BSBITU202
Create and use spreadsheets
Release 1

Learner guide

Aspire learning resources

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Aspire Version 1.1

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BSBITU202 Create and use spreadsheets Release 1

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Contents

Before you begin

This learner guide is based on the unit of competency *BSBITU202 Create and use spreadsheets*, Release 1. Your trainer or training organisation must give you information about this unit of competency as part of your training program. You can access the unit of competency and assessment requirements at: www.training.gov.au.

How to work through this learner guide

This learner guide contains a number of features that will assist you in your learning. Your trainer will advise which parts of the learner guide you need to read, and which practice tasks and learning checkpoints you need to complete. The features of this learner guide are detailed in the following table.

Feature of the learner guide	How you can use each feature
Learning content	Read each topic in this learner guide. If you come across content that is confusing, make a note and discuss it with your trainer. Your trainer is in the best position to offer assistance. It is very important that you take on some of the responsibility for the learning you will undertake.
Examples and case studies	Examples of completed documents that may be used in a workplace are included in this learner guide. You can use these examples as models to help you complete practice tasks and learning checkpoints. Case studies highlight learning points and provide realistic examples of workplace situations.
Practice tasks	Practice tasks give you the opportunity to put your skills and knowledge into action. Your trainer will tell you which practice tasks to complete.
Video clips	Where QR codes appear, learners can use smartphones and other devices to access video clips relating to the content. For information about how to download a QR reader app or accessing video on your device, please visit our website: www.aspirelr.com.au/help 
Summary	Key learning points are provided at the end of each topic.
Learning checkpoints	There is a learning checkpoint at the end of each topic. Your trainer will tell you which learning checkpoints to complete. These checkpoints give you an opportunity to check your progress and apply the skills and knowledge you have learnt.

Foundation skills

As you complete learning using this guide, you will be developing the foundation skills relevant for this unit. Foundation skills are the language, literacy and numeracy (LLN) skills and the employability skills required for participation in modern workplaces and contemporary life.

The following table outlines specific foundation skills noted for your learning in this learner guide.

Foundation skill area	Foundation skill description
Reading	• Recognises numerical and textual information within a range of resources to determine and complete work according to requirements
Writing	• Enters and amends routine data into software using a format appropriate to requirements
Oral communication	• Listens to short and specific instructions and uses questions to clarify understanding • Uses simple mathematical language to confirm and convey requirements
Numeracy	• Uses basic mathematical skills to create and apply spreadsheet formulae
Navigate the world of work	• Recognises, understands and adheres to legislative and organisational requirements in undertaking own work
Interact with others	• Recognises purpose of various communications directly relevant to own role and clarifies as required
Get the work done	• Uses key software features and functions in performing specific work tasks

What do you already know?

Use the following table to identify what you may already know. This may assist you to work out what to focus on in your learning.

Topic	Key outcome	Rate your confidence in each section
Topic 1 Select and prepare resources	1A Adjust workspace, furniture and equipment to suit user requirements	❑ Confident ❑ Basic understanding ❑ Not confident
	1B Minimise wastage	❑ Confident ❑ Basic understanding ❑ Not confident
	1C Identify and clarify spreadsheet task requirements	❑ Confident ❑ Basic understanding ❑ Not confident
Topic 2 Create simple spreadsheets	2A Enter, check and amend data while maintaining consistency of design and layout	❑ Confident ❑ Basic understanding ❑ Not confident
	2B Use software functions to format spreadsheets	❑ Confident ❑ Basic understanding ❑ Not confident
	2C Use and test formulas to confirm output meets task requirements	❑ Confident ❑ Basic understanding ❑ Not confident
	2D Overcome problems with spreadsheet design and production	❑ Confident ❑ Basic understanding ❑ Not confident
Topic 3 Produce simple charts	3A Select a chart type and design to enable valid representation of numerical data	❑ Confident ❑ Basic understanding ❑ Not confident
	3B Create charts	❑ Confident ❑ Basic understanding ❑ Not confident
	3C Use formatting features to modify the chart type and layout	❑ Confident ❑ Basic understanding ❑ Not confident

Topic	Key outcome	Rate your confidence in each section
Topic 4 Finalise spreadsheets	4A Preview, adjust and print spreadsheets and accompanying charts	❑ Confident ❑ Basic understanding ❑ Not confident
	4B Ensure data input meets time lines and requirements for speed and accuracy	❑ Confident ❑ Basic understanding ❑ Not confident
	4C Name and store a spreadsheet, and exit an application safely	❑ Confident ❑ Basic understanding ❑ Not confident

Topic 1
Select and prepare resources

Organisations use spreadsheets to store and calculate numerical data; for example, financial statements and product pricing information. When you are required to enter data into a spreadsheet for your organisation, you must first identify what kind of data it is and what would be a suitable way to enter it. For example, a report containing mainly text would be correctly entered using a word processing application, but data that has a lot of numbers probably needs to be entered into a spreadsheet. Once you have entered data, you will need to format it to suit your organisation's style and presentation requirements. A spreadsheet is easier to read when it has been formatted.

In this topic you will learn how to:

1A Adjust workspace, furniture and equipment to suit user requirements

1B Minimise wastage

1C Identify and clarify spreadsheet task requirements

1A Adjust workspace, furniture and equipment to suit user requirements

Workplace safety is everyone's responsibility. Employers and employees must make an active contribution to ensuring their workplace is safe. Hazards need to be identified and risks assessed to reduce injury in the workplace. If you are working at a computer for an extended period each day, your workstation must be comfortable and designed for you to carry out your tasks efficiently. You will need to organise your work so that you are not doing a repetitive task for a long time. You should also take time to stand up and stretch.

Another consideration in the workplace is to use resource conservation techniques to prevent wastage. Most organisations require staff to follow resource-saving procedures such as turning off lights in unused rooms and recycling paper. You need to be aware of any conservation efforts made by your organisation.

Workplace safety legislative requirements

All work health and safety (WHS) legislation requires employers to provide a safe workplace and adequate training and supervision, while controlling workplace hazards and risks. You must work in line with legislative requirements, regulations, Australian and industry standards, and the relevant codes of practice.

WHS legislation describes the legal requirements for ensuring workplaces are safe and healthy, such as:

- managing risks to health and safety
- promoting and maintaining the health, safety and welfare of people at work
- protecting people at work from injury and illness, including psychological injury
- protecting the health and safety of the public in workplaces
- consulting workers and encouraging participation in maintaining WHS
- providing rehabilitation and maximum recovery for injured workers.

WHS policy

All workplaces in Australia are required to have a WHS policy that describes the organisation's responsibility for the health and safety of its employees. The policy should include the organisation's goals and objectives regarding WHS and a general set of guidelines related to health and safety in the workplace.

The WHS policy will help you fulfil your duty of care as a worker for the organisation.

WHS procedures

WHS procedures are instructions developed to ensure all employees work safely and effectively. In the context of working in an office and using a computer workstation, the following information should be contained in an organisation's WHS procedures.

Information contained in WHS procedures includes:

- workstation ergonomics
- standard safety precautions and housekeeping
- safe handling of hazardous substances (e.g. cleaning products)
- emergency and fire drills
- hazard identification and risk control
- manual handling
- emergency contact numbers, including local doctors and hospitals
- location of first-aid equipment and first-aid officers.

WHS regulations

The WHS legislation of each state or territory is supported by regulations and codes of practice. The WHS regulations support the legislation by outlining specific workplace health and safety requirements that must be addressed.

The Model WHS regulations, which provide a framework that most states and territories have adopted, have specific requirements for hazardous manual tasks that must be addressed. These requirements are summarised below.

Manage risk

A person conducting a business or undertaking must manage risks to health and safety relating to a musculoskeletal disorder associated with a hazardous manual task, in accordance with guidelines for managing risks to health and safety.

Control measures

In determining the control measures to implement, the person conducting the business or undertaking must have regard to all relevant matters that may contribute to a musculoskeletal disorder, including:

- postures, movements, forces and vibration relating to the hazardous manual task
- the duration and frequency of the hazardous manual task
- workplace environmental conditions that may affect the hazardous manual task or the worker performing it
- the design of the work area
- the layout of the workplace
- the systems of work used
- the nature, size, weight or number of persons, animals or things involved in carrying out the hazardous manual task.

Code of practice: hazardous manual tasks

The WHS regulations determine that it is a legal requirement for the person conducting a business or undertaking (PCBU) and workers to address hazardous manual tasks in the workplace. A PCBU has a broad definition that includes both employers and supervisors.

The code of practice for hazardous manual tasks was developed to provide guidance on how to manage risks associated with those manual tasks with the potential to cause musculoskeletal disorders (MSDs).

A PCBU must consult with workers, so far as it is reasonably practical, to develop their own set of procedures to manage the risk of MSDs.

The hazardous manual tasks code of practice helps PCBUs and workers to:

- identify hazardous manual tasks
- assess the risks
- control the risks
- review the control measures.

Musculoskeletal disorders

MSDs come about in two main ways:

- Gradual wear and tear to joints, ligaments, muscles and inter-vertebral discs through repeated or continuous use of the same body parts, including static body positions
- Sudden damage caused by strenuous activity or unexpected movements, such as when loads being handled move or change position suddenly

The repetitive movements and sustained body position associated with entering data into a computer is regarded as a hazardous manual task and puts the operator at risk of developing an MSD.

MSDs may include conditions such as:

- sprains and strains of muscles, ligaments and tendons
- back injuries, including damage to the muscles, tendons, ligaments, spinal discs, nerves, joints and bones
- joint and bone injuries or degeneration, including injuries to the shoulder, elbow, wrist, hip, knee, ankle, hands and feet
- nerve injuries or compression (e.g. carpal tunnel syndrome)
- muscular and vascular disorders as a result of hand-arm vibration
- soft tissue hernias
- chronic pain.

Standard precautions

Your workplace may need you to use standard precautions, particularly work practices related to the prevention of repetitive strain injuries (RSIs). These include ergonomic practices, workstation design, enforced breaks and exercise routines.

Workers in an office environment follow standard precautions when using a computer workstation. However, research on sitting has demonstrated that other precautions also need to be considered, such as the use of standing workstations, to ensure that injuries are prevented. It is important that you carefully follow any standard precautions that are prescribed for your workplace.

Equipment and systems safety checks

An important part of your daily work routine is to check the various systems and equipment you will use during the day to make sure they are in correct working order. Your workplace policies and procedures should include the steps to follow. You may need to perform this procedure at the start of your working day or at specified intervals during the day.

Workstation safety procedure/checklist:

- Seat is positioned in front of your computer and you can reach your keyboard comfortably.
- Computer monitor is positioned out of direct sunlight and at the correct height.
- Environment is dust-free as dust can affect the monitor or central processing unit of a computer.
- Cables are secured so no-one trips over them.
- Blinds and window coverings are used to reduce glare and heat at your workstation.
- Temperatures don't exceed 26 °C and humidity is between 40 and 60 per cent.

Use ergonomic practices in the workplace

The aim of ergonomics is to reduce the risk of accidents, injury and ill health by applying safe work practices. Ergonomics is about creating comfortable working conditions by adapting workstations, tools and equipment to an individual worker's needs. It also improves performance and productivity in the workplace. Ergonomics covers all aspects of working, from physical stresses such as sitting at a workstation all day to environmental factors such as noise, air-conditioning and lighting.

Set up your workstation

A workstation includes a computer, screen, keyboard, mouse, desk and chair. How your workstation is designed can affect your health and wellbeing. Several physical problems can result from poor workstation design; for example, lower back strain may result from sitting in a chair that does not support your back. Below are some guidelines for setting up your workstation to be ergonomically efficient.

Chair

Adjust your chair height so that your feet are flat on the floor, your thighs are horizontal and your lower legs are vertical to the floor.

Adjust the backrest by raising it to the maximum height and then lower it until it fits the curve of your lower back. If this is not comfortable, lower it another couple of centimetres. Continue this until a comfortable position is found. The backrest should support your lower back.

The backrest may also be adjusted backwards and forwards. When seated in your usual working position, move the backrest until it exerts a gentle pressure on your lower back. Make sure there is at least two centimetres of space between the front of the seat and the back of your knees. Armrests should be positioned so that they do not interfere with carrying out your tasks.

Desk

When you sit at your desk, the surface should be just below your elbow height. If your desk is not height-adjustable, try to raise your chair so you are sitting at the correct height, and use a footrest to make up the difference. If your desk is too low, you may be able to extend the legs. You should have plenty of leg space underneath your desk. Don't clutter the space with bags and bins, as your legs may become cramped and your posture twisted. Position any equipment or materials you use so that you can reach them easily without twisting. For example, stationery items you frequently use should go in the top desk drawer, and your keyboard and screen should sit directly in front of you to avoid having to angle or twist your body.

Keyboard

The angle of your keyboard can be adjusted to suit your comfort level by moving the supports underneath it. Place the keyboard as close as possible to the front of your desk. Don't place documents between yourself and the keyboard, as stretching will eventually cause muscle strain in your arms, shoulders and neck. While typing it is best not to rest your wrists, as they should not be bent up, down, or to the side. The knuckle, wrist and top of the forearm should form a straight line. Wrist supports or rests give you a place to rest your hands only when pausing from typing, not while you are typing. Do not pound the keys; use a light touch. Leave enough room on your desk to put the keyboard out of the way when you are not using it.

Mouse

Place the mouse and mouse mat directly beside your keyboard on the side you prefer. If you use the mouse frequently, you could try to alternate sides. You will be surprised at how easy this becomes with practice. Your wrist should be straight, and the desk should support the weight of your wrist, not your arm. Try to keep your wrist flat and rest your fingers on the mouse between clicks. Hold the mouse lightly. Don't hold onto the mouse when you are not using it.

Screen

Once you have adjusted your chair and desk, you can position your screen. Adjust it so that the top of the screen is level with or slightly lower than your eyes. If you can't adjust the screen to the correct height, place the screen on a platform.

The screen should be at least 50 centimetres or an arm's length away from your seated position to minimise radiation exposure; however, you should always adjust the position of the screen to suit you. It is best to position the screen so that you can clearly read the text without leaning forward, twisting your neck, or looking too far upwards. Also take surrounding factors into consideration, such as reflection, glare and shadow, when positioning your screen.

Workstation features

The features of an ergonomic workstation are highlighted in the diagram below. Some features of the workstation may vary depending on the type of computer work being performed. Graphic work may require the use of a pen tool, and multiple monitors are commonly used for a variety of digital work.

Top of screen	The screen angle should be adjustable between 85 and 125 degrees to the horizontal.
Centre of screen	Minimise screen reflection and glare by using an anti-glare filter.
Bottom of screen	Place a document holder beneath or beside the screen at the same viewing distance as the screen.
Top line of sight	The viewing distance should be between 400 mm and 700 mm.
Bottom line of sight	A relaxed viewing angle is approximately 35 degrees.
Head	Keep your head erect.
Shoulder	Have your upper arms hanging freely.
Elbow	Have your forearms approximately horizontal.
Above knee	Ensure there is clearance between the lower edge of the desk and your legs.
Below knee	Ensure there is clearance between the front edge of the seat and the lower leg.
Footrest	Use a footrest if needed.
Back of chair	The back support should be adjusted to support the small of your back.
Under chair	Adjust the seat height to suit your furniture and equipment.
Chair legs	Use a chair with a five castor base.

Desktop layout

Items on your desk, including equipment and resources, should be arranged within easy reach.

Your desk area can be divided into three zones:

- the optimum reach zone – the area closest to you, where your hands operate most of the time
- the maximum reach zone – further away, but still close enough to reach comfortably
- the outer reach zone – where you may have to bend forward or stand to reach items.

Make sure your desk is organised so that frequently used objects, such as your keyboard, are close to you. Intermittently used objects, such as your phone, should be out of the way but still within easy reach. Other resources used less frequently, such as in- and out-trays, should be in the outer reach zone.

Adjust your equipment and posture

When your posture is poor, you may suffer from aches and pains. Spending a long time in the same position can put stress on your body and this can be made worse if you are in an uncomfortable or poorly supported position. These symptoms may start out very slight, but if you continue to use poor posture they may get worse and become intolerable. They may result in cumulative stress given the constant stress on your muscles, nerves or tendons. When setting up your workstation, you need to make sure your posture will not cause you pain or discomfort. The equipment you use needs to be adjusted to suit your body shape and size, and the tasks you are doing.

You have already looked at adjusting your screen and chair. There are other office tools that can help your posture. These include the following items.

Footrests

A footrest may be necessary if you can't place your feet comfortably on the floor. Footrests allow your feet to rest at the correct height and on a tilting angle, which prevents strain on the lower back.

Headsets

If you use a telephone for long periods of time, it is a good idea to use a headset. A headset will keep your neck straight and your arms free. Headsets prevent you from bending your neck to support the telephone handpiece.

Document holders

Document holders are designed to hold papers and reference material in a convenient position for viewing. Place your document holder in the correct position. If it is below the screen or too far off to the side, each time your eyes look from one source to the other, your pupils have to adjust. Doing this for long periods of time can cause headaches and eyestrain. Place the document holder at a similar level, angle and distance as the screen to avoid having to shift eye focus.

Angle boards

Angle boards allow the user to maintain correct posture when reading, by reducing the angle between the work surface and the vertical posture. Adjustable to a suitable height and angle, these supports enable comfortable reading with the neck correctly positioned. Try to keep your neck as straight as possible when you are reading.

Home office

Communication technology and organisational policies to maintain a sustainable work–life balance are creating opportunities for more flexible working arrangements. This means that more employees are working from home offices or in other remote office locations. Many benefits can be derived from flexible working arrangement for employers and employees, but there is still a responsibility for all parties to make sure that home and remote offices use ergonomic practices and follow WHS requirements.

Hot desking

Hot desking is an office organisation system that is used in some workplaces where workstations are not assigned to an individual worker. Workstations may be used by multiple workers during different time periods or shifts.

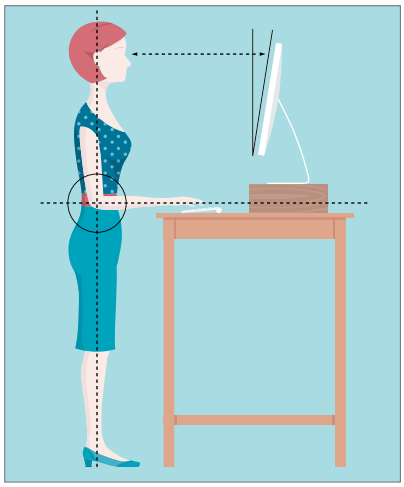
The motivation behind hot desking is primarily the cost savings achieved by setting up fewer workstations in workplaces where not all the workers are in the office at the same time, or not in the office for long periods at a time.

Another common adaptation of hot desking is where work stations are assigned to individual workers, but need to be readily available for other workers to access based on daily work requirements, such as a group of people coming together to work on a specific project.

WHS and workplace culture considerations with hot desking

- It is common for workers to want their own space. Consequently, they may tend to choose one location and stick to it.
- It can take extra time each day to set up a work station for ergonomic and work efficiency.
- Personal hygiene needs to be maintained to prevent the spread of germs on keyboards and desk surfaces.
- Workstations need to be tidied appropriately in readiness for the next user. This can also involve some cleaning.

Standing desks



Sitting at a desk for long periods of time has many negative health impacts. It is claimed that the negative effects of prolonged sitting cannot be counteracted by regular exercise and that the only way to eliminate this problem is to avoid sitting as much as possible.

These negative health impacts can be overcome through the use of standing desks. Standing provides a greater opportunity for your body to move and adjust and involves more muscular activity than sitting.

Some of the health benefits from standing include:

- alleviating back pain and other repetitive stress injuries by greater use of core back muscles to support the upper body
- increasing focus, alertness and activity level by releasing restless energy
- reducing the risk of developing cardiovascular disease, diabetes and blood clots, which can be caused by prolonged sitting.

Standing desk ergonomics

Using a standing desk for hours on end requires you to adapt. It is recommended that you start using a standing desk gradually by alternating between sitting and standing. You may experience sore feet, tired legs and fatigue at first. Wear comfortable shoes and use an anti-fatigue floor mat.

An ergonomically designed standing work desk means you can maintain correct posture while working.

Position arms at 90 degrees when typing/standing.
Place the computer screen at eye-level and tilting it slightly upwards.
Place the computer monitor at least an arm's length away.
Avoid leaning over the desk; keep your body straight.

Monitor environmental factors

Environmental issues in the workplace include lighting, noise control and air quality. If the environment of your workplace is not monitored and controlled, you may suffer from headaches, fatigue, hearing loss or eyestrain.

Light

Good lighting is essential for a safe and hazard-free workplace. You need to see things clearly to work effectively. Simply shifting the screen slightly, adjusting blinds, altering the brightness settings on the screen and using desk lamps can avoid many light hazards. Try to use natural sunlight if the office layout can accommodate this. If not, keep bulbs and fixtures clean, focus light on your task and use fluorescent lights if possible.

Improper lighting can cause eyestrain and headaches.

Hazards associated with lighting include:

- glare – a computer screen positioned in front of a bright window can be difficult to see
- flickering lights – a fluorescent light may malfunction, causing annoyance, irritation and nausea
- inadequate or dim light – reading in dim light causes eyestrain
- reflections – sunlight reflecting on a screen can make it difficult to read
- shadows – shadows shifting across your work area can cause you to sit with bad posture in order to read your work.

Noise

Noise can include any annoying or disturbing sound. Excessive noise around heavy machinery or equipment can cause permanent hearing loss. Noise is a problem if it disturbs people, distracts them, interferes with communication, causes people stress or generally interferes with their work.

Many offices are open-plan in design, often with employees seated close to each other and divided by partitions at chest or head height. Think about noise levels when you set up your workstation. It should be possible for people in open-plan offices to have some privacy when they are on the telephone and carrying out their day-to-day activities.

Noise in the office can come from:

- machines (photocopiers, fax machines, printers)
- other equipment (telephones, paging systems, music)
- background noise (lifts, air-conditioning, traffic)
- people talking.

Noise management

Noise can also be a problem outside office environments, such as on factory floors, at construction sites or near airports. You may have to wear ear protection if you are required to work in excessively noisy areas.

There are many ways that problem noise can be controlled in the workplace. Noisy machines can be put in a separate room or area. Sound-absorbent materials such as carpet and partitions can be installed or arranged to deflect and absorb noise. The volume level on your telephone's speaker can be adjusted.

Remember that noise is only a hazard when it is stopping you from working productively, comfortably and safely. Many people prefer to work with low levels of noise rather than complete silence.

Air

Air-conditioned offices do not have fresh air from open windows. This can cause problems for some people.

Office workers frequently complain of being too hot or too cold. If a person's desk is near an air-conditioning outlet, the area around their desk can be much colder than elsewhere in the office. They can also suffer from dry and itchy eyes. Report such hazards to the relevant person. This situation can usually be corrected by adjusting air-conditioning flow.

Organise your work

Having a well-planned workstation and comfortable surroundings is pointless if you don't organise your work in a way that prevents discomfort or pain. Make sure you plan your daily tasks so that you aren't doing repetitive work for long periods of time. Make sure you take rest breaks and exercise regularly.

Positive work organisation includes:

- a mixture of repetitive and other activities
- rest periods
- exercise breaks.

Vary your activities

Your work role may involve several different tasks. Some tasks may be repetitive, such as typing up reports or entering data. If you are able to vary the tasks you carry out each day, this will help prevent repetitive actions that cause stress to your body. For example, if you have to enter a lot of data, break up the repetitive nature of the task by discussing a project with a fellow worker, collecting some research from the internet or doing another constructive workplace task you are responsible for. Workflow should be designed to reduce the repetitive tasks given to particular people.

Take rest periods

All employers need to provide rest periods for employees. Rest periods include tea breaks and lunch breaks. During the working day everyone needs to sit down, breathe easily, relax and take time to think about something other than work.

Have exercise breaks

When working with a computer, you should have short breaks at regular intervals to combat stress and prevent pain and discomfort. As discussed previously, using computers for too long without breaks has been associated with back and neck pain, headaches, migraines and eyestrain.

Try the following exercises several times a day, and encourage others around you to try them. Make sure you are relaxed and stretch gently, without overstretching. Stop if you feel any pain or discomfort, and remember to exercise both sides of your body. Most importantly, breathe deeply and evenly throughout the stretch.

Neck	Turn your head gently to look over your right shoulder. Hold for 10 seconds. Now roll your head forward to look over your left shoulder and hold for 10 seconds. Repeat several times.
Shoulders	Sitting with a straight back and neck, roll your shoulders forward, then back. Repeat several times.
Wrists, hands and arms	Interlacing fingers, turn palms upwards. Now lift arms over your head and stretch, leaning gently to the left and then to the right. Repeat movement several times.
Upper and lower back	In a standing position place hands in the small of the back. Gently arch back and hold for 10 seconds. Repeat when needed.
Shoulders and arms	Stretch your arms above your head, cradle your elbow with your hand and gently pull your elbow behind your head. Repeat on the other side, holding the stretch for 10 seconds.
Eyes	Every 20 minutes, look away from the screen. Focus on a distant object (more than three metres away).

Work without stress

Here are some tips for working without stress.

Tips to help minimise stress
• Adjust your chair and desk to suit your body. • Position your screen to suit your posture. • Adjust other equipment for safe and comfortable use. • Reduce excess noise. • Ensure you have adequate light. • Arrange your desktop so you can access things easily. • Take regular breaks from your work. • Frequently rest your eyes. • Do stretching exercises. • Vary your tasks.

Practice task 1

Here is a checklist to follow when setting up your workstation. Go through the points that are relevant to you and make any necessary adjustments to your work or study space. You may need another person to help you and check your posture. If you are not able to tick some of the checkpoints, change your study space or discuss making alterations to your workstation with your manager.

Chair
❑ Is the seat height-adjustable?
❑ Is it high enough to allow you to sit comfortably over the keyboard?
❑ Is it stable?
❑ Does it swivel?
❑ Is the height of the backrest adjustable and does it tilt backwards and forwards?
❑ If it has arms, can you still get close enough to the desk and swivel the chair?
❑ Are your feet flat on the floor, or are you using a footrest?
❑ Are you sitting up straight with the backrest firm against your back?
Desk
❑ Is it large enough to allow the screen and keyboard to be correctly positioned?
❑ Is it low enough to allow you to keep your forearms horizontal or sloping downwards?
❑ Is it high enough to allow your thighs to fit underneath it?
Keyboard
❑ Can it be tilted to allow you to adjust it?
❑ Are the symbols on the keys clear and easy to see?
❑ Is there sufficient space in front of it to allow you to correctly position your arms?
Screen
❑ Does the screen have easily adjustable brightness and contrast controls?
❑ Is the image on the screen stable and flicker-free?
❑ Are there adjustment mechanisms to allow the screen to be tilted, swivelled or raised to avoid glare and reflections and help you keep a natural and relaxed posture?
❑ Are you sitting far away enough from it for comfort?

continued ...

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1. Describe the possible consequences for an organisation in which employees do not consider their physical health.

2. What should a WHS policy include?

3. What should WHS procedures include?

4. Why should you vary the tasks you carry out each day?

1B Minimise wastage

Conserving resources at work benefits not only the organisation by reducing costs, but also the planet by reducing greenhouse gases and the amount of waste sent to landfill. Most organisations have policies and procedures for conserving resources. You can find out what these are by reading your workplace manual or asking your manager or colleagues.

Ways to conserve resources at work include:

- minimising paper wastage
- reducing energy use.

Minimise paper wastage

Wasting paper costs organisations and the planet a great deal. Consequently, many organisations have developed policies for paper usage. These include:

- using both sides of the paper when photocopying
- recycling non-confidential waste paper in recycling bins
- storing email messages in an electronic folder instead of printing
- reducing the volume of printing where possible
- reusing paper by using blank sides for rough drafts and reusing folders and files
- using recycling service to collect waste paper.

Example: office paper

Using the following statistics, consider how many trees are used for office paper.

How many trees are used to produce paper?

- One ton of uncoated virgin (non-recycled) printing and office paper uses 24 trees.
- One ton of 100 per cent virgin (non-recycled) newsprint uses 12 trees.
- One ream (500 sheets) of paper uses six per cent of a tree.
- One tree makes 16.67 reams of copy paper, or 8,335 sheets.
- One carton (10 reams) of 100 per cent virgin copier paper uses 60 per cent of a tree.
- One ton of coated, non-recycled higher-end magazine paper (used for high quality photographic magazines) uses more than 15 trees.
- One ton of coated, non-recycled lower-end magazine paper (used for news magazines and most catalogues) uses nearly eight trees.

The statistics in this example are based on US short tons (2,000 pounds), not metric tonnes.

Source: www.conservatree.com

Minimise energy use

Wasting energy also costs organisations and the planet a great deal. Many organisations have developed policies and procedures to save energy. These include:

- providing training programs on smart energy practices so that employees can practise energy efficiency
- turning off equipment when not in use
- using power-save functions for equipment
- refilling toner and ink cartridges from printers.

Resource conservation

Here are some tips for practising conservation.

Resource conservation tips
• Use the power-save function on printers when they are not in use. • Print and copy on both sides of the page, where possible. • Use recycled paper (paper used on one side) in the photocopier and printer for rough drafts. • Use recycled paper for telephone messages. • Place a recycling bin near the photocopier.

Practice task 2

1. List three policies developed to minimise paper wastage at your organisation, or one you are familiar with.

2. List three policies or procedures developed to minimise energy use at your organisation, or one you are familiar with.

1C Identify and clarify spreadsheet task requirements

Organisations use spreadsheets to store and perform calculations on numerical data. For example, sales figures and payroll information are usually stored on spreadsheets. Once the data has been entered, calculations can be performed on the numbers to produce a required result, such as total monthly takings or a calculation on interest payments.

Many organisations have specific requirements in relation to how data is stored and the way it is displayed and presented. You must be aware of these requirements so your spreadsheet meets your organisation's standards. These requirements may be in relation to how the data is entered, stored, presented, output or produced.

Requirements for the task may also be specified by your supervisor or the person requesting the information. It is important to follow instructions and clarify requirements. Part of clarifying requirements is asking questions; it may also include checking information and the presentation of past spreadsheets, as well as showing someone a draft of the spreadsheet prior to completion. Organisational and task requirement instructions form another type of check for when you complete the task.

Spreadsheet software

In accounting, a spreadsheet is a large sheet of paper that displays a company's financial position. It spreads or shows all financial information (such as costs, income and taxes) on a single sheet of paper for a manager to look at when making a decision. An electronic spreadsheet organises information into columns and rows. The data can then be manipulated by a formula to provide a total (sum). The spreadsheet can present the information in a format to help a decision-maker see the financial 'big picture' of an organisation.

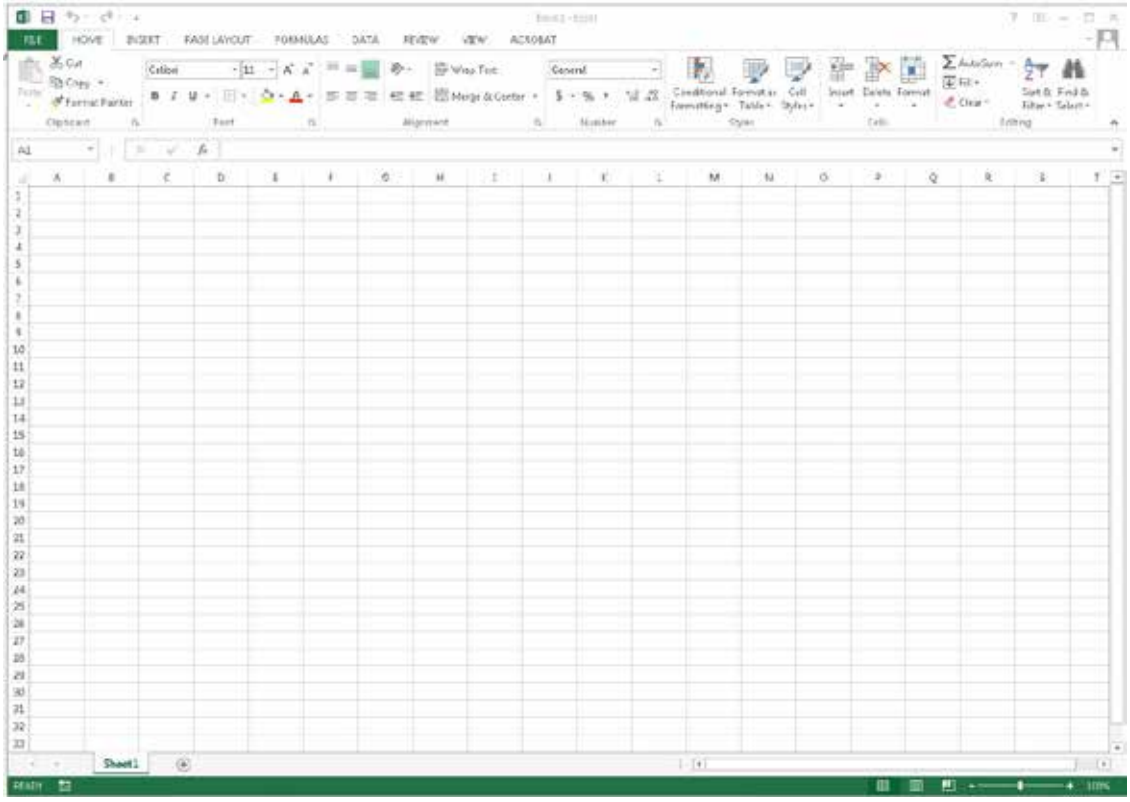
All organisations need to manage and store numerical data and a spreadsheet is the most appropriate tool for doing this. The most commonly used spreadsheet software is Microsoft Excel.

Before you begin

Before you start entering data into a spreadsheet, you should be familiar with the screen elements of a spreadsheet. Spreadsheets are made up of worksheets and workbooks. A worksheet is divided into columns and rows and the intersection of a column and row is called a cell. The current cell is shown by a highlighted rectangle that is called the 'active cell'. A workbook is a collection of worksheets.

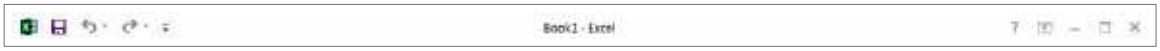
The following example is Sheet 1 in Book 1. A1 is the active cell.

Worksheet



If you look closely at this spreadsheet, you will notice there are a number of screen elements. The following sections explain each of the screen elements.

Title bar

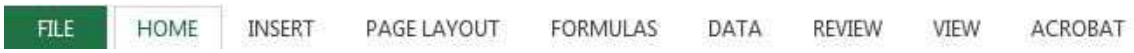


The title bar holds the name of the workbook. It has the standard minimise, restore and close functions found in all Microsoft Office products.

Ribbon – tool buttons

In Microsoft Excel 2013, toolbars have changed significantly from earlier versions of the program. The program now operates by using a number of tabs available from the ribbon. These provide you with easy access to a wide variety of commonly used tools.

The ribbon has various tabs. You can easily switch between each tab to access tool buttons that you might need to use.



There are also other tools that are relevant to an action you are performing. For example, when you choose to insert a chart, additional sets of tools appear under **Design, Layout** and **Format** tabs.

Each tab has groups of tools available. For example, under the **Home** tab, the groups are clipboard, font, alignment, number, styles, cells and editing.

You will need to familiarise yourself with the various tools that are available in Excel 2013. However, the most common tabs you will use are **Home**, **Insert**, **Page Layout** and **View**.

To learn about the various tool buttons, rest your mouse pointer on the button. A help bubble that briefly describes the purpose of the tool button will appear.

Formula bar

A worksheet is made up of cells. The Formula Bar displays the current cell reference and is used to view and edit a cell's contents. When entering data in a cell, you will see cross and tick buttons appear on the Formula Bar. These are the **Cancel** and **Enter** ticks. Accept your entry by clicking on the tick (or simply press the **Enter** key on the keyboard), or cancel it by clicking on the cross.

Active sheet

As per default workbook settings, each new workbook contains three blank worksheets. It is possible to add or delete worksheets, and rename worksheets if you need to. An example would be to have a workbook that contains yearly sales data where each worksheet contains specific data (such as sales data for each quarter) and each worksheet is named appropriately; for example, quarter 1, quarter 2, quarter 3, quarter 4. It is possible to view, and work with, data contained in each worksheet by simply clicking on the sheet name.

You can rename a worksheet by right clicking on the existing name (for example, Sheet1) and selecting **Rename**. Type in the new name and press **Enter**.

Enter data into a worksheet

Numbers and text can be typed into a cell. Text entries are called 'labels' and numeric entries are called 'values'. To enter data into a cell, you must first select it to make it active.

Enter data

The following steps show how to enter data to create a spreadsheet:

- Open Excel.
- Click inside C2 and enter **Current Clothing Label**.
- Enter **Month**, **Income**, **Expenses**, **Profit** and **Clear Profit** in the fourth row. Look at the following example to help you.
- Enter **January** in A5 and select the cell. Use **Fill** to add the months in column A. The **Fill** handle is a small black square at the bottom right of the cell . 

  Position your cursor over the **Fill** handle until a cross appears. While pressing the left mouse button, drag the **Fill** handle down through the required cells until you reach December, then release the button. Excel will automatically fill in the months for you.
- Enter values under **Income** and **Expenses**. You will be using the values you enter in calculations later, so try to be accurate.
- Save your worksheet in a suitable location on your hard drive and name it 'Current Clothing'.

	A	B	C	D	E
1					
2	Current clothing label				
3					
4	Month	Income	Expenses	Profit	Clear profit
5	January	5000	1222		
6	February	43543	500		
7	March	3454	324		
8	April	4500	400		
9	May	4500	300		
10	June	55000	3454		
11	July	43543	4322		
12	August	3454	543		
13	September	3453	2342		
14	October	32552	343		
15	November	39800	2234		
16	December	34000	100		

Alter data

Once you have entered data, you may have to alter it to correct errors or update it for changing organisational requirements. You can alter the information in a cell by selecting the cell and directly entering the new information, or by using the Formula Bar:

- Click in the E4 cell Clear Profit. This cell is now current.
- This cell's content will be displayed on the Formula Bar.
- Click on the Formula Bar to select it, or press the **F2** key on the keyboard. Change the word 'Clear' to 'End'.
- Press **Enter** or click the **Enter** tick ✓ on the Formula Bar to confirm the change.
- Select one of the numbers you have entered in the Income column. Press the **Delete** key to delete the information. Retype a new number.
- Save your changes and close your worksheet.

Select cells

Once you have entered data into a worksheet, you will need to select data in order to format it or perform calculations. You may need to select some or all of the data on a worksheet. When data is selected, it is highlighted on the screen. The following information describes a number of techniques for selecting cells.

Select a group of cells by dragging the mouse

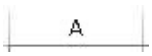
Click on the first cell in the range that you want to select. Hold down the left mouse button and drag over the required cells. Alternatively, click on a cell to select that single cell.

Select a row

Click on the row number button; for example 

.

Select a column

Click on the column letter button; for example 

.

Select the entire worksheet

Click on the button to the left of column A, or on the keyboard press **Ctrl** and **A**.

Select multiple ranges

Select cells using any of the above methods and then hold down the **Ctrl** key before selecting the second range of cells.

Storage, output and presentation

Once you have entered data into your worksheet, you need to know what the required output is, how it should be presented and where it should be stored. For example, your manager may need you to enter monthly sales figures, for which a total calculation must be made. In this case you need to add a column with a label of 'Total'. You may need to format your spreadsheet to match organisational requirements; for example, you may need to use a certain font type and size for labels, and precise information in the header and footer.

Where you store your spreadsheet depends on who needs the information. When you create a spreadsheet, you need to save it immediately. You can save it to your personal hard drive or to a shared drive on your organisation's server. A server is a computer that delivers information to other computers linked by a network. Ask your manager where you should save your spreadsheet to ensure that you are adhering to company protocols.

Practice task 3

1. Describe the main purpose of a spreadsheet.

2. Describe the following components of a spreadsheet:
   - Workbook
   - Worksheet
   - Cell

3. How do you make a worksheet current?

4. What function key will access the Formula Bar?

5. Describe how you can use the Formula Bar to alter data in a cell.

Summary

1. Ergonomics is about creating comfortable working conditions. Setting up a workstation to suit your physical requirements prevents undue stress and strain.
2. Environmental factors in the workplace, such as lighting, noise and air quality, affect the health of employees.
3. Plan daily tasks and rest periods to prevent repetitive work being done for long periods of time.
4. Performing exercises during the working day can prevent pain and discomfort.
5. Conserving resources at work benefits the organisation by reducing costs, and benefits the planet by reducing greenhouse gases and the size of landfills.
6. Spreadsheets are made up of worksheets and workbooks. A worksheet is divided into columns and rows, and the intersection of a column and row is called a cell.
7. You can change the appearance of your spreadsheet to suit your organisation's style and presentation requirements.

Learning checkpoint 1
Select and prepare resources

This learning checkpoint allows you to review your skills and knowledge in selecting and preparing resources.

Part A

1. List some reasons that a person may suffer physical discomfort when spending a lot of time at a workstation.

2. For each reason you have listed, describe a solution that could relieve the physical discomfort.

3. Describe four types of office equipment you could use to help your posture in the workplace. Explain the benefits of each piece of equipment.

Part B

Think about this statement: The environmental factors of a building can contribute to the productivity of an organisation.

Write half a page describing how noise, light and air quality could affect productivity at work.

Part C

Using the table below, list as many conservation techniques as you can think of in relation to two ways of conserving resources in an office environment: minimising paper wastage and minimising energy use.

Minimising paper wastage	Minimising energy use

Part D

Read the case study, then complete the tasks that follow.

Case study

Angelina works as an administration officer. Her main tasks are reception duties, word processing, handling the mail and filing. Most days Angelina's manager gives her urgent work in the afternoon that needs to be completed that day. Her time lines are always very tight and she often finds that she has to work during her lunch hour and for an extra half-hour in the evening. She is always exhausted and is becoming stressed.

To make matters worse, Angelina finds that work is often just dropped on her desk, which makes her desk disorganised and difficult to use. She can't alter her chair and there is glare coming from her monitor. She often leaves work with a headache and a backache.

1. List all the unsafe work practices Angelina is experiencing.

2. For each of the unsafe practices you have listed, describe a solution.

3. On half an A4 page, describe why work organisation and ergonomics lead to better employee health.

Part E

Which of the following data types would suit being entered and stored in a spreadsheet?

- Budget information
- Payroll data
- A report about WHS
- Taxation information
- Superannuation contributions
- A letter to a client
- Sales targets
- Bank reconciliation information

Part F

Create the following spreadsheet, which provides a summary of sales results for sales consultants at Henry Lewis Consulting & Co.

	A	B	C	D	E	F	G
1	Henry Lewis Consulting & Co						
2	Sales results						
3							
4		Sales Consultant					
5	Month	Hannah	Joe	Fredrick	Simon	Carolyn	Nim
6	January	12334	12324	5334	45434	2421	1232
7	February	34543	23466	5456	12334	1243	1245
8	March	3457	345	3432	23464	3434	4365
9	April	34534	7767	2323	23662	23534	2341
10	May	2367	34555	65655	25656	45634	5456
11	June	88989	23424	66434	76743	2342	7675
12	July	433	23477	2454	13123	53435	4563
13	August	5678	23244	2342	45536	23423	3245
14	September	7678	23411	11230	32111	23442	2342
15	October	4564	667	12311	634	23665	23231
16	November	7676	2234	12345	23412	6574	12353
17	December	8909	23435	12331	23234	4357	23210

1. Use **Fill** to create the list of months.
2. Alter the December figures as follows:
   - Hannah – 5909
   - Joe – 2343
   - Fredrick – 1231
   - Simon – 2324
   - Carolyn – 4358
   - Nim – 13210
3. Save the document and name it 'Henry Lewis – sales results'.

Topic 2
Create simple spreadsheets

Producing a spreadsheet means creating it and having it ready for your colleagues or supervisor to read. When producing spreadsheets, you need to check the data you have entered for errors and make sure the content and format suit your organisation's requirements. For example, you may need to proofread the data manually or use the spellchecker installed in the software you use.

If you have been asked to produce a spreadsheet, be aware of when the spreadsheet is needed, so you can have it completed on time.

If you experience difficulties when producing a spreadsheet, you need to know where to go for help; for example, you could use a paper-based manual or go online. You should know which websites have up-to-date information about the software you are using.

In this topic you will learn how to:

2A Enter, check and amend data while maintaining consistency of design and layout

2B Use software functions to format spreadsheets

2C Use and test formulas to confirm output meets task requirements

2D Overcome problems with spreadsheet design and production

2A Enter, check and amend data while maintaining consistency of design and layout

Data entered into Microsoft Excel worksheets consists of text, numbers or dates/times. Examples of text entries include names, addresses and product information. Examples of numbers include quantities, customer numbers, pricing and sales figures. Examples of dates/times include dates of sale, dates of entry and monthly date ranges. When data is entered, Excel treats the data differently depending on whether it is text, numbers or dates/times.

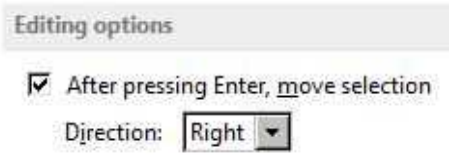
Data must be entered, checked and adjusted as per organisational and/or task requirements. For example, your organisation may prefer that dates be formatted as follows: 27 Aug 16. So if a date was formatted as 27/08/2016, it would need to be amended.

Data entry

To enter data into Excel, the cell in the worksheet must be activated. Entering data into a blank cell only requires you to select the cell, type the data and press **Enter** on the keyboard. The data will now be contained in the cell.

The automatic default for data entry in Excel is that each time you press **Enter** on the keyboard, the activated cell will move down through the worksheet.

To adjust the way this works (for example, to make the next selected cell the one to the right), select the **File** tab and click **Options**. Select **Advanced** and alter the **Editing options** as follows:



Edit data

To edit data (which means to change it), it is necessary to activate the cell contents. A common processing problem occurs when people want to change the data; for example, from Simon Jones to Simone Jones. Instead of editing the data only (that is, adding an 'e' to Simon), people select the cell and retype all of the information.

The correct procedure is to activate the cell and adjust the entry as appropriate.

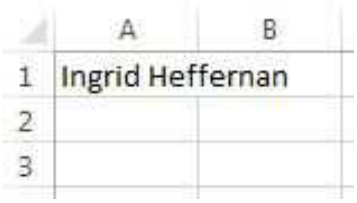
Any of the following actions will activate a cell:

- Double-click into the selected cell.
- Press **F2** on the keyboard.
- Click into the formula bar of the selected cell and amend the entry.

Text entry

Each cell in an Excel worksheet can contain approximately 32,000 characters. In most cases, this is more than adequate for the data that each cell needs to contain.

When entering text, you will notice that after you have entered the data, it is automatically aligned to the left of the cell. You will also notice that if there is no data in the adjacent cell, the text will overflow across adjacent cells.



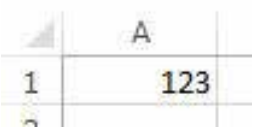
If, however, there is data in the adjacent cell, the text that is entered appears to truncate.

Many people are confused by this and think that the data is lost. However, it is still contained in the cell. If you select the cell again, you will notice that the formula bar (at the top of the sheet) shows the full content of the cell.

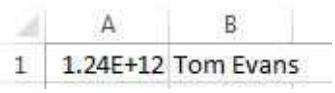
To ensure the printed and on-screen versions of the document both show the full content of the cell in the worksheet, you need to adjust the width of the cell and/or 'wrap' the text within the cell parameters.

Number entry

When entering numbers, the automatic alignment will be to the right of the cell. In most cases, if the number is longer than the cell, the width of the cell will automatically adjust. The number of characters for a value is limited to 15.



Sometimes numbers do not appear as you expect, as in the following example. This occurs when the number is too long for the cell width.



Adjust the width of the cell to correct this problem.

Date and time entry

Date and time entries also align to the right of the cell. When you enter the data, date and time formatting is applied to the cell. In Microsoft Excel 2013, it tries to match the formatting with the way the information is typed in.

Adjust cell width

The easiest way to adjust the width of a cell is to position your cursor between the column headings at the top of the worksheet and drag the cursor right or left to where you want the width of the cell to be.

Alternatively, you can **AutoFit** the cell width to the longest entry by double-clicking between the column headings. The columns will automatically adjust.

To wrap text in a cell, select the cell(s) and use the **Wrap Text** tool 

, which is located on the **Home** tab.

Sort data alphabetically

Often, data needs to be sorted; for example, sorting customer family names alphabetically, sorting in date order and sorting by customer reference number.

To sort the data alphabetically, select the **Sort & Filter** tool from the **Home** tab and then select **Sort A to Z**.

You do not need to select the data; just make sure the cursor is located in the column you want to sort. Excel recognises adjoined columns and rows and sorts them appropriately. Excel also recognises label headings and does not include these in the sorting.

If, however, there are blank rows or columns, Excel will not include these in the sorting. If you want blank rows and columns to be included, you need to select the data to be sorted first and then undertake the sorting.

Check data for accuracy

You must always check your spreadsheets for accuracy. This may include double-checking with your supervisor to make sure the data you have entered is correct.

As well as checking the values that are entered, you must make sure that any labels you have entered are spelt correctly and that you have formatted all data to suit organisational requirements.

Proofread

Proofreading is the process of carefully reviewing a document for any mistakes. To proofread a spreadsheet, you need to check for errors in values and labels.

To check values, you can compare the values you have entered with the values you were given. Make sure that you have not made any errors when copying values and that you have entered all the data in the correct places.

To check errors in labels, you can use the **Spelling** function  under the **Review** tab. This will pick up words you have misspelt, but will not help you with product names or customer names and addresses. The function will also not help where a word is spelt correctly but is the wrong word; for example, 'they're' instead of 'their'.

Make sure you manually check your spelling and cross-check it with any documentation you used to enter the data. For example, you may have been given a printout of all customer names that were to be entered. Once you have entered the customer names, check them for accuracy against the printout.

Validation rules

When creating a worksheet, you can add validation rules in cells to ensure that anyone else who adds data has to make entries in the correct format.

For example, you may want only numbers or dates to be entered into certain cells. To do this, you need to set validation rules in your worksheet.

Example: set validation rules

Follow these steps to set validation rules.

1. Open an Excel worksheet. Look at the following sample and enter the same data into your worksheet. This worksheet is to record product codes that have one letter and two digits. The month columns record the units of products sold in that month. Save the worksheet as 'Validation rules'.

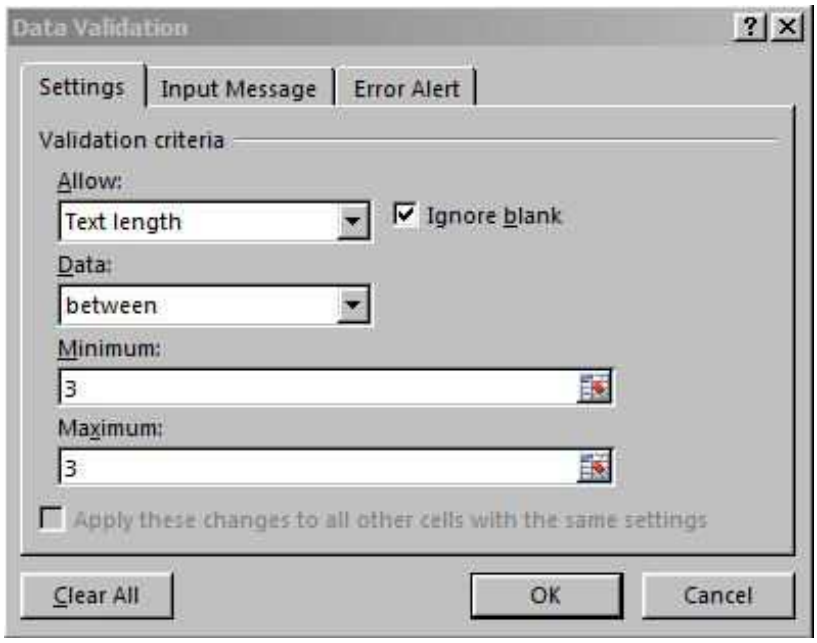
	A	B	C	D	E	F
1						
2			**Product Codes**			
3						
4	**Code**	**January**	**February**	**March**	**April**	**May**
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

continued ...

... continued

2. Select cells A5 to A12.
3. From the Data tab, select the Data Validation tool 

. You will see the following **Data Validation** dialog box. From this dialog box, you can set the criteria for what can be entered into the cells you have selected.



4. Select 'Text length' from the **Allow** box. This option enables you to decide how many characters or digits you will allow in a cell.
5. From the **Data** field select 'between' and in the **Minimum** and **Maximum** fields enter '3'. This means only three digits or characters are allowed in the selected cells. Click **OK** to save these rules.
6. Now try to enter four digits into one of the worksheet cells. Excel should display the following message:

This message tells you that your entry is invalid, but it does not tell you what you should enter. You can change the error message to tell a user exactly what should be entered into a cell.

continued ...

... continued

7. Select the **Data Validation** tool again. From the dialog box, select the tab **Error Alert**.
8. In the **Error message**, enter 'You must enter one character and two digits'. Click **OK**.

9. Now try to enter four digits into one of the worksheet cells. Excel should display an error message saying that you should enter one character and two digits.

   If you set a validation rule, always create an error message that helps your colleagues enter the correct data.

Check calculations

When using formulas and functions, you need to make sure that the result you get is the result you want. If you are working under tight deadlines, it is easy to make mistakes, such as subtracting one cell from another instead of adding them.

Always test your formulas and functions before using them in your spreadsheet. You can do this by using a calculator to work out the result. When you have designed a formula and used it in your spreadsheet, you can check the result against the result your calculator gave you.

You should also check the consistency of information against the original data and check that the cell references, mathematical operators (symbols) and functions used are correct.

Sometimes this is as simple as giving the information you have produced to a colleague or supervisor to check in draft form, before you complete the final version.

Follow instructions about content and format

There are often guidelines or instructions for producing a spreadsheet when completing tasks. These may relate to the content of the spreadsheet or its format and layout.

You may be asked to prepare a report about stock on hand and to arrange the data in product code order, highlighting the quantity on hand and the quantity on order. You may also be asked to check product codes with the product description.

These are specific instructions on how to produce the spreadsheet. If these instructions are not followed, it may delay the final production of the spreadsheet. It may also affect the effectiveness of the report and/or the accuracy of information.

If you are not sure, it is always important to clarify instructions and ask questions about what else may be needed. If you have your own ideas on how the content or format of a spreadsheet could be improved, speak to your supervisor.

Practice task 4

1. Practise entering this data into a blank spreadsheet.

Name	Address	Phone number
Mary Buchanin	29 Green Rd, Altona 3018	9983 0194
Ginger Smith	988 City Rd, Melbourne 3000	9876 3939
Lionel Ha	1/23 Brown Rd, Laverton 3028	9762 8373
Ali Simoghin	21/1 Tree St, Williamstown 3016	9853 8391

- **AutoFit** the column width to enable all the data to be viewed.
- Sort the data from A to Z based on name.
- Save the worksheet as 'Customer contacts'.

continued ...

... continued

2. Look at these examples of a worksheet and documentation used to enter data.

Customer accounts worksheet

	A	B	C	D
1			Custoemr Accouints	
2				
3	**Customers**	**Balance**	**10% Interest**	**New Balance**
4	Smithe	$5,500.00	$550.00	$6,050.00
5	Cartter	$4,000.00	$400.00	$4,400.00
6	Andrew	$3,450.00	$345.00	$3,795.00
7	Philips	$300.00	$30.00	$300.00
8	Elliott	$2,500.00	$250.00	$2,750.00
9	Frank	$500.00	$50.00	$550.00
10	Luiee	$34.00	$3.40	$37.40

Customer documentation

Customers	Balance
Smith	55.00
Carter	4,000.00
Andrews	3,455.00
Phillips	3,000.00
Elliot	2,500.00
Franks	5,000.00
Luie	34.00

Cross-reference the worksheet with the customer documentation. Count how many errors there are in the worksheet.

3. What should customer Smith's new balance be?

4. Recreate the 'Customer accounts' worksheet with accurate information.
5. Select cells B5 to F15 from the 'Validation rules' worksheet from the previous example. This covers all the values to be entered under the five months. Add a validation rule to these cells that ensures only numbers can be entered into them. Write an error message to help colleagues if they try to enter the wrong data. Test your validation rule to make sure it works.

2B Use software functions to format spreadsheets

When you have created a spreadsheet, you will find that some adjustments are required before the spreadsheet can display data to organisational requirements.

For example, you may have to add columns and rows to enter new data, or resize columns and rows to fit data that has already been entered.

Adjust column width

There are two main ways to adjust the width of columns in a spreadsheet. You can use **Format** 

from the **Cells** tools on the **Home** tab to adjust the width of columns.

Alternatively, you can adjust the width manually by dragging the column to the required width, or Excel can automatically adjust the width for you.

Steps to manually adjust column width

- Open the 'Current clothing' worksheet.
- Move your cursor to the vertical line between the column headings. The cursor should change into a two-headed arrow.
- Click and drag the two-headed arrow until the column is the required width.
- Select another column that needs resizing.
- Move your cursor to the vertical line between the column headings until the cursor changes into a two-headed arrow.
- Double-click on the vertical line. Excel will choose the best fit based on the largest cell entry in the column.
- Save the worksheet.

Adjust row height

You can use **Format**  from the **Cells** tools on the **Home** tab to adjust the height of rows.

You can also adjust the height of rows manually by following these steps:

- Move the cursor to the horizontal line between the row numbers. The cursor should change into a two-headed arrow.
- Click and drag the two-headed arrow until the row is the required height.
- Select another row that needs resizing.
- Move your cursor to the vertical line between the row numbers until the cursor changes into a two-headed arrow.
- Double-click on the vertical line. Excel will choose the best fit based on the largest cell entry in the row.
- Save the changes.

Example: insert a column

The following steps show how to insert a new column.

1. Select Column E, called 'End profit'.
2. Go to the **Home** tab and select the down arrow on **Insert** from the **Cells** tools. Select **Insert Sheet Columns**. A new column will be inserted to the left of 'End profit'.
3. Select cell E4, which will become the label of the new column.
4. In the formula bar, enter 'Tax'. This column is to calculate the tax on monthly income.
5. It should look like the following example. Save the changes and close the worksheet.

	A	B	C	D	E	F
1						
2			Current clothing label			
3						
4	Month	Income	Expenses	Profit	Tax	End profit
5	January	5000	1222			
6	February	43543	500			
7	March	3454	324			
8	April	4500	400			
9	May	4500	300			
10	June	55000	3454			
11	July	43543	4322			
12	August	3454	543			
13	September	3453	2342			
14	October	32552	343			
15	November	39800	2234			
16	December	34000	100			

To add a new row, from the **Home** tab, select the down arrow on *Insert*  from the **Cells** tools. Select **Insert Sheet Rows**. A new row will be inserted above.

To delete a row or column, select the down arrow on **Delete**  from the **Cells** tools. Select the appropriate option (that is, column or row) to delete.

Alignment within cells

As discussed previously, text and values align differently within cells by default: text aligns to the left, numbers to the right.

To adjust the horizontal alignment of data within a cell, simply select the cell or cells and choose the appropriate alignment tool from the **Home** tab. Horizontal alignment options include left, centre and right.

The alignment of data within a cell can also be adjusted for the height of the cell. The default is to align the text to the bottom of the cell. Data can be aligned to the top, centre or bottom of a cell. Text can also be oriented to be on an angle.

To adjust the vertical alignment of data within a cell, simply select the cell or cells and choose the appropriate alignment tool from the **Home** tab.

Example: merge and centre

Another common tool used to align cells is the **Merge & Centre** tool. This is commonly used to align a heading across the width of data in the spreadsheet.

In the following example, the heading 'Henry Lewis Consulting & Co' and the heading 'Sales results' have been merged and centred across columns A to G (A:G).

	A	B	C	D	E	F	G
1	Henry Lewis Consulting & Co						
2	Sales results						
3							
4		Sales Consultant					
5	Month	Hannah	Joe	Fredrick	Simon	Carolyn	Nim
6	January	12334	12324	5334	45434	2421	1232
7	February	34543	23466	5456	12334	1243	1245
8	March	3457	345	3432	23464	3434	4365
9	April	34534	7767	2323	23662	23534	2341
10	May	2367	34555	65655	25656	45634	5456
11	June	88989	23424	66434	76743	2342	7675
12	July	433	23477	2454	13123	53435	4563
13	August	5678	23244	2342	45536	23423	3245
14	September	7678	23411	11230	32111	23442	2342
15	October	4564	667	12311	634	23665	23231
16	November	7676	2234	12345	23412	6574	12353
17	December	8909	23435	12331	23234	4357	23210

To perform this action, each row is dealt with separately:

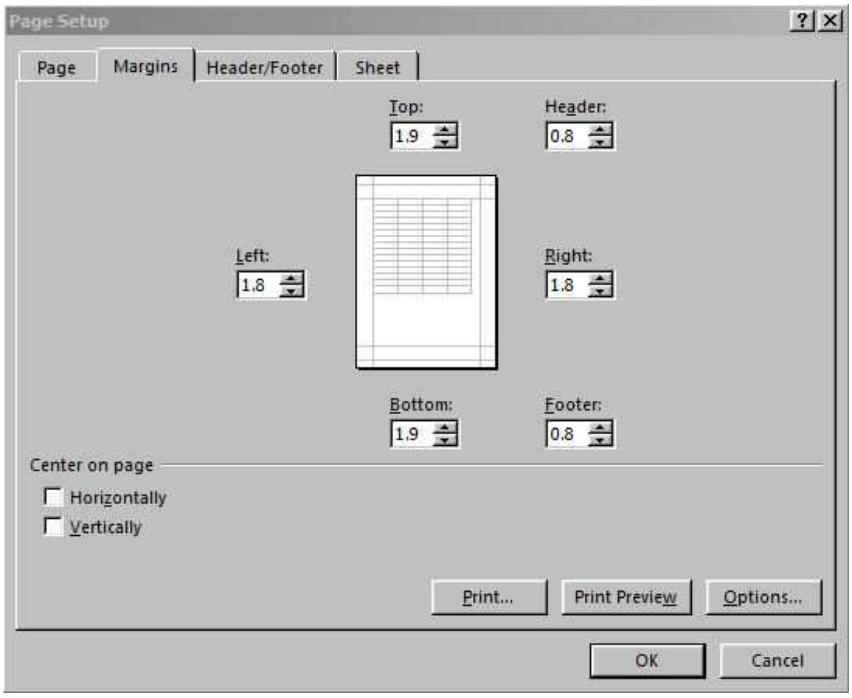
1. First, the data from cells A1:G1 is selected and then the **Merge & Centre** tool Merge & Center on the **Home** tab is selected.
2. Next, the data from cells A2:G2 is selected and then the **Merge & Centre** tool is selected. This provides the data with a centred heading.

Example: alignment of a spreadsheet

The default alignment for printing a spreadsheet is that the data is aligned to the left and top of the page in line with the margins. In many cases, especially in smaller reports, it is preferable to centre the data on the page both vertically and horizontally.

To do this, first preview the spreadsheet to check what the information will look like before it is printed out.

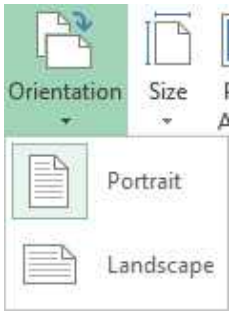
1. To preview, select **Print** from the **File** tab.
2. Select the **Page Layout** tab.
3. Select the **Margins** drop-down menu, then select **Custom Margins**.



4. Check the options to centre on the page – both horizontally and vertically. The display in the dialog box shows how the changes will appear in the spreadsheet. Select **OK**. When printed, the data will now be aligned vertically and horizontally on the page.

Orientation of a spreadsheet

When printing a spreadsheet, the default setting is set to print in portrait orientation. In the workplace, however, it is common for Excel reports to be printed in landscape orientation. In most cases, this is because the reports contain more data that spreads across the page, rather than down the page.



To alter the orientation of your report, from the **Page Layout** tab select **Orientation** and then select **Landscape**.

If not all of your data appears on one page and some spills over to the next, you can force the data to be scaled to the size that you prefer (that is, 80% of size or fit one-page wide by one-page tall). Scaling options are available under **Settings** in **Print**.

Simple calculations in Excel

Excel is used to calculate a variety of data; for example, in financial reports, sales statistics and stock levels. Routine or simple calculations are often performed to calculate data.

An Excel calculation always starts with an = sign and can include any of the following mathematical operators:

- * (multiply)
- / (divide)
- + (add)
- – (subtract)
- % (per cent)
- ^ (exponential)

Mathematical rules

The mathematical rule of BODMAS is applied in Excel spreadsheets when performing calculations. That is, Excel calculates information in brackets first, then orders, then division and multiplication, then addition and subtraction.

Calculations can be performed either on values (for example, 1, 2, 3) or on the cell reference (for example, A1). When calculating data, it is always better to use the cell reference (for example, A15), as opposed to the value (for example, 783). This ensures that the data entered is accurate, as the information is taken directly from the cell instead of you having to retype it.

It also assists by saving time – for instance, if the data in the cell changes, the calculation will be updated automatically as long as you used the cell reference.

Formula efficiency

Formulas in Excel are only as efficient as the person entering the data. If you make an error when typing or entering the data or cell reference, the calculation will be incorrect. If you choose the incorrect operator (for example, *, +, /, –) for a calculation, the result will also be incorrect.

Great care needs to be taken to ensure that the data entered is accurate. You need to manually check the values entered, as well as the cell references, and to be familiar with the operators and functions that you use.

The use of formulas and functions saves a lot of time and makes the preparation of reports and statistical data efficient.

As discussed earlier, it is always best practice to use cell references (for example, A1) where possible in calculations. This ensures that the data is accurate and also saves time if the data in the cell changes, as the calculation will be updated automatically.

In addition, it is a better habit to use your mouse to point and select the cell reference, as opposed to typing it in, to ensure you have selected the correct information for the calculation.

All calculations begin with the = symbol. If this is not present, Excel will not recognise the entry as a calculation, but will assume that it is simply a text entry.

Format spreadsheets

You can change the appearance of your spreadsheets to suit your organisation's style and presentation requirements.

You can adjust the appearance of a cell's content by altering how it is aligned, its font and whether it has a border or pattern. If the cell has a numerical value, you can alter how this value is displayed by converting it into currency, a percentage, a fraction or a scientific number.

Find out the style and presentation requirements for spreadsheets in your organisation.

In the following exercises, you will be formatting a spreadsheet you have created.

Formatting your spreadsheet has a number of advantages:

