianne Redpath/
performance artist),* 1987
Cibachrome photograph
80 × 80 cm
Edition of 20
Roslyn Oxley9 Gallery

and messages of her photographic **replicas** which, like their predecessors, are rich in symbolism and detail. Seventeenth-century Dutch painting has been a major influence on Zahalka's photographic practice. Vermeer is thought to have used some kind of primitive camera to achieve an almost photographic accuracy in his painting. He probably used a *camera obscura* that projected or reflected an image onto a two-dimensional surface. Vermeer rendered paintings like photographs.

These three months in Europe offered Zahalka the opportunity to see some of the paintings she had previously admired only in reproduction. The flea markets in Germany provided the props, and she constantly rearranged her new studio, making photographs that resembled these paintings.

Zahalka drew on the **aesthetic** conventions of these paintings, creating interiors that utilised light, colour and space in a similar way. The viewer often looks into a room though an open door, or thick curtain pulled back to reveal the private world of the sitter amidst the equipment of their trade. In some images, a fake black and white tiled floor (as appears in many of Vermeer's works) was installed over wooden floorboards, and still lifes (bowls laden with fruit and vegetables and/or fish and bread) were arranged on tables. Several of Zahalka's photographs include 17th-century Dutch paintings hung on a wall. Everything is carefully arranged, the pictorial space is

a theatre in which the sitters play their part in a controlled environment.

Friends posed as her subjects, and each image is laden with symbolism and meaning. Some symbols are common to those in the original paintings; for example, a half-peeled lemon with the rind dangling in a spiral from a table is a popular still-life motif employed to indicate the deception of appearances (beautiful to look at, and yet sour to taste) — it can be found in a number of the images in the *Resemblance* series.

Zahalka includes elements in each image of her *Resemblance* series that on closer inspection expose the deception of the portraits. Upon initial viewing, *The cleaner (Marianne Redpath/performance artist)* (1987) appears to be from another era. On the table, next to the traditional still life (bowl of fruit), lies a plate of sliced kiwi fruit (Zahalka's clue to identify the sitter's origin — New Zealand), which would never have featured in a 17th-century Dutch painting. This cleaner also has a set of headphones resting around her neck, plugged into a walkman clipped on her hip. She is now clearly a 20th-century woman. In each of these images there is a contemporary element amid the period props. These incompatible inclusions are not intended as jokes; they define the distance that separates past and present, and acknowledge the influence the former undoubtedly has on the latter.

Figure 12.5D
Anne Zahalka
*The girls #2,
Cronulla Beach*, 2007
Type C photograph
74.0 × 90.0 cm
Roslyn Oxley9 Gallery

In 1989 Zahalka was awarded a residency at the Bondi Pavilion Community Centre to make photographs at one of Australia's most celebrated and idealised sites — the beach. *Bondi: playground of the Pacific* includes a number of images with generic titles: *The bathers, The lifesavers, The surfers, The tourists, The girl, The sunbather #2 (see* figure 11.5B, page 187). With affection and humour, rather than mockery, each image pokes fun at a 'type'. The lifesavers wear twee, striped swimming costumes, 1950s-style; the surfers are not blond, bronzed Aussies, they are slightly uncomfortable Japanese males; and Zahalka did not photograph them on the beach. She lugged tonnes of sand just metres from it, built a set and photographed her subjects in front of an obviously painted backdrop of sky, sea and sand. These props demonstrate to her audience that she is working in the realm of ideas, not the real world. This series addresses Australian culture, cultural rituals and social constructs, highlighting the non-inclusive notion of an 'Aussie' so actively promoted in the modernist era; she questions the 'ideal' these popular historical images encourage. One image she created in this series has become so well recognised it rivals the popularity of the original image it mimics. *The sunbather #2*, 1989 (see figure 11.5B, page 187) is a re-staging of Max Dupain's *Sunbaker* (1937), a nostalgic black and white photograph reflecting a **romantic** view of the past (see figure 11.3A, page 184).

Zahalka returned to the contested site of the Australian beach following the violence of the 2006 Cronulla riots to re-examine the dynamics of **stereotypes**, and the racism that existed there, and made a follow-up series, *Scenes from the shire* (2007). Soon after the riots, men and women from the Lebanese community were being recruited into the Cronulla lifesaving club; Zahalka seized

the opportunity to make a new body of work. She was introduced to Aheda Zanetti, a young Muslim woman who had just launched a range of modest women's swimwear. The burquini, a play on the words bikini and burqa (sometimes spelt 'burka'), provides head-to-toe coverage. Made from Lycra, printed in bright colours and with motifs common on popular swimmers, they look very contemporary. *The girls #2, Cronulla Beach*, 2007 (see figure 12.5D) depicts three young Muslim women, dressed in their burquinis staring directly at the viewer. Legs astride and arms crossed; shifting gender roles, they seem to parody the machoism associated with the stereotypical male lifesaver, as they guard their right to a place on the beach.

Wild life (2006) is the title of a series of Zahalka's photographs of **dioramas** (life-size museum exhibits of animals or birds in natural surroundings with painted backgrounds). At first glance they appear to be authentic images (of animals living in the wild) that one might see in a holiday brochure advertising adventure and idealised wildlife. Faded, deteriorating painted backdrops, and stunned stares on the faces of stuffed animals soon expose the photographer's location: a natural history museum. Zahalka provides other clues to reveal the deception; like her *Resemblance* series, these works all have odd elements included, disturbing the viewer's 'journey' into this serene and idyllic wilderness. By subtly inserting objects into the image that shouldn't be there, Zahalka unsettles the audience bringing them to question what it is they are viewing. A **replica** of a replica, each image is a copy of an environment constructed to represent a 'real' environment. Unrelenting consumerism demands the sacrifice of the real experience for a simulated one. Zahalka thus highlights our complicity in the destruction of the natural environment.

Throughout her practice Zahalka has consistently explored the nature of image making, its relationship to the world around us, and the ability images have to command, distort or deny the truth. Using a vast range of popular imagery from both the past and the present, she explores identity, gender, ethnicity, representation, consumerism and the fabric of Australian culture. She frequently applies humour to demonstrate photography's tendency to label and define an individual, the world we live in and our relationship to it.

Figure 12.5E
Anne Zahalka
Alpine scene, 2006
Type C print on Ilfaflex paper
80 × 80 cm
Edition of 10 + 2 A/Ps
Roslyn Oxley9 Gallery

1. Print out a copy of Anne Zahalka's *The cleaner (Marianne Redpath/performance artist)*, 1987 (see figure 12.5C). Use arrows and texts to point out the references that she has made to 17th-century Dutch painting. Use the internet to find another artwork from her *Resemblance* series and once again include a print-out of the artwork and highlight the references to 17th-century Dutch painting. Although these works appear to be from a bygone era, what clues does Zahalka give us to prove this wrong?

2. Outline how Zahalka went about creating the images for her *Bondi: playground of the Pacific* series. Describe her working method, use of materials and techniques.

3. View Zahalka's image *The sunbather #2*, 1989 (figure 11.5B, page 187) and go to the Roslyn Oxley9 Gallery website (login to www.jacplus.com.au to locate the weblinks for this chapter) and view the *Bondi: playground of the Pacific* series. What do you think Anne Zahalka was trying to say about her world in producing this series of photographs? Where possible, use artworks from the series to provide evidence to support your comments.

4. Using the internet, look up Charles Meere's painting, *Australian beach pattern* (1940). Then look up Anne Zahalka's appropriation of this painting, entitled *The bathers (*1989). Print out a copy of both images and compare the similarities and differences in subject matter. By appropriating Meere's artwork, what do you think Zahalka was trying to say about Australian culture and stereotypes?

5. How do you think an Australian audience would respond to Zahalka's photograph, *The girls #2, Cronulla Beach*, 2007 (see figure 12.5D, page 210)? Give reasons for your point of view.

6. What do you think Zahalka was trying to say about her world by creating a replica of a replica in her series *Wild life* (see figure 12.5E)?

7. A postmodernist's role is to question and challenge traditional art. They often use appropriation, parody, irony, alternative working methods and techniques to comment on and pose questions relating to the conventions of art. Select an artwork by Zahalka that reflects her postmodern approach to image making. Analyse the artwork (use the proforma on page 159 to assist you) to provide evidence of her postmodern approach.

Where possible, use the internet to look up and view additional photographs by Anne Zahalka (login to www.jacplus.com.au to locate the weblinks for this chapter).

12.6 TRACEY MOFFATT

Artist and world — subjective/cultural/postmodern

Tracey Moffatt is one of Australia's most internationally successful contemporary artists. Based in New York, she works across both film and photography, experimenting heavily with various techniques, changing her style and approach with each series. Characterised by a **filmic** quality (images that reflect characteristics of films) and often with a loose narrative (the suggestion of a story), her work has been exhibited widely in Australia, Europe and America, and is held in many national and international collections. In 2007, the International Center for Photography in New York awarded her the prestigious Infinity Award for Art.

Figure 12.6A
Tracey Moffatt
Self portrait, 1999
Hand-coloured photograph
33.5 × 22 cm
Edition of 10
Roslyn Oxley9 Gallery

Born in Brisbane in 1960, Moffatt is an Indigenous Australian who was raised by a white foster family in Mount Gravatt, a suburb of Brisbane. Through the 1960s and 1970s she immersed herself in television, magazines, comics, books and films, as an escape from her suburban life. She started photographing as a teenager, making her friends and siblings dress-up as she staged, directed and photographed them (in 1998 she re-photographed some of these images for *Backyard series*). Moffatt studied visual communications at the Queensland College of Art, graduating in 1982. She then moved to Sydney, where she started exhibiting her images and making short films and videos. In 1989 she held her first solo exhibition at the Australian Centre for Photography in Sydney, with her series titled *Something more* (see figure 11.5A, page 186) that was made during a residency at the Albury Regional Art Gallery. This series has become her most well-known work. Her first international success was also in 1989 when her short film *Night cries: a rural tragedy* (1989) was selected for official competition in the 1990 Cannes Film Festival.

Practice

Influences

- Popular culture and media
- Film and art history
- Painting and painters; for example, Francisco José de Goya y Lucientes (1746–1828)
- Her childhood in Brisbane, and both her Aboriginal and white families, as well as her Indigenous heritage
- **Postmodernism**
- **Feminism**

Style

- Moffatt never ties herself to a signature style; instead, she experiments widely, using various techniques and media.
- Working in series, she explores ideas and concepts, often with a loose narrative that is open to interpretation.
- She has worked both in black and white, and colour photography, and has executed series in a wide range of media including: **Cibachrome** photographs, gelatin silver photographs, photogravures, photolithographs, screen prints and offset prints.
- Like many postmodern artists, Moffatt chooses to show the constructed nature of photography, using a kitsch style with obviously painted backdrops and artificial stage settings.

Themes and interest

- Race and gender relations
- Sexuality and eroticism
- Stereotypes and prejudices
- Power struggles

- Identity and representation
- Violence and cruelty
- The past and its impact on the present

Ideas/artistic intention

- Moffatt's work challenges previous Indigenous representations in print, film and ethnographic photographic studies (see figure 5.4C, page 118), undermining and challenging racial prejudices, stereotypes and misconceptions of 'aboriginality'.
- Through her work she comments on society, culture and lifestyle, sometimes with a cynical approach and often using irony or humour.
- Her work explores gender relations, **stereotypes** and representations through power struggles, sexuality and the erotic, as well as cruelty and brutal behaviours.
- She does not attempt to capture 'the real'; instead, she wants to create a new reality, raising questions and challenges for her audience to consider.

Actions/working method

- Prior to starting a project, Moffatt has a preconceived concept and visualises what her work will look like. She draws up elaborate plans and sketches, giving consideration to every detail: what the characters will be wearing, sets, props, backdrops and so on.
- She often spends a great deal of time looking for actors who fit her pre-visualised 'characters' and has cast herself as various figures within series.
- Her ideas are sometimes based on images or films she has seen, her past, memories or sometimes dreams she has had.
- While she directs the shoots and arranges every detail of the image-making process, she often employs technicians to perform the mechanical and manual tasks in her work, specialists to work with the images in Photoshop and expert printers to achieve the desired end result.

Artwork

Since the 1980s Moffatt has worked prolifically, making photographs, documentaries, short films, experimental video, music clips and films. Her style has continually evolved and developed, from her early straight black and white images titled *Some lads* (1987), portraying male Aboriginal dancers (who she encouraged to play up to the camera, be proud and pose) in contrast to 19th-century **ethnographic photos** of Aboriginal people (see figure 5.4C on page 118) through to her later, heavily computer-manipulated series, *Under the sign of Scorpio* (2005) and *Portraits* (2007). With a combination of both black and white, and vivid coloured photographs, the images in Moffatt's series *Something more* (1989) have become iconic. Drawing on the aesthetic of 1950s B-grade movies, they are glossy, dramatic and exaggerated, with

overtly painted backdrops and staged props. The pictures tell the tale of a young woman's search for something more from life. In the first image we see the face of the central character (Moffatt) who dreams of life in a big city, somewhere far from her current small town existence (see figure 11.5A on page 186). In the eight images that follow we never see her face again, but a strange and surreal story of intimacy and violence unfolds through varied positions of her body, **juxtaposed** with other characters and props, presented like movie stills. Using unusual crops and compositions, Moffatt provides enough clues for viewers to infer that our heroine comes to a tragic end; but, between each image, her ambiguous depictions leave plenty of room for imaginations to run wild. Never realising her dreams, the final picture finds the central character face down on the road, unkempt and still 300 miles from Brisbane.

Moffatt rarely delivers the resolved, happy ending that viewers anticipate. In *Scarred for life* (1994) and *Scarred for life II* (1999) she relays ordinary, yet tragic, occurrences. For those pictured, the influential years of childhood and adolescence are tarnished by **scenarios** and incidents that will last in the mind for a lifetime. Their stories are familiar and an audience can instantly sympathise. Parents scold and reprimand their children for not conforming to stereotypes, fearing what the neighbours will think, and problematic situations such as domestic violence, neglect, humiliation, cruelty and psychological, verbal and physical abuse are depicted. The images are presented like classic photojournalism, laid out on a page with captions in the style of a 1960s *Life* magazine. The text directs viewers' readings of each picture that might be interpreted quite differently without the caption.

Tracey Moffatt

Useless, 1974

Her father's nickname for her was '*useless*'.

Figure 12.6B
Tracey Moffatt
Useless, 1974, 1994
Off set print
80 × 60 cm
Series of 9 images
Edition of 50
Roslyn Oxley9 Gallery

Figure 12.6C
Tracey Moffatt
*Up in the
sky #1,* 1997
Off set print
61 × 76 cm
72 × 102
paper size
Series of
25 images
Edition of 60
Roslyn Oxley9
Gallery

Moffatt's series *Up in the sky* (1997) explores themes of race, power and violence. Set in the dry, deserted Australian outback (that could almost be the American South) the images are cinematic and, once again, the audience is invited to fill in the gaps of the disjointed narrative. Outcasts crawl the streets, nuns march in to steal an Aboriginal child, a cow hangs heavy on the branch of a tree, caught in the bright-headlights of a car, and men brawl on a dirt road; but all of these events look choreographed, rather than documented.

Appearing even more filmic, *Invocations* (2000), meaning to summon for help (usually supernatural forces, like God or magical spirits), is a dream-like sequence of the supernatural, mystical fantasies and inexplicable drama. Unrelated stories of a young black girl and a black woman appear to run parallel, but perhaps they are woven together — the story of a girl who later becomes a woman. The events are open to interpretation, but the ending does not appear to be a happy one. Again, it could be set in Australia or the American South. Black magic, spirits and the mysterious reign; a child who appears to be abandoned in the eerie dark woods with witches, animated trees and wild dogs, wakes and happily skips along, while in other depictions the woman is attacked by ravens and overpowered by dominating men.

Influenced by the art of Goya, as well as suburban, popular culture of the 1960s, Moffatt recreated the scenes from dreams she'd had four years prior to making this series. She drew up elaborate storyboards of her visions, carefully detailing sets, costumes and painterly backdrops. The photographs were then made on a specially constructed set in New York, with actors and animals. After the photographs were scanned and computer manipulated, a specialist screen printer then printed the 13 multicoloured screens by hand, each colour layered separately on top of the previous one, achieving the desired painterly effect. The final works are presented in round, oval and rectangular shapes, like the 1960s' Walt Disney animation classics that Moffatt regards so highly.

When Moffatt narrowly missed being selected as an official photographer for the 2000 Sydney Olympics, she stayed at home and photographed the events on her television screen. *Fourth* (2001) portrays athletes who finished fourth in their event, the significance of their achievement virtually ignored as the first three place-winners were thrust into the limelight. Moffatt's scenes are printed in mute colour with the athlete who came fourth highlighted.

In 2003, Moffatt returned to Brisbane for a residency at the Institute of Modern Art (IMA) and made her *Adventure series* (2004). These images were inspired by a comic

Figure 12.6D
Tracey Moffatt
Invocations #5, 2000
Photo silkscreen
146 × 122 cm
Series of 13 images
Edition of 60
Roslyn Oxley9 Gallery

strip that was run in a Brisbane newspaper when she was a child, about flying doctors, as well as the 1970s' Australian sea-adventure television show *The rovers*. Moffatt recreates the thrill and escapism of these alluring action series, with eroticism, violence and power games all at play in her overtly constructed reality. Spending a long time searching for the right actors, live animals, costumes and props for this shoot, she again cast herself in one of the roles (see figure 12.6E, top left-hand image). She hired a graphic artist in Brisbane to paint the backdrops and a stylist from Sydney for hair and make-up. The photo shoot was followed by extensive Photoshop manipulation of the images, which are placed together in groups of three to be read like a comic strip. Again, Moffatt is a storyteller, using a disjointed narrative. The images both celebrate and parody this type of action drama, and highlight the influence of mass media.

Moffatt has never settled into a rut; each new series she makes is very different in style and approach to the one that came before. Her prolific career explores countless ways to communicate and convey her ideas and stories. The technical aspects and craft of her media are not important for her. While she directs and supervises the work, she employs technicians and specialists for each particular series to carry out various skilled tasks, providing her the freedom to render her visions in varied and diverse media.

Moffatt is a storyteller, examining contemporary issues and relevant concerns that are shared across diverse places and different cultures. Often referencing film or art history, her **ambiguous** tales explore complicated relationships and universal themes that go beyond any one race, culture, society or lifestyle. Her images are contemporary, cynical, humorous, sexy and compelling;
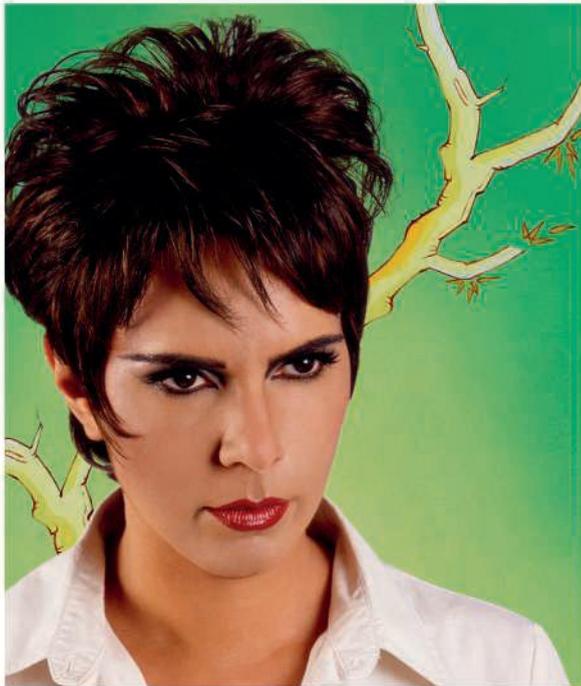
they are easy to empathise with and relate to because of their pop-culture style and kitsch, staged themes; but she never proscribes one single reading of her work; instead, she leaves space for contemplation, and for viewers to question and project their own thoughts and interpretations.

ACTIVITIES

1. How do you think Moffatt's childhood affected her life as an artist?
2. What do you think Moffatt was trying to communicate about her world in her 1989 series *Something more* (see figure 11.5A on page 186)?
3. What is your own personal reaction to Moffatt's image *Useless, 1974* (see figure 12.6B) from her *Scarred for life* (1994) series?
4. Go to the Roslyn Oxley9 Gallery website and view Moffatt's *Scarred for life* (1994 and 1999) series. What do these images tell us about the world in which she lived?
5. Moffatt never proscribes one single reading of her work, she leaves them open to interpretation. With this in mind, look closely at Moffatt's *Up in the sky #1*, 1997 (see figure 12.6C) artwork and write your own personal, creative interpretation of this artwork. Once completed, compare it to the interpretations done by other members of the class.
6. Search the internet for an image by Francisco Goya that demonstrates a connection to Moffatt's *Invocations #5*, 2000 (see figure 12.6D). Provide a copy of the artwork and discuss what elements of the image may have influenced Moffatt in the development of her work.
7. Outline how Moffatt approached producing her *Adventure series*, 2004 (see figure 12.6E). Discuss her working method including materials and techniques used.
8. As in the *Adventure series*, 2004 (see figure 12.6E), Moffatt often employs technicians to perform most of the technical aspects of her image making, including photographers, computer imaging (Photoshop) experts, graphic designers and specialist printers. This is a far cry from Ansel Adams, who believed that the taking and printing of a photograph was a significant role of the artist and an essential aspect of the art making process. What do you think about Moffatt using technicians to assist her in creating her artworks?
9. Moffatt is motivated by her own life, her thoughts, imagination, opinions and beliefs. Her artwork is an emotional response to her world and experiences. Select an artwork by Moffatt that demonstrates her personalised approach to image making. Analyse the artwork (use the proforma on page 159 to assist you) to provide evidence of her subjective approach.

Where possible, use the internet to look up and view additional photographs by Tracey Moffatt (login to www.jacplus.com.au to locate the weblinks for this chapter).

PART 6

GALLERY OF STUDENT PHOTOGRAPHS

13.

Gallery of student photographs

13.1 PORTRAITS
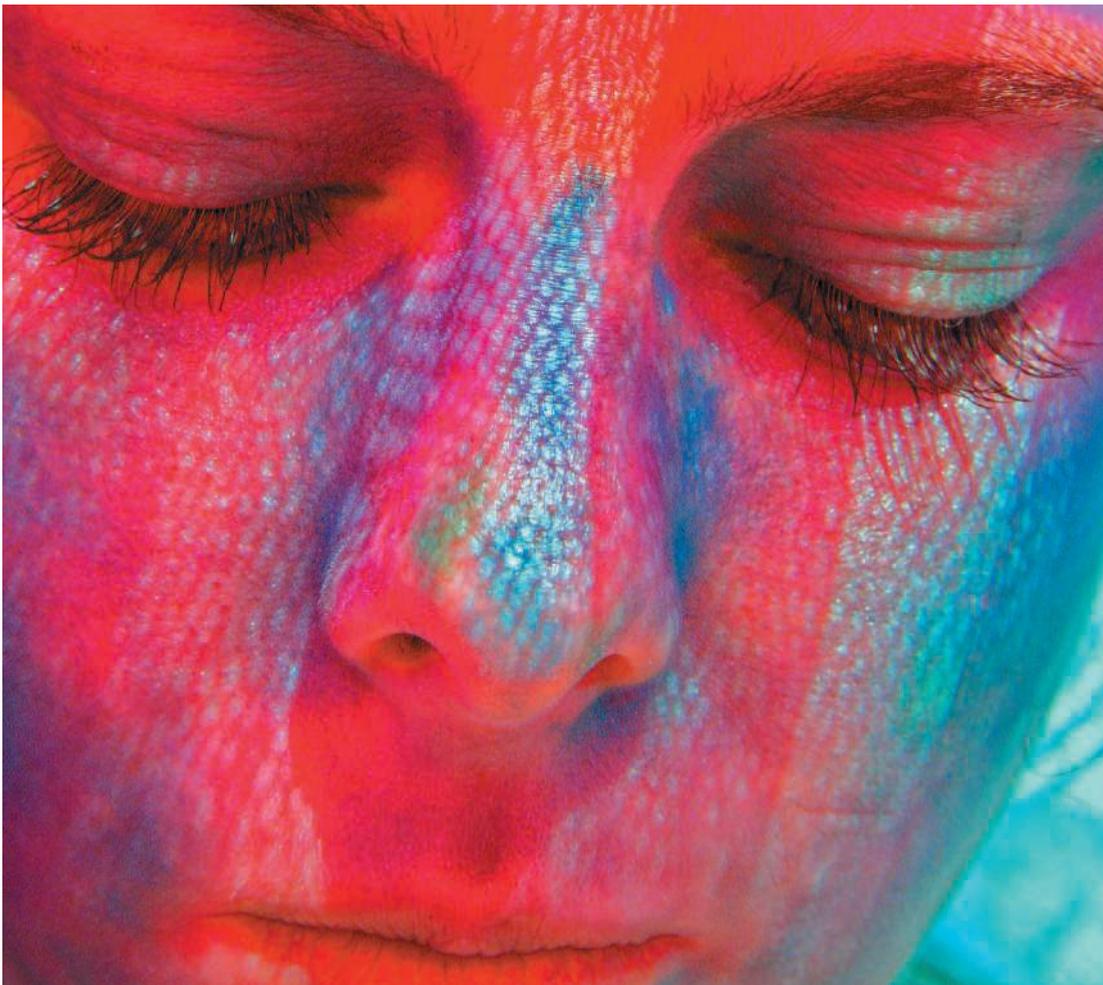
This is a self-portrait, taken in the midday sun under tulle with makeup applied to the artist's face.

Figure 13.1A
Butterfly scales,
Jessica Minear, Year 12,
digital photograph
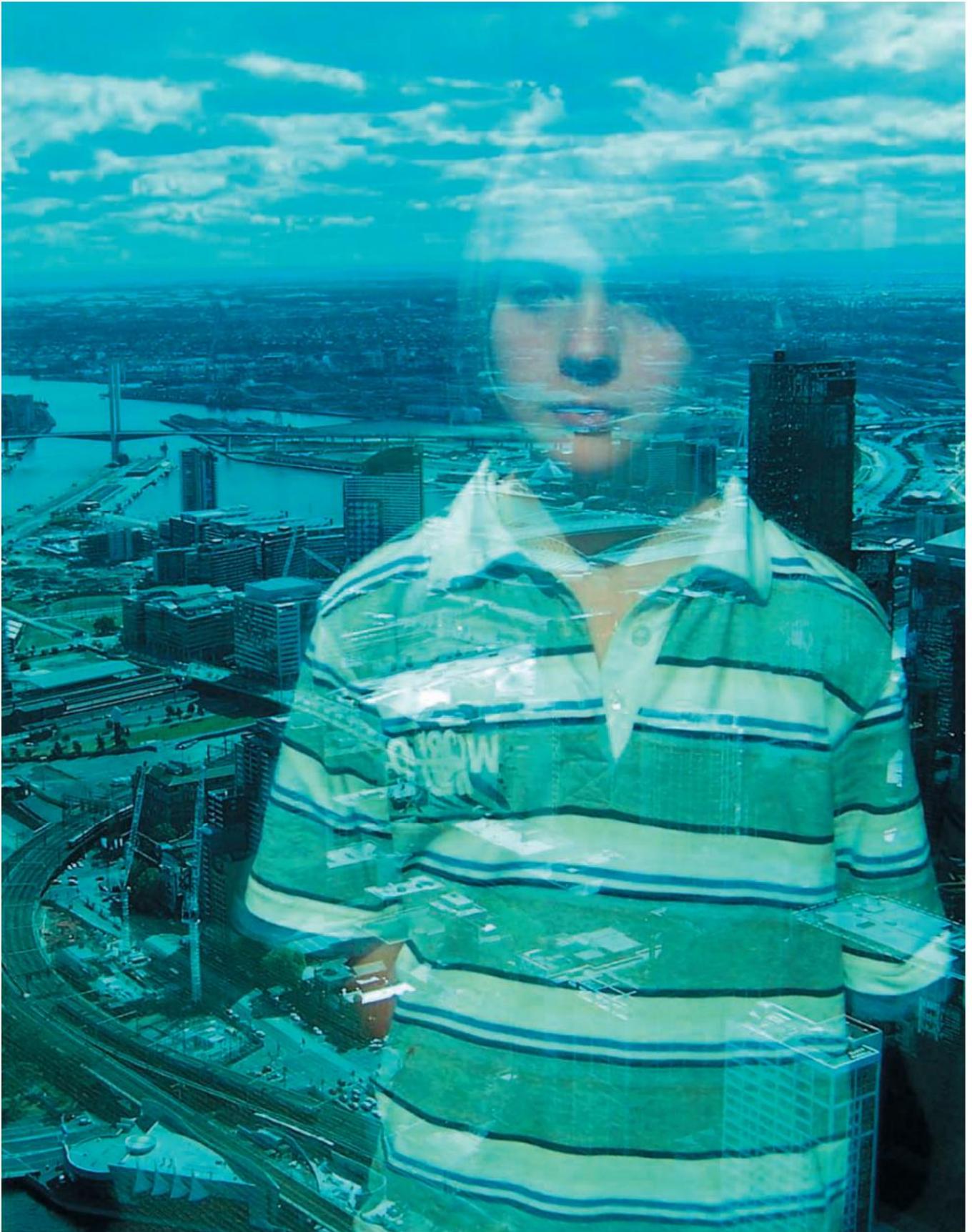
Figure 13.1B *In my dreams I can fly,* Veronica Waite, Year 11, digital photograph

This image was taken of the reflection of a boy in the window of a high-rise apartment block in the city.

Figure 13.1C *Individuality*, Rebecca Finney, Year 12, digital photograph

This is a series of three photographs taken in a studio using a tripod and artificial light.

Figure 13.2A *Phillip Island*, Laura Petrucci, Year 12, digital photograph

This image was taken with a digital camera and then the colour was enhanced in Photoshop using image, adjust, equalise.

Figure 13.2B *Seascape*, Alice Halpin, Year 12, digital photograph

This image is a combination of numerous different photographs. The various components have been photographed separately, selected and imported into the composition using Photoshop.

Figure 13.2C *Southbank at night*, Elizabeth Logan, Year 12, digital photograph

This photograph was taken at night using a tripod and a slow shutter speed.

Figure 13.2D *Day and night*, Marina Savenkov, Year 12, digital photograph

This image was constructed from 17 photographs of a cityscape scene, taken over a set period of time. A tripod was used to maintain the composition and a separate photograph was taken every half-hour. The various components were then placed together using Photoshop.

Figure 13.3A
It's only a dream,
Fiona Scott, Year 12,
gelatin silver
photograph

This photograph
was taken on a
tripod using a
B shutter speed.
The image was
exposed for
approximately
5 seconds,
with limited light.
The model moved
and then held
position every
second.

Figure 13.3B   *Skier sequence, Whistler, Canada*, Charles Ferry, Year 12, digital photograph

This photograph was taken using a tripod, fast shutter speed and a high-speed continuous shooting mode. The six photographs were opened in Photoshop and the moving figures were selected and layered on top of the background image to form the combined final image.

Figure 13.3C *Shadow boxer*, Ester Gerrard, Year 12, gelatin silver photograph

This photograph was taken in a studio with limited light, using a tripod, B shutter speed and an exposure of approximately 2 seconds.

13.4 FOCUS
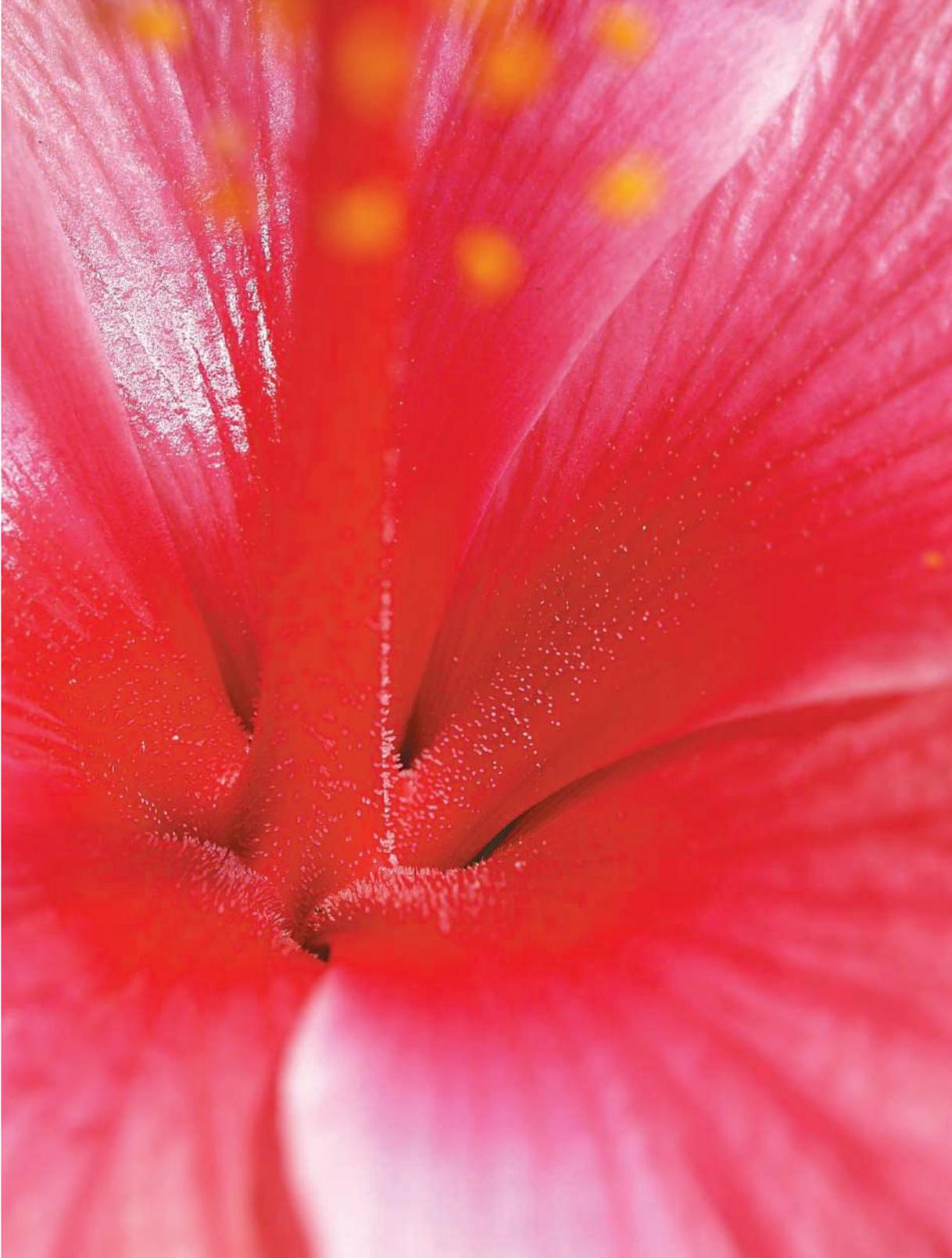
Figure 13.4A *Close-up of a flower*, Alice Halpin, Year 12, digital photograph

This photograph was taken on a close-up setting (flower symbol), creating a small depth of field.

Figure 13.4B
Trees, Emily Russell, Year 12, Infra-red film, scanned and enhanced with Photoshop

This photograph was taken with **infra-red film**, with two red filters placed on the lens. This method creates photographs with unusual tones and high grain. It was captured with a small depth of field.

Figure 13.4C *The fab 4*, Jacob de Weger, Year 10, digital photograph

This photograph was taken on a close-up setting (flower symbol), creating a small depth of field.

13.5 NARRATIVES

Figure 13.5A *The horror of it all*, Genevieve Brady, Year 12, digital photograph

This image was created from two digital photographs; the first is of the girl walking down the stairs and the second of the shadow. The shadow from the second photograph was selected, feathered, scaled and placed into the first image using Photoshop.

Figure 13.5B *They're here!*, Clair Weller, Year 12, digital photograph

This image was entirely staged and taken using dramatic lighting.

Figure 13.5C
Dana, Amiel Courtin-Wilson, Year 11, gelatin silver photograph

This photograph was taken using bright natural lighting.
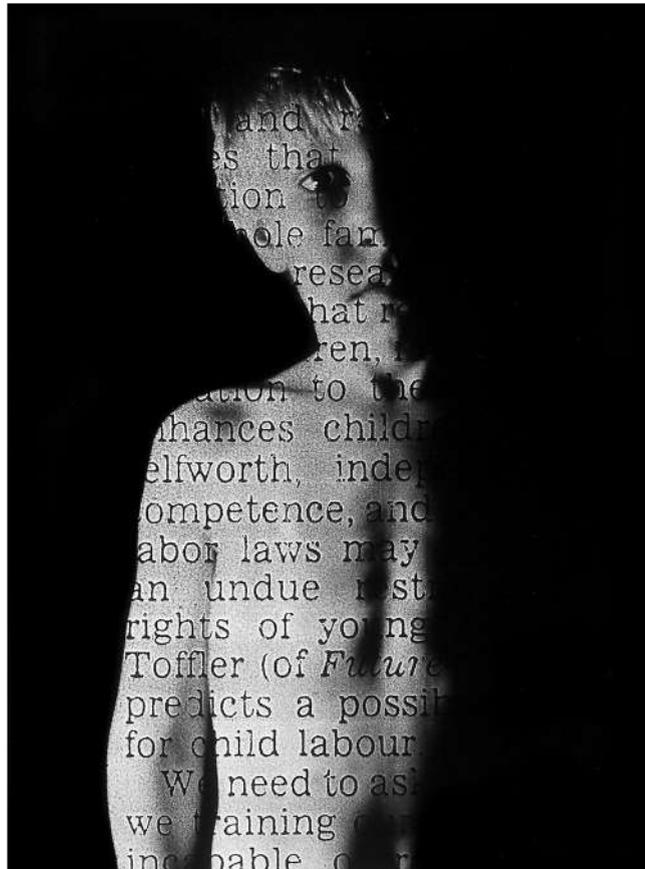
Figure 13.5D
Child, Joe Hurley, Year 12, gelatin silver photograph

This image was created by sandwiching two negatives together in the enlarger during printing. One of the negatives would have been of the boy and the other of the text.

13.6 SPECIAL EFFECTS

Figure 13.6A   *Ageing*, Jessica Healey, Year 12, digital photograph

Two digital photographs were taken in a studio using a tripod to capture the models at the same distance and using the same lighting. The neck and eyes of the elderly woman were selected and feathered and then layered on top of the young girl's face using Photoshop.

Figure 13.6B   *The car*, Marlo Slavin, Year 12, gelatin silver photograph

This image was solarised in the darkroom.

Figure 13.6C   *Clone*, Rhys Griffiths, Year 12, digital photograph

Figure 13.6D *Making faces*, Ruby Carrodus, Year 12, digital photograph

This image was created from the combination of two digital photographs. The first image was taken of the woman knitting, sitting on the chair. Her eyes and mouth were removed through cloning and painting in Photoshop.

The face from the second photograph was selected and layered on top of the first photograph. It was then scaled to fit and merged into the knitting using cloning and eraser tools.

Figure 13.6E *Delicensed,* Scott Ferguson, Year 6, gelatin silver photograph

This image was produced in the darkroom using a textured screen.

Figure 13.6F *My twin sister and eternity*, Marina Blank, Year 12, gelatin silver photograph

Both photographs were taken and printed the same size so that when the older portrait was ripped, it matched directly with the youthful portrait.

Two digital photographs were taken; the first of a large sign at Luna Park, which was converted to greyscale in Photoshop. The image was then reverted back to RGB colour before the content of the sign was selected; the second coloured image was then pasted into the selection.

Figure 13.6G *Light in the darkness*, Romy Baker, Year 12, digital photograph

Figure 13.6H *The market*, Chloe Paul, Year 11, ink on gelatin silver photograph

The photograph was printed and processed in the darkroom. The artist then drew on the photograph with an ink pen and scratched into it using a needle tool.

Figure 13.6I *Places they don't belong,* Lauren D'Aprano, Year 12, digital photograph

Six different photographs were used to create this image. The photograph of the city was initially opened on the computer. Then each of the images of the animals (taken at the zoo) were each selected, feathered and scaled into place using Photoshop. Shadows were created under each of the animals to make them appear more realistic.

Figure 13.6J *Dreams of a suburban house wife*, Eliza Ralph, Year 12, gelatin silver photograph

Although this image may look digital, it was, in fact, captured on film. The beater was placed on top of a mirror that was positioned on the ground outside. The photograph was then captured through a multivision lens filter.

Figure 13.6K
Two faced,
Georgina Dempsey, Year 12,
digital photograph

Two photographs of the same model were taken from different angles then merged together in Photoshop using the cloning and eraser tools.
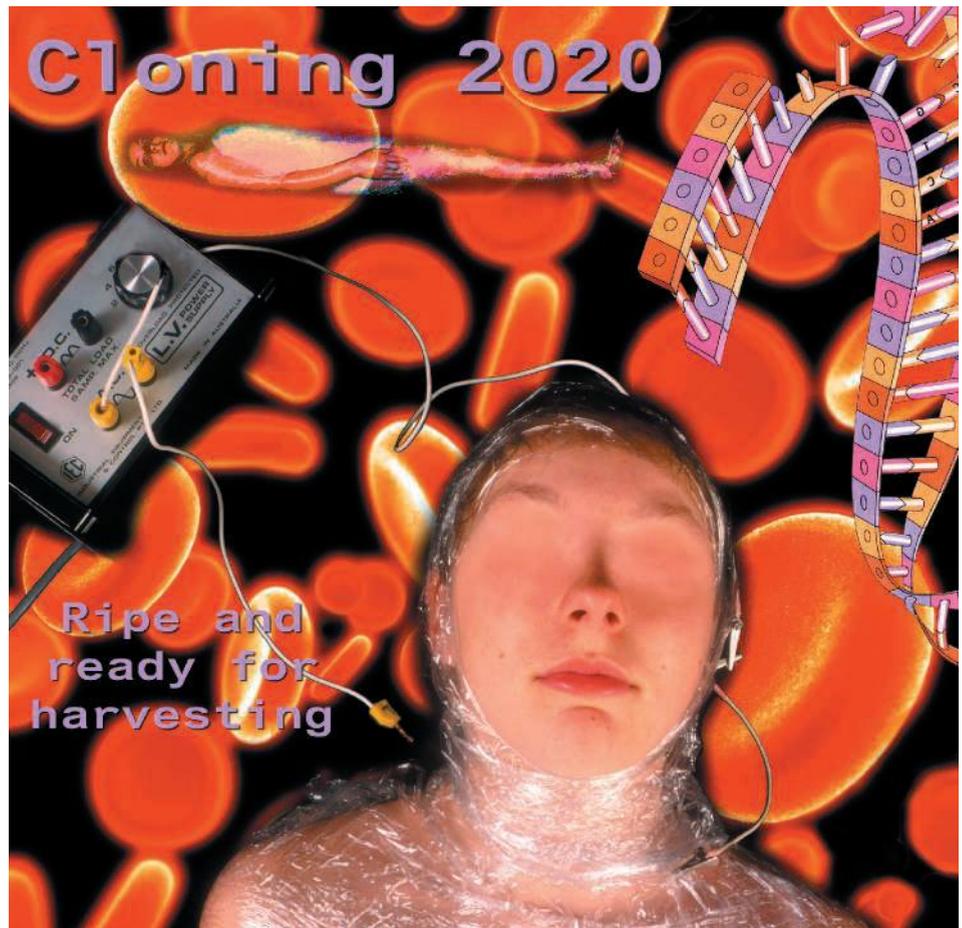
Figure 13.6L
Cloning, prepare for a possible future 2020,
Frances Anderson, Year 12,
digital photograph

This image was constructed from a variety of digital photographs and illustrations merged together using Photoshop.

Figure 13.6M
Tribute to Ingres,
Johanna McCubbin, Year 12,
gelatin silver photograph

The model was photographed in a studio. An image from an overhead projector was them beamed onto her. The photographer may have used a fast film speed (ISO) to assist with the limited light available.
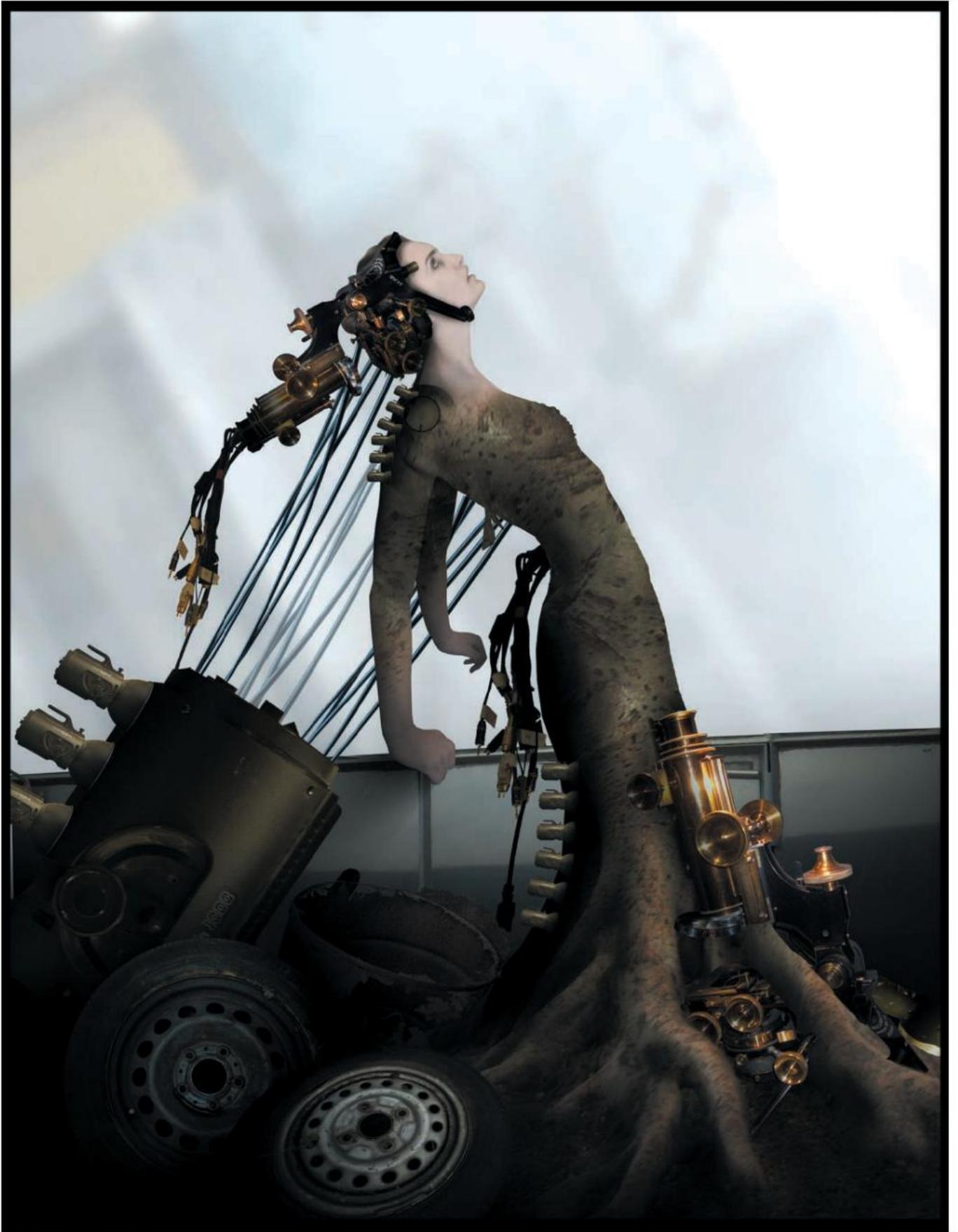
Figure 13.6N *The boneyard*, Rhys Griffiths, Year 12, digital photograph

Figure 13.60 *A face,* Johanna McCubbin, Year 12, gelatin silver photograph

This image was taken in a studio using artificial light.

PART 7

GENERAL INFORMATION

14.

General information about photography

14.1 CAREERS IN PHOTOGRAPHY

A career in the field of photography is generally considered to be highly competitive. However, if you are committed, motivated, talented and willing to work hard there is no reason why you should not find success working in this field.

There are generally two approaches you can take to receive training to become a professional photographer. The first is on-the-job training, which is often provided through internships offered by some newspapers, magazines and established photographers. The second, and most common, method is to complete a photographic course at a tertiary institution (see section 14.2, page 246).

Although most major companies, businesses and advertising agencies employ photographers fulltime, many photographers choose to be self-employed. These photographers freelance and gain their salaries from a variety of jobs provided by advertising agencies, graphic design studios, retail manufacturers, architects, publishing companies and the community (such as portraits and wedding photographs).

Some photographers specialise in selected photographic areas. Some of these areas are listed and briefly explained in this section.

Commercial photography

A commercial photographer can work for a company, have their own small business or work independently as a freelance photographer. They are generally skilled enough to handle almost any type of photographic assignment and will often find themselves working on a diverse range of projects.

Commercial photographers must show initiative, self-motivation, ingenuity and creativity. They have generally completed at least a three-year course in photography.

Figure 14.1A A commercial photographer at work

Independent artist — fine art

Fine art photographers work as independent artists, exploring artistic ideas in the medium of photography. They are generally self-employed and may have an agent or gallery representing them. Fine art photographers display and sell their work through exhibitions. These photographers seldom rely on fine art photography as their only income and may also work as commercial photographers.

Fine art photographers should demonstrate a creative, imaginative, original and artistic approach to the photographic medium. Although an education in photography is not mandatory, completing a course in the art of photography would be an advantage.

Portrait, wedding and home study photography

Portrait, weddings and home study photographers generally work for themselves or are involved in a small business. They specialise in photographing and recording images for the public. These can include personal and family portraits, debutantes, engagements, weddings and christenings. Until recently the role of these photographers was seen as purely documentation; however, over the past few years many of these photographers have taken a much more creative and imaginative approach when recording their images.

This profession generally requires some kind of photographic education, such as a diploma or Bachelor of Art majoring in photography and a creative flair combined with an aptitude for working with people.

Photojournalism and newsreel photography

Photojournalists are responsible for documenting, recording and communicating current affairs issues through their photographs. Most choose to work for selected newspapers and magazines, or freelance and sell their photographs to many different companies.

Photojournalists who work for large newspapers and magazines may choose to specialise in sport, entertainment, politics, business or foreign affairs. Photojournalists who work for smaller papers may need to take a large variety of photographs and may even do some journalistic work. In most cases, photojournalists have completed a photographic course. It is important that these photographers display initiative, an inquiring mind, be interested in current affairs issues and demonstrate a creative approach to documenting images.

Fashion photography

Fashion photographers are responsible for photographing images which relate to the fashion industry, including clothing, jewellery, fabrics and accessories. They are generally employed by a newspaper, magazine or fashion house, or they may be freelance.

Whether they are taking photographs for the local newspaper, a fashion parade in Paris, or the latest collection from a designer, these photographers need to demonstrate ingenuity and a creative flair. Fashion photographers must know and understand fashion, keep up to date with current trends and be aware of future trends. Most will have completed a photographic course.

Advertising photography

Advertising photographers are responsible for photographing a broad range of goods to assist in the promotion and sale of products. They generally work for an advertising agency and are required to demonstrate a high degree of creativity, imagination and ingenuity.

Advertising photographers must be experts in their field, have a thorough knowledge of photographic approaches and procedures and will need to use computer-aided photographic techniques. They have generally completed a comprehensive photographic course.

Industrial photography

Industrial photographers are responsible for recording images for major companies and businesses. These images include photographs of factories, mines, oilfields, machines and machine parts, as well as images of workers. The photographs are used in pamphlets, brochures and annual reports to promote the industry. In addition to taking photographs, industrial photographers may also be required to produce staff training films or DVDs that will assist with sales, marketing and public relations.

Most industrial photographers have undertaken a three-year photographic course.

Medical photography

Medical photographers record images for use in medical practice. These images can be important aids in the diagnosis and evaluation of medical conditions, and may be used in the training and education of hospital staff.

Medical photographers may need to be proficient in the use of technically advanced cameras, as well as digital, film and DVD equipment. These photographers must be trained in aspects of anatomy and medicine in addition to photography. Some colleges and universities offer specialist courses in medical photography.

Scientific photography

Scientific photographers document and record images relating to research and scientific experiments. This kind of work may range from microscopic images of animal tissues, cells and insects, to photographs of distant stars and planets.

The photographer in this profession must have a combined scientific and photographic education.

Marine and underwater photography

Marine photographers capture and record the underwater world for biological research and industrial inspections, and document shipwrecks and other historical artefacts. Many of their photographs also portray the beauty of the ocean's depths.

A marine photographer must have a passion for water and the ocean, be a proficient diver, hold a commercial diver's certificate and be trained as a photographer. It is also advisable to have an extensive understanding of marine life and/or be a certified operator of underwater inspections and surveys to be able to undertake the many jobs required of underwater photographers.

Travel photography

Travel photographers capture and record images of holiday destinations and attractions. These images are generally used for promotional purposes in airline journals, brochures and travel features in newspapers and magazines. Travel photographers are generally employed by airlines, travel agencies, newspapers and magazines as well as holiday destinations, such as resorts.

These photographers must have a love of travel and a creative approach to the documentation of holiday locations. Most travel photographers have undertaken a three-year course in photography. Some may also be journalists who combine their photographs with travel and holiday articles they have written.

Radiography

The most common role of a radiographer is to take X-rays of teeth and bones. However, radiographers also work in industrial environments where they diagnose faults in the casting and welds of equipment, aircraft and machinery. They are able to test industrial manufacturing equipment and metal fatigue in aircraft and other machinery through the use of X-ray images.

Some colleges and universities offer specialist courses in radiography.

Police forensic photography

Police personnel are given the opportunity to specialise as photographers after they become a member of the police force. The role of the police photographer is to record images from crime scenes, such as fingerprints, weapons and suspects, that will assist the police with their investigations. Police photographers are also called upon to document forensic evidence, car accidents, and assault and murder victims, as well as criminals.

Military photography

The airforce is the only division of the armed forces that offers members a career in photography. The RAAF initially requires a recruit to undergo 10 weeks of general basic training, followed by 42 weeks of specialist training in the field of photography. The photographic work is largely technical, with very little creativity required. Airforce photographers document different aspects of aircraft machinery and equipment, including recording technical faults. They are also required to photograph aerial views that aid in creating military maps and assist with reconnaissance work.

Aerial photography

Aerial photography requires the photographer to take photographs from the air. There are two main types of aerial photographs. Photographs for general industrial and commercial use are often taken by a commercial photographer through the window of an aircraft. These photographs are normally aerial views of buildings, factories, shopping centres and farms. The second type of aerial photography requires the image to be taken directly above the subject. These photographs are generally taken with an automatic camera placed underneath the aircraft. The camera is operated by a remote control. This type of photography is widely used as a tool in surveying, precision map making, and planning routes for highways and power lines.

Cinematography

A cinematographer is responsible for filming movies. Cinematographers are accountable for the lighting and aesthetic qualities of the film, including the composition, focus and depth of field of each shot, as well as the technical aspects of the shoot, such as the type of film, lenses and filters used.

There are two ways to become a cinematographer. The first is to work your way up to the position, beginning as a clapper loader, then working as a camera assistant, advancing to camera operator and eventually becoming director of photography. The second way is to complete a course in film making and specialise in cinematography.

The Australian Film, Television and Radio School in Sydney offers a three-year bachelor course and postgraduate extension course in the art of cinematography. The Victorian College of the Arts also offers a film-making course with the option to specialise in cinematography.

Film stills photography

A film stills photographer is generally employed on a film set to document the film-making process and record images of the film being made. After consulting with the cinematographer, they also take still photographs that record images from the film. These photographs are used to publicise the film and appear on posters and video covers, and in magazines and newspapers.

Film stills photographers generally have some photographic training and are often freelance photographers or are employed by a production company.

Digital imaging specialist

Computers and digital photography have led to the creation of career opportunities in **digital imaging**. The role of a digital imaging specialist can vary and includes everything from scanning film to downloading digital photographs, as well as enhancing, manipulating or combining images using computer software programs like Photoshop. Although some digital imaging specialists also work as photographers, it is not essential that they take the initial photographs themselves; such specialists often work alongside a photographer and/or art director to create a final image. Some imaging specialists are also expected to be able to produce design and layout work and, as a result, are expected to have knowledge of desktop publishing software programs such as Illustrator, Quark and InDesign. Digital imaging specialists need to have a passion and talent for computer-generated imagery, a strong visual awareness, advanced knowledge of digital software, colour and file management, as well as skill in the calibration of computer and printing equipment. Most TAFE colleges and universities now offer certificates and degrees in digital imaging.

Photo-finishing

A wide range of employment opportunities and careers exists in the photo-finishing area. Commercial laboratories offer a range of jobs that require a variety of skills, such as receipt or dispatch clerk, process or printing operator, quality controller, retoucher and customer relations officer. These positions are usually available in large commercial laboratories such as Kodak, small minilabs, or professional custom processing laboratories and computer bureaus. The positions are normally advertised in the employment section of newspapers and, in most cases, on-the-job training is provided. Frequently, it is a matter of starting at the bottom and working your way up to the more highly skilled positions.

Teaching photography

After completing a three-year fulltime course in photography and receiving a bachelor degree, you may choose to complete an additional one-year postgraduate degree in education, enabling you to teach photography in secondary schools and some TAFE courses.

Other careers in photography

There are many other careers available in fields relating to photography, including: darkroom technician; assistant photographer; photographic restorer; photographic conserver; laboratory and processing assistant; printing technician; photographic stylist; photographic framer; equipment supplier; equipment repairer; camera operator; film editor; studio engineer; animator; art director; special effects; and graphic artist.

14.2 AUSTRALIAN PHOTOGRAPHIC COURSES

There are a variety of photographic courses available. Most institutions offer full- and part-time courses. These range from certificate to associate diploma, diploma, bachelor, masters and other postgraduate studies in photography. The courses vary considerably. Some courses specialise in the technical aspects of the medium, while others concentrate more on a creative and artistic approach. It is therefore important for you to research the courses offered and find the one most suitable for you.

Prerequisites

Entry to tertiary studies is usually based on:
1. a folio of the student's work
2. an interview
3. secondary school results.

Folio of the student's work

Your folio should demonstrate a variety of creative and imaginative approaches to photography and reveal a high level of technical skill. It should consist of at least 15 photographs demonstrating a diverse range of ideas and techniques. You may also include works in other media, such as a short film, drawings and paintings. The quality of your folio work is important, so be selective.

Be prepared to discuss the work in your folio at length, mentioning influences and the processes and techniques used, as well as the problems and outcomes of each piece.

The interview

Make sure that you are well prepared for the interview. Ask your teacher to look through your folio and help you research the course. It will help if you practise answering questions, so have a friend conduct a mock interview with you.

The qualities that institutions generally look for in prospective students are:
- an ability to complete the course to a high level
- commitment and understanding of the requirements of the course
- a willingness to learn
- demonstration of a realistic and passionate attitude towards a future working in photography.

During the interview these qualities are generally revealed through one or more of the following:
- a good folio which demonstrates creativity and technical skill
- the expression of your ideas, including an explanation of where your ideas came from and how you went about exploring them
- thinking skills — you will be judged on how you answer questions, so take the time to think about your answers
- knowledge of artists — the interviewer will be interested in the artists you have studied, the ones you admire and those who influence you. They may also like to know about any photographic exhibitions that you have visited.
- knowledge of the photographic industry and career options — familiarise yourself with section 14.1
- knowledge of photographic courses offered in your state — become aware of the similarities and differences between courses and visit institution open days.

Questions that may be asked during the interview include:
- Why do you want to be a photographer?
- What kind of photographer do you want to be?
- Why are you applying to this institution?
- What do you know about the course?
- What will you do if you miss out on selection?
- What kind of photography do you like the most? Why?
- Which photographers do you admire? Why?
- Which exhibitions did you go to this year? What did you think of them?

Secondary school results

Most courses require the successful completion of Year 12, with a reasonable result in English. The majority of courses do not have art and/or photography as prerequisites; however, these subjects will increase your understanding of the visual arts and benefit you in the development of your folio.

Tertiary photographic courses

Photography courses are currently available at the institutions listed below. For course details, special entry provisions and credit transfer between courses, contact the administration office of the individual institution. Course details can also be obtained from university and TAFE websites. Tertiary entrance information can be found in each state's tertiary requirements and entry guide to university and TAFE courses. This information is commonly available from TAFE and university websites.

Australian Capital Territory

SCHOOL OF ART & CENTRE FOR NEW MEDIA
Australian National University
Childers Street
Canberra ACT 2601
Websites: www.anu.edu.au/art
www.anu.edu.au/newmedia

UNIVERSITY OF CANBERRA
University Drive
Bruce ACT 2617
Website: www.canberra.edu.au

CANBERRA INSTITUTE OF TECHNOLOGY
Reid Campus
Canberra ACT 2601
Website: www.cit.act.edu.au

Northern Territory

CHARLES DARWIN UNIVERSITY
Casuarina Campus NT
Alice Springs Campus
Darwin NT 0909
Website: www.cdu.edu.au

Queensland

GRIFFITH UNIVERSITY
Queensland College of Art
Grey Street
South Bank Qld 4101
Website: www.griffith.edu.au/qca

GRIFFITH UNIVERSITY — GOLD COAST CAMPUS
Queensland College of Art
Parkland Drive
Southport Qld 4215
Website: www.griffith.edu.au/visual-creative-arts/
queensland-college-art

UNIVERSITY OF THE SUNSHINE COAST
Faculty of Arts and Social Services
Maroochydore DC Qld 4558
Website: www.usc.edu.au

JAMES COOK UNIVERSITY OF NORTH QUEENSLAND
Department of Art and Design
Townsville Qld 4810
Website: www.jcu.edu.au

SOUTH BANK INSTITUTE OF TAFE
Clearview Terrace
Morningside Qld 4170
Website: www.southbank.tafe.net

SOUTHERN QUEENSLAND INSTITUTE OF TAFE
100 Bridge Street
Toowoomba Qld 4350
Website: www.sqit.tafe.qld.gov.au

New South Wales

THE UNIVERSITY OF SYDNEY
Parramatta Road
Broadway NSW 2006
Website: www.usyd.edu.au

NATIONAL ART SCHOOL
Forbes Street
Darlinghurst NSW 2010
Website: www.nas.edu.au

SOUTHERN CROSS UNIVERSITY
Coffs Harbour Campus
Lismore Campus
Tweed Gold Coast Campus
Website: www.scu.edu.au

UNIVERSITY OF NSW (UNSW)
Collage of Fine Art (COFA)
Cnr of Oxford Street and Greens Road
Paddington NSW 2021
Website: www.cofa.unsw.edu.au

UNIVERSITY OF NEWCASTLE
Newcastle (Callaghan) Campus
Central Coast (Ourimbah) Campus
Website: www.newcastle.edu.au

UNIVERSITY OF TECHNOLOGY SYDNEY
Faculty of Design, Architecture & Building
702–730 Harris Street
Ultimo NSW 2007
Website: www.uts.edu.au

AUSTRALIAN CATHOLIC UNIVERSITY
40 Edward Street
North Sydney NSW 2060
Website: www.acu.edu.au

SYDNEY COLLEGE OF THE ARTS
The University of Sydney
Rozelle Campus
Balmain Road
(enter opposite Cecily Street)
Rozelle NSW 2039
Website: www.usyd.edu.au

AUSTRALIAN FILM, TELEVISION AND RADIO SCHOOL
Cnr Epping and Balaclava roads
North Ryde NSW 2113
Website: www.aftrs.edu.au

CHARLES STURT UNIVERSITY
Albury Campus
Albury NSW 2640
Website: www.csu.edu.au/faculty/arts/vpa

UNIVERSITY OF WESTERN SYDNEY
Penrith South DC NSW 1797
Website: www.uws.edu.au

UNIVERSITY OF WOLLONGONG
Northfields Avenue
Wollongong NSW 2522
Website: www.uow.edu.au

Regional centres

TAFE NSW HUNTER INSTITUTE
Faculty of Arts and Media
590–608 Hunter Street
Newcastle West NSW 2302
Website: www.hunter.tafensw.edu.au

TAFE NSW — NORTHERN SYDNEY INSTITUTE
Art, Media and Design
213 Pacific Highway
St Leonards NSW 2065
Website: www.tafestudy.info

South Australia

SOUTH AUSTRALIAN SCHOOL OF ART
University of South Australia
Adelaide SA 5001
Website: www.unisa.edu.au/art

TAFE SA
Croydon Campus
Goodall Avenue
Croydon Park SA 5008
Website: www.tafe.sa.edu.au

ADELAIDE CENTRE FOR THE ARTS
39 Light Square
Adelaide SA 5000
Website: www.tafe.sa.edu.au/aca

Tasmania

UNIVERSITY OF TASMANIA
Tasmanian School of Art
Hobart Tas. 7001
Website: http:// fcms.its.utas.edu.au/arts/artschool

INSTITUTE OF TAFE TASMANIA
Design and Multi Media
Launceston Tas. 7250
Website: www.tafe.tas.edu.au

Victoria

UNIVERSITY OF MELBOURNE
Website: www.unimelb.edu.au

VICTORIA UNIVERSITY
City Flinders Campus
St Albans Campus
Website: www.vu.edu.au

VICTORIAN COLLEGE OF THE ARTS
234 St Kilda Road
Southbank Vic. 3006
Website: www.vca.unimelb.edu.au

RMIT
School of Creative Media
Melbourne Vic. 3001
Website: www.rmit.edu.au/creativemedia

MONASH UNIVERSITY
Faculty of Art and Design
900 Dandenong Road
Caulfield East Vic. 3145
Website: www.artdes.monash.edu.au

SWINBURNE UNIVERSITY OF TECHNOLOGY
Faculty of Design
144 High Street
Prahran Vic. 3181
Website: www.swin.edu.au/design

AUSTRALIAN CATHOLIC UNIVERSITY
115 Victoria Parade
Fitzroy Vic. 3065
Website: www.acu.edu.au

DEAKIN UNIVERSITY
Melbourne Campus at Burwood
Geelong Campus at Waurn Ponds
Warrnambool Campus
Website: www.deakin.edu.au

LA TROBE UNIVERSITY BENDIGO
Edwards Road
Bendigo Vic. 3550
Website: www.latrobe.edu.au/bendigo

UNIVERSITY OF BALLARAT
Arts Academy
Ballarat Vic. 3350
Website: www.ballarat.edu.au

CHISHOLM INSTITUTE
Creative Arts
121 Stud Road
Dandenong Vic. 3175
Website: www.chisholm.edu.au

CHISHOLM INSTITUTE
Creative Arts
Frankston Campus
Fletcher Road
Frankston Vic. 3199
Website: www.chisholm.edu.au

BOX HILL INSTITUTE OF TAFE
465 Elgar Road
Box Hill Vic. 3128
Website: www.bhtafe.edu.au

GORDON INSTITUTE OF TAFE
Geelong Mail Centre
Geelong Vic. 3221
Website: www.gordontafe.edu.au

NORTHERN MELBOURNE INSTITUTE OF TAFE
77–91 St Georges Road
Preston Vic. 3072
Website: www.nmit.vic.edu.au/courses/art_design

Western Australia

**WESTERN AUSTRALIAN SCHOOL OF ART
DESIGN AND MEDIA**
Central TAFE
12 Aberdeen Street
Perth WA 6000
Website: www.central.wa.edu.au

CURTIN UNIVERSITY OF TECHNOLOGY
Kent St
Bentley WA 6845
Website: www.curtin.edu.au

In addition to the courses at the above institutions, a large number of privately run photographic courses are available. Some of these offer accredited certificate and diploma courses. However, these courses tend to be very expensive and it is important that you research the school to find out exactly what you will get for your money before committing to a course. Most of these schools can be found in the Yellow Pages.

14.3 AUSTRALIAN PHOTOGRAPHIC GALLERIES

There are many galleries throughout Australia that stage a variety of photographic exhibitions. You can find information about these exhibitions from advertisements in local newspapers and from the magazine *Art Almanac*. By visiting galleries and viewing photographic exhibitions, you can educate yourself about current photographic trends and become aware of the diverse range of approaches taken. You will also learn about the different ideas explored and gain motivation and possible inspiration for your own work.

A few of the major galleries that exhibit photographic artworks are listed below.

Australian Capital Territory
Public galleries

NATIONAL GALLERY OF AUSTRALIA
Parkes Place
Parkes ACT 2600
Phone: (02) 6240 6411
Website: www.nga.gov.au

NATIONAL PORTRAIT GALLERY
Old Parliament House
King George Terrace
Parkes ACT 2600
Phone: (02) 6270 8236
Website: www.portrait.gov.au

CANBERRA CONTEMPORARY ART SPACE
Gorman House
Ainslie Avenue
Braddon ACT 2612
Phone: (02) 6247 0188
Website: www.ccas.com.au

PHOTO ACCESS
The Huw Davies Gallery
Cnr Manuka Circle and New South Wales Crescent
Griffith ACT 2603
Phone: (02) 6295 7810
Website: www.photoaccess.org.au

New South Wales
Public galleries

ART GALLERY OF NEW SOUTH WALES
Art Gallery Road
Sydney NSW 2000
Phone: (02) 9225 1700
Website: www.artgallery.nsw.gov.au

MUSEUM OF CONTEMPORARY ART
140 George Street
The Rocks NSW 2000
Phone: (02) 9252 4033
Website: www.mca.com.au

Figure 14.3A Museum of Contemporary Art

AUSTRALIAN CENTRE FOR PHOTOGRAPHY
257 Oxford Street
Paddington NSW 2021
Phone: (02) 9331 6253
Website: www.acp.org.au

Regional public galleries

BATHURST REGIONAL ART GALLERY
70–78 Keppel Street
Bathurst NSW 2795
Website: www.bathurst.nsw.gov.au

GOSFORD REGIONAL GALLERY
36 Webb Street
East Gosford NSW 2250
Website: www.gosfordregionalgallery.com

Commercial galleries

BYRON MCMAHON GALLERY
88 George Street
Redfern NSW 2016
Phone: (02) 9318 0404
Website: www.byronmcmahongallery.com.au

STILLS GALLERY
36 Gosbell Street
Paddington NSW 2021
Phone: (02) 331 7775
Website: www.stillsgallery.com.au

ROSLYN OXLEY9 GALLERY
8 Soudan Lane
(off Hampden Street)
Paddington NSW 2021
Phone: (02) 9331 1919
Website: www.roslynoxley9.com.au

Queensland

Public galleries

QUEENSLAND ART GALLERY — GALLERY OF MODERN ART
Stanley Place
South Bank Qld 4101
Website: www.qag.qld.gov.au

QUEENSLAND CENTRE FOR PHOTOGRAPHY
33 Oxford Street
Bulimba Qld 4171
Website: www.qcp.org.au

Regional public galleries

GOLD COAST CITY ART GALLEY
135 Bundall Road
Surfers Paradise Qld 4217
Website: www.gcac.com.au

CALOUNDRA REGIONAL ART GALLERY
22 Omrah Avenue
Caloundra Qld 4551
Website: www.caloundra.qld.gov.au/CaloundraGallery

Commercial art galleries

LIBBY EDWARDS GALLERIES
482 Brunswick Street
Fortitude Valley Qld 4006
Website: www.libbyedwardsgalleries.com/

JAN MURPHY GALLERY
486 Brunswick Street
Fortitude Valley Qld 4006
Website: www.janmurphygallery.com.au

ART GALLERY SCHUBERT
Marina Mirage
Seaworld Drive
Main Beach Qld 4217
Website: www.art-galleries-schubert.com.au

Victoria

Public galleries

NATIONAL GALLERY OF VICTORIA, INTERNATIONAL
180 St Kilda Road
Melbourne Vic. 3004
Phone: (03) 8620 2222
Website: www.ngv.vic.gov.au/ngvinternational

NATIONAL GALLERY OF VICTORIA, AUSTRALIA
The Ian Potter Centre
Federation Square
Cnr Russell and Flinders Streets
Melbourne Vic. 3000
Phone: (03) 8620 2222
Website: www.ngv.vic.gov.au/ngvaustralia

CENTRE FOR CONTEMPORARY PHOTOGRAPHY
404 George Street
Fitzroy Vic. 3065
Website: www.ccp.org.au

Public regional galleries

MONASH GALLERY OF ART
860 Ferntree Gully Road
Wheelers Hill Vic. 3150
Website: www.mga.org.au

BENALLA ART GALLERY
Bridge Street
Benalla Vic. 3672
Phone: (03) 5762 3027
Website: www.benallaartgallery.com

Figure 14.3B Gallery of Modern Art, Brisbane

Figure 14.3C Art Gallery Schubert

Figure 14.3D   National Gallery of Victoria, International

GEELONG ART GALLERY
Little Malop Street
Geelong Vic. 3220
Phone: (03) 5229 3645
Website: www.geelonggallery.org.au

BENDIGO ART GALLERY
195–229 Lyttleton Terrace
Bendigo Vic. 3550
Phone: (03) 5434 6000
Website: www.bendigoartgallery.com.au

WARRNAMBOOL ART GALLERY
165 Timor Street
Warrnambool Vic. 3280
Phone: (03) 5564 7832
Website: www.warrnambool.vic.gov.au/Page/Page.
           asp?Page_Id=77

Figure 14.3E   Flinders Lane commercial gallery

Commercial galleries

ARC ONE GALLERY
45 Flinders Lane
Melbourne Vic. 3000
Phone: (03) 9650 0589
Website: www.arc1gallery.com

METRO 5 GALLERY
1214 High Street
Armadale Vic. 3143
Phone: 03 9500 8511
Website: www.metro5gallery.com.au

FLINDERS LANE GALLERY
137 Flinders Lane
Melbourne Vic. 3000
Phone: (03) 9654 3332
Website: www.flg.com.au

South Australia

Public galleries

ART GALLERY OF SOUTH AUSTRALIA
North Terrace
Adelaide SA 5000
Website: www.artgallery.sa.gov.au

CONTEMPORARY ART CENTRE OF SOUTH AUSTRALIA
14 Porter Street
Parkdale SA 5063
Website: www.cacsa.org.au

Commercial galleries

THE CENTRE FOR CREATIVE PHOTOGRAPHY
138 Richmond Road
Marleston SA 5033
Website: www.theccp.com.au
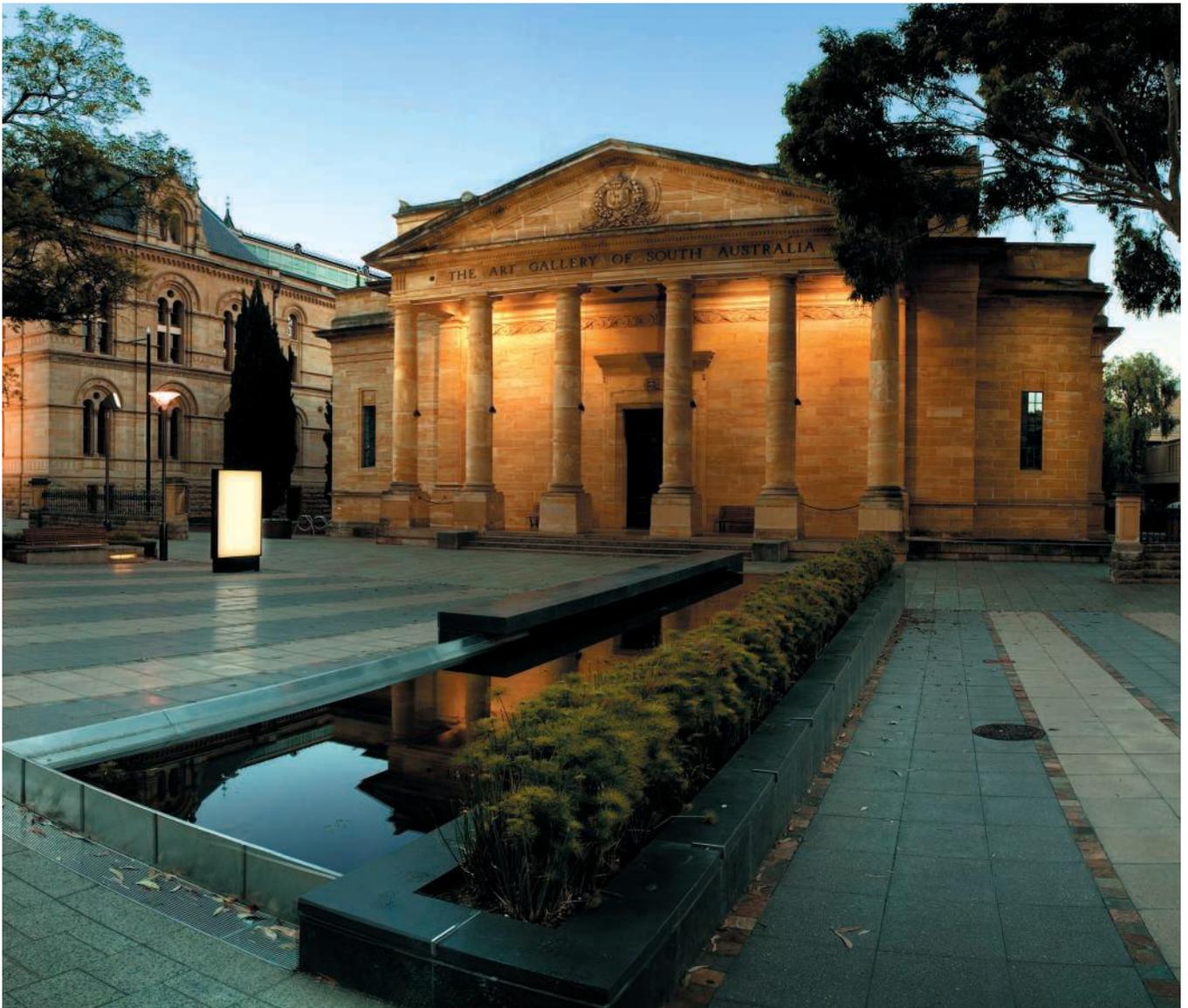
Figure 14.3F Art Gallery of South Australia

GREENAWAY ART GALLERY
39 Rundle Street
Kent Town SA 5067
Website: www.greenaway.com.au

HILL SMITH GALLERY
113 Pirie Street
Adelaide SA 5000
Website: www.hillsmithgallery.com.au

Tasmania

Public galleries

TASMANIAN MUSEUM AND ART GALLERY
40 Macquarie Street
Hobart Tas. 7000
Website: www.tmag.tas.gov.au

Regional galleries

DEVONPORT REGIONAL GALLERY
45–47 Stewart Street
Devonport Tas. 7310
Website: www.devonportgallery.com

Alternative art spaces

REGIONAL ARTS ONLINE
Website: www.tasregionalarts.org.au

Western Australia

Public galleries

**THE PHOTOGRAPHY GALLERY
OF WESTERN AUSTRALIA**
91 Brisbane Street
Perth WA 6865
Phone: (08) 9227 6620
Website: www.pcp.org.au

PERTH INSTITUTE OF CONTEMPORARY ARTS
Perth Cultural Centre
James Street
Northbridge WA 6844
Phone: (08) 9228 6300
Website: www.pica.org.au

MOORES BUILDING
Contemporary Art Gallery
46 Henry Street
Fremantle WA 6160
Website: www.fremantle.wa.gov.au/things2c/html/
moores_art_gallery.cfm

Alternative art space

PERTH CENTRE OF PHOTOGRAPHY
91 Brisbane Street
Perth WA 6865
Website: http://pcp.org.au

14.4 RECOMMENDED MATERIALS

Ilford has a large range of excellent black and white film, paper and processing chemicals on the market. These materials are available from most major photographic suppliers. Following is a list of products recommended for use when developing skills in the practical aspects of photography.

Films

Ilford PAN F Plus produces sharp, fine-grain images. At ISO 50, PAN F Plus gives maximum image definition, exceptional tonal range and grain that's practically invisible, even under high magnification.

Ilford FP4 Plus is a new ISO 125 speed film which uses Ilford balance emulsion layer technology. Ilford FP4 Plus exhibits fine grain and excellent sharpness, without sacrificing ease of use and is the ideal medium-speed film for all outdoor and studio situations.

Ilford HP5 Plus is a versatile ISO 400 speed film incorporating fine grain and exceptional sharpness. Ilford HP5 Plus can be exposed under extreme lighting conditions and can be rated at a film speed of two stops or higher than its recommended speed, producing prints with fine grain and remarkable sharpness. It can be processed in a wide range of developers.

Ilford 100 Delta Professional incorporates Ilford's proprietary core-shell crystal emulsion technology. Ilford 100 Delta is the world's sharpest black and white ISO 100 speed film. Offering many qualities, including excellent fine grain and exposure latitude, 100 Delta produces enlargements of exceptional size without loss of detail. This film features a superb tonal range, making it easy to print while producing an excellent rendition of intermediate tones.

Ilford 400 Delta Professional is an ISO 400 black and white film that offers fine grain and sharpness. Ilford 400 Delta Professional uses a unique black and white core-shell crystal emulation technology that combines high speed with the image quality of an ISO 100 film. Ilford 400 Delta Professional can be processed in a wide range of developers and can be pushed to up to twice the normal speed.

Ilford SFX 200 is a medium-speed black and white film for creative photography. It has extended red sensitivity (up to 740 nm) and is especially suited for use with a filter to create special effects. Using a very deep red filter, for example the Ilford SFX filter, skies can be rendered almost black, and most green vegetation almost white. Its unusual tonal rendition ensures interesting results for a range of subjects, including portraits, landscapes, townscapes and architecture. Best results are often obtained in bright sunshine or in the studio under tungsten lighting.

Ilford DELTA 3200 PROFESSIONAL is a high-speed, black and white professional film for making quality photographs in difficult exposing conditions. It is ideal for action and available light photography. It is designed to be exposed at EI 3200/36 and given extended development. Recommended developers are Ilford Ilfotec DD-X, Ilford microphen and Ilford ID-11.

Paper

Ilford Multigrade IV RC Deluxe is a premium variable-contrast RC paper. Multigrade IV RC Deluxe offers the widest range of any Ilford black and white paper. It features bright whites and rich blacks and provides fibre-based quality in a variable contrast RC-based paper. As it has no developer included in its emulsion, it is ideal for tray and conventional machine processing. Twelve precise, evenly spaced increments from grade 00 to grade five are obtained when it is used with Ilford Multigrade filters.

Ilford Multigrade FB is a premium, fibre-based, variable-contrast enlarging paper. It offers the widest contrast range of any variable-contrast fibre-based paper. With one paper and using Ilford Multigrade filters, the printer can achieve twelve contrasts. Available in single-weight glossy and double-weight glossy and matt.

Ilford Multigrade RC Xpress has up to twice the speed of most RC papers and can be processed in trays or conventional processors. It is a high speed, non-developer incorporated, variable-contrast RC paper which produces prints with a bright white base tint and neutral image tone. Multigrade RC Xpress is ideal for photo-finishing, large mural prints and any application where exposure speeds need to be kept to a minimum. When used with Ilford Multigrade filters, 12 contrast grades are possible.

Ilford Ilfospeed Deluxe is a graded RC paper. Ilfospeed Deluxe is a non-developer incorporated graded RC paper which uses new emulsion technology, producing prints with superior image quality. Ilfospeed Deluxe has bright whites, a neutral, black image tone and short exposure times. It is available in glossy, semi-matt and pearl surfaces and can be processed in trays or conventional processors.

Ilford multigrade RC cooltone is a premium quality, variable contrast black and white photographic paper with a cool-of-neutral image tone on a cool white base and has a 190 g/m^2 resin-coated base. It is suitable for printing all black and white negatives, including chromogenic negatives such as XP2 SUPER. (Available in two surfaces: 1M glossy and 44M pearl)

Ilford multigrade FB warmtone is a premium quality, variable contrast, black and white paper, which has a warm black image tone on a warm white base. It is especially suitable for toning. multigrade FB warmtone has a 255 g/m^2 fibre base and is available in double-weight 1K glossy and 24K semi-matt surfaces.

Ilford multigrade IV RC deluxe and *Ilford multigrade IV RC portfolio* are premium quality, variable contrast papers. multigrade IV RC has a bright base tint. The image colour remains cool-to-neutral, whether viewed in daylight or fluorescent light. multigrade IV RC Deluxe has the standard weight (190 g/m^2) resin-coated base. It is available in three surfaces: 1M glossy, 25M satin and 44M pearl. MULTIGRADE IV RC Portfolio has a double-weight (250g/m^2) resin-coated base. It is available in two surfaces: 1K glossy and 44K pearl.

Ilford multigrade IV FB fiber is a premium quality, variable contrast, black and white paper on a 255 g/m^2 fibre base and is designed for use with all enlargers. Multigrade IV FB fiber is available in double weight (1K) glossy surface and (5K) matt surface.

Ilford Ilfobrom galerie FB is a traditional, graded, black and white photographic printing paper on a double weight 255g/m^2 fibre base. Prints made on this paper have deep, rich blacks, brilliant whites and an excellent tonal rendition. Ilfobrom galerie FB has a bright white base tint, which will not yellow with prolonged washing, and a neutral image colour in all viewing conditions, giving outstanding quality and excellent overall print appearance. These qualities can be relied upon from print to print and batch to batch.

Film chemicals

Film developers

Plus Developer is a high dilution black and white film developer available as either a concentrate or a ready-to-use solution in a handy cask package. Plus Developer has a degree of flexibility not usually found with a liquid concentrate developer. It produces fine-grain negatives with good sharpness characteristics, factors that ensure excellent image quality.

Ilfosol S is a general purpose black and white developer based on several modern developing agents. Ilfosol S is particularly suited to medium and slow-speed films, such as FP4 Plus and PAN F Plus. Ilfosol S gives fine grain and good sharpness with full film speed. Ilfosol S is supplied as a liquid concentrate for easy and economical one-shot processing.

Ilford ID-11 Developer is the world-standard powder developer. It gives good results with all films and is ideal where a wide range of film and film speeds have been used. ID-11 ensures the best balance of fine-grain sharpness and tonal reduction.

Microphen is a fine-grain film developer recommended for obtaining the maximum film speed with films that can be push processed (underexposed by one or more stops with acceptable results). Microphen is optimised for use at the faster end of the exposure range. Microphen has a high speed-grain ratio; that is, there is a speed increase as well as giving the type of fine grain associated with a standard developer.

Perceptol is an extra-fine-grain developer which gives excellent image quality and very fine grain. Perceptol is optimised for use at the slower end of the exposure range. Negatives processed in Perceptol produce finer grain and better quality enlargements than those produced in a standard fine-grain developer. Perceptol is supplied as a powder and is made up of stock solution for normal tank or dish use.

Ilford Ilfotec DD-X, *Ilfotec LC29* and *Ilfosol S* are a range of liquid concentrate film developers formulated to exploit the full potential of conventional black and white film emulsions in all formats. They enable professionals and amateurs to develop small quantities of Ilford and other films with ease and convenience. Their versatility allows for the optimisation of individual film speed, quality and economy while performing consistently throughout their long working lives.

Stop bath

Ilford IN-1 Stop Bath is an acid stop bath which stops development immediately. It reduces the risk of staining and helps to maintain the fixer in good condition. It is diluted 1:39 for use and is available in 250 mL and 1 L sizes. It contains an indicator colour which changes from bright yellow to purple when the stop bath should be replaced. IN-1 is suitable as a stop bath for both film and paper.

Fixer

Ilford Hypam Rapid Fixer is a non-hardening rapid fixer supplied in liquid form and is easy and convenient to use. Dilute 1:4 with water for use with films. Hypam contains no sodium thiosulphate. This means that films are fully fixed in a very short time so there is less possibility of inadequate fixation. Hypam is recommended for all types of film processing. When processing at high temperatures (above 30° Celsius), add Ilford Rapid Hardener to the fixer. A hardening fixer is not needed or recommended at lower temperatures.

Rapid hardener

Ilford Rapid Hardener is a concentrated liquid hardener for use with Hypam and ammonium thiosulphate fixers only. Its use is recommended only when processing at high temperatures (above 30° Celsius). It should not be used at lower temperatures. To use, dilute 1:40 with working strength fixer. Never mix the concentrates.

Wetting agent

Ilford Wetting Agent aids rapid and uniform drying. Add a few drops to the final washing water.

Paper chemicals

Paper developers

Ilford PQ Universal Developer is an economical, highly concentrated Phenidone-based liquid developer for use with all Ilford RC and fibre-based papers.

Multigrade Developer is a versatile, economical liquid concentrate designed for optimum performance with Multigrade resin-coated and fibre-based papers.

Stop bath

Ilford IN-1 Stop Bath is a concentrated stop bath that can be used with both film and paper products.

Fixer

Ilford Hypam Rapid Fixer is a versatile fixer that can be used with all film and paper products. It has a very short fixing time — only 30 seconds for RC papers and 60 seconds for fibre papers. It is particularly useful in preventing excess absorption of the chemicals by fibre paper.

Rapid wash

Ilford Rapid Wash Additive is a special formula highly recommended to remove excess chemicals from fibre-based papers.

Toner

Harman selenium toner is a liquid concentrate toner, designed for the dish/tray toning of all black and white photographic papers, both resin coated (RC) and traditional fibre based (FB). This toner provides a simple and effective approach for the user wishing to produce selenium toned prints. It is designed to be used at ambient room temperatures, nominally 20ºC/68º F. Harman selenium toner enhances the archival stability, and maximum density of prints. The colour and degree of tonal changes achieved will vary according to the type of paper: ranging from cool chocolate-brown, through purplish brown, to little discernable change. Warm tone papers usually produce the most visible effects. The toner is versatile and convenient to use, with a long working dish/tray.

Inkjet digital photographic paper

Ilford Galerie

Ilford produces a large range of different Inkjet digital photographic paper in their Galerie series. This high-quality paper comes in a large range of surfaces, including high gloss, satin, smooth pearl and watercolour papers.

Ilford Galerie is a premium RC paper, developed by the makers of Ilfochrome to deliver the best in professional photographic digital prints. It incorporates an advance nonporous receiving layer for instant drying and outstanding image quality. Ilford Galerie is available in roll and pre-mount format.

APPENDIX

ASSESSMENT CRITERIA SHEET: PRACTICAL WORK

STUDENT'S NAME: .... CLASS: ....

TASK: .... DATE: ....

WORKBOOK/JOURNAL	very high	high	medium	low	not satisfactory
1. *Design development* *Brainstorming, research and exploration of theme/topic*					
2. *Record of studio experience* *Analysis of proof sheet/s, trailing of techniques, selection and refinement of image/s*					
3. *Self-evaluation* *Of completed artwork*					
4. *Layout/organisation*					
FINAL GRADE					

FINAL PIECE	very high	high	medium	low	not satisfactory
1. *Interpretation of aims*					
2. *Appropriate use of design* *Composition, line, shape, tone, texture and colour*					
3. *Appropriate use of techniques and processes*					
4. *Level of imagination/creativity in final piece*					
FINAL GRADE					

ADDITIONAL COMMENTS: TEACHER'S SIGNATURE:

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STUDENT SELF-EVALUATION SHEET

STUDENT'S NAME: .... CLASS: ....

TASK: .... DATE: ....

COMPLETE THE FOLLOWING IN YOUR WORKBOOK OR JOURNAL

1. *How much did you enjoy this activity?* *(Circle your response.)*	very high	high	medium	low	very low

2. *What new skills and/or techniques did you learn to use?*

----

3. *What do you think worked best in your finished work?*

----

4. *What problems did you face in creating this work and how did you solve them?*

----

5. *How do you rate the quality of your finished work?* *(Circle your response.)*	very high	high	medium	low	very low

ADDITIONAL COMMENTS: STUDENT'S SIGNATURE:

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ASSESSMENT CRITERIA SHEET: ANALYSIS OF AN ARTWORK

STUDENT'S NAME: .... CLASS: ....

TASK: .... DATE: ....

	very high	high	medium	low	very low	not satisfactory
Ability to:						
• **introduce the artwork**						
• **describe the artwork**						
• **analyse the working method**						
• **analyse design features**						
• **discuss the meaning and/or intention of the artwork**						
• **Evaluate the artwork**						
Expression						
Presentation						
FINAL GRADE						

ADDITIONAL COMMENTS: TEACHER'S SIGNATURE:

....

ASSESSMENT CRITERIA SHEET: COMPARATIVE ESSAY

STUDENT'S NAME: .... CLASS: ....

TASK: .... DATE: ....

	very high	high	medium	low	very low	not satisfactory
Ability to:						
• **introduce the topic**						
• **introduce the artists**						
• **comparison of influences**						
• **comparison of style**						
• **comparison of working method**						
• **comparison of artistic intention**						
• **conclusion**						
Bibliography						
Expression						
Presentation						
FINAL GRADE						

ADDITIONAL COMMENTS:

TEACHER'S SIGNATURE:

GLOSSARY

A

advocate: someone who supports and campaigns for others.

aesthetic: the look of an artwork, the qualities of its appearance being pleasing and/or beautiful.

agitate: method used to ensure that photographic paper and film are evenly and regularly covered by chemicals throughout the developing processes. This method uses gentle movement of either the film development canister or the chemical tray.

ambiguous: open to many and varied possible meanings. Sometimes the meanings are difficult to work out.

analysing: the process of evaluating and interpreting something.

aperture: the hole, in or near the lens, through which light rays travel onto the film and/or digital imaging sensor. The size of the hole can be altered by a ring on the outside of the lens marked in f-stop numbers. The higher the f-stop number, the smaller the hole.

appropriation: to adapt, reuse and reinterpret an image from an existing artwork to produce a new artwork.

artwork: a creation that expresses an idea and represents something of an imaginative and aesthetic nature.

autobiographical: a story of a person's life written or depicted in an artwork by himself or herself.

avant-garde: term used to describe artists who are ahead of others in the use or creation of new ideas, methods, designs or styles.

B

balance: when the different elements within an artwork are evenly distributed, creating a harmonious work.

Bauhaus movement: a highly influential 20th-century German school of design, visual art and architecture that promoted pure, simplified, unadorned and functional design.

black bag: a light-proof bag made of dark cloth that serves as a portable darkroom. The photographer puts his or her hands into the bag to load film onto a reel, then into a developing tank for processing.

burning in: a way of darkening specific areas of a photograph using digital software or during the printing process.

C

Cibachrome: high-gloss, vivid-coloured photograph produced from a colour transparency (slide) using Ilford materials. Also known as **Ilfochrome**.

CMYK colour: the best colour mode for printing photographic and graphic images. When using CMYK, an image is created by the combination of four colours C = cyan (blue), M = magenta (red), Y = yellow, and K = black. These are the same colours used in printing inks.

collage: an artwork produced by sticking together various elements (including images and/or different media) onto a flat surface to produce a creative composition.

composition: the structure and placement of all the components within a picture, including the subject matter and design elements.

computer bureau: a company that offers services to the public involving computer-generated imagery (for example, scanning, printing and retouching).

concept: the idea behind an artwork.

conceptualism: an art movement in which the idea is more important than any other aspect of the work, particularly craftsmanship and aesthetic appeal.

contemplative: to be reflective and appear lost in thought.

contemporary: current, of this time.

contrast: showing a distinct difference when compared with or placed beside another element of the same work. Differences are emphasised to heighten an effect.

conventional: traditional, normal, conservative and customary.

cropping: recomposing a photograph by printing only a selected area of a negative. The term also refers to the practice of framing out unwanted areas of a subject when the photograph is taken or being enhanced with digital software.

C-type colour: the most common professional process for producing colour photographic enlargements from negative film.

cynical: distrusting and mocking a situation with an element of sarcasm.

D

dada: a 20th-century rebellious art movement that challenged the notion of art by creating artworks that made little sense.

daguerreotype: the first photographic process available to the general public, invented in 1839.

deception: to be tricked and misled.

depth: the illusion of distance in a picture.

depth of field: the distance between the nearest and farthest objects that are clearly focused by a lens at a given aperture (f-stop).

digital imagery: computer-aided artwork.

DIN (Deutsche Industrial Norm): the European abbreviation for film speed.

dodging: lightening part of a photograph by shading it digitally or during printing in the darkroom.

dioramas: life-size museum exhibits of animals or birds in natural surroundings with painted backgrounds.

dpi (dots per inch): the output resolution of a printer.

E

empathise: to identify with and understand a situation and/or person.

enlargement: a print that is made larger than its negative.

ethnographic photographs: images made for the purpose of scientific study, description and classification (see figure 5.4C, page 118).

exposure: the time taken for an image to appear on a photographic film, imaging sensor or paper.

F

feathering: the technique of blurring the edges of a selection of a digital image.

feminism: a movement for the support of women's rights.

film speed: the sensitivity of a film to light (see **ISO**).

filmic: photographic images that reflect characteristics of movies.

fixer: the chemical used to fix and make a photographic image permanent.

focus: the correct adjustment of a lens to make a clear and distinct image.

fogged: when light accidentally reaches the photographic paper or film during the development process. Tends to make the film/paper turn black.

f-stop: the size of the aperture to which a camera is adjusted.

G

grain: small, separate particles of light-sensitive material emulsified and deposited on photographic film. The size of the particle limits the possible enlargement of the image and affects the speed of exposure.

H

hand colouring: the technique of applying colour to a black and white image. This can be done digitally or by hand using a variety of colouring agents and techniques.

high key: a photograph that consists mainly of pale tones.

homage: to honour and pay respect.

I

Ilfochrome: *see* **Cibachrome**.

infra-red film: film that responds to radiated heat rather than reflected light. Using black and white infra-red film will result in unusual tones appearing in your photographs. The normal tones of grass and leaves will appear white, skies dark grey, with clouds stark white (see figures 2.5E and 13.4B, pages 52 and 228 respectively).

inkjet: a digital printer that produces images by electronically spraying tiny jets of ink onto paper.

input: transporting an image into the computer (scanning).

ISO: refers to the sensitivity of a film and/or a digital imaging sensor to light. A high number ISO (1600) does not need a lot of light to achieve correct exposure, whereas a small numbered ISO (100) does.

J

juxtapose: to place side by side or close to.

L

LCD (Liquid Crystal Display): screen seen on the back of most digital cameras.

M

majestic: grand, regal and of splendour.

menacingly: to appear threatening.

metaphysical: abstract ideas that explore what is beyond the physical world (for example, spiritual, mystical, religious and subconscious worlds).

minimalism: an art movement that started in the 1960s, usually characterised by simplicity and basic abstract or geometric shapes; often associated with repetition.

modernism: a photographic movement of the early 20th century where artists set out to explore the artistic potential of photography by capturing sharp-focused images from the surrounding world. Modernist photographs have a strong emphasis on the design elements and are often taken from unusual viewpoints.

montage: an image made by combining a number of different images.

N

narrative: an artwork that tells a story.

negative: a photographic image appearing on developed film where the tones are reversed (the dark areas appear light and the light areas dark). A positive image is produced when a photograph is printed from the negative.

new objectivity: an early 20th-century German art movement that opposed the symbolism used by expressionist artists in favour of selecting realistic, sharply defined subject matter.

new photography: developed from other visual movements after World War 1. It promoted a move towards creating clear, sharp images that were distinctly photographic.

nostalgia: reflecting on or desiring a return to the past.

O

opacity: the transparency of an image. An image that is low in opacity is highly transparent, whereas an image that is very high in opacity is generally not transparent at all.

output: retrieving an image from a computer (printing).

overexposed: occurs when too much light has reached the film, imaging sensor or photographic paper.

P

paper grade: refers to the light-sensitivity and qualities of photographic paper.

pictorialism: a photographic movement of the late 19th and early 20th centuries that attempted to emulate popular painting styles through capturing soft-focused, sentimental and narrative images.

picturesque: an attractive picture created by enhancing an element or principle of design (such as colour or balance), or leaving out or rearranging part of the composition.

pixels: the picture elements in a digital image. These elements appear as single square dots of colour that, when combined with thousands of others, produce a digital image. The more pixels an image contains, the higher the quality (clarity) of the image.

pixellation: when the pixels become obvious in a digital image and blocks of colour appear. This is normally the result of low resolution. There are only a limited number of pixel dots per inch and when the image is enlarged the pixels become increasingly obvious.

point of interest: the main subject of interest in a photograph.

postmodernism: an art movement of the late 20th and early 21st centuries that rejects or departs from many idealistic visions of 20th-century modernism and allows the freedom to explore artistic ideas without having to conform to any given technique or style. This movement may incorporate, appropriate and refer to a variety of classical and historical styles.

ppi (pixels per inch): the number of pixels (dots) per inch in a digital image (*see* **resolution**).

prolific: working persistently to produce a great number of works.

proof sheet: a print containing miniature images from a photographic shoot. Often used by photographers to select which photographs to print or work with further. Also known as **contact sheets**. Proof sheets for digital photographs can be produced by software, whereas proof sheets from film need to be produced in the darkroom (see pages 38 and 77).

provocative: thought-provoking and challenging.

pure photography: *see* **straight photography**.

Q

qualities: the successful characteristics, features and attributes of a photograph.

R

refute: to not accept and challenge.

reminiscent: remembering and reflecting on the past.

replica: a copy or reproduction.

resolution: a digital image is made up of many tiny dots (pixels). The more pixels per inch, the better the quality of the image. These dots and their resulting quality are referred to as the resolution of the image.

retouching: improving a photograph or negative by spotting it with inks, dyes, paint or using digital software such as Photoshop (see page 82).

retrospective: the exhibition of an artist's body of work, generally showing their development over a set period of time.

RGB colour: a common colour mode used on PC monitors. The colours are made by various combinations of red, green and blue. RGB colour is often used when creating graphic images. Such images are then often converted to CMYK for printing.

romantic: glorified and idealistic approach to capturing subject matter.

S

safelight: a lamp or a bulb used in a darkroom to provide light of a colour or intensity that will not affect photographic paper or emulsion.

satire: to criticise something by poking fun at it.

saturation: the colourfulness and intensity of a specific colour. A highly saturated colour is bright and vivid, whereas a low saturated colour appears dull.

scanning: a way of converting a photograph, negative, transparency or object into digital information. The information can then be opened on a computer.

scenario: a particualr setting, situation and proposed chain of events.

selection: the notion of selecting a particular part of a digital image to enhance or import into or onto another image.

shutter speed: regulates the length of time a film or digital imaging sensor is exposed to light through the opening and closing of the camera's shutter.

sinister: creepy and disturbing.

stereotype: to classify and typecast a particular person or group.

stop bath: an acid solution used to halt the developing process.

straight photography: photographs that have been taken directly from the subject (generally not staged) and have not been manipulated digitally or in the darkroom.

surrealism: an early 20th-century art movement. Surrealist art depicts images derived from the world of myth, dreams and the subconscious.

T

test strip: a piece of photographic paper showing a series of different exposure times for the same negative. Test strips are used to determine the correct exposure time.

tonal range: the extent of light and dark shade found in a photograph.**toning:** adding colour to a black and white photograph (for example, sepia toning).

transcendent: inspirational and awe-inspiring, moving far beyond the normal.

U

underexposure: not enough light has reached the photographic paper, film or digital imaging sensor to produce a correctly exposed photograph.

USB (Universal Series Bus): a portable digital memory device for storing and transporting data.

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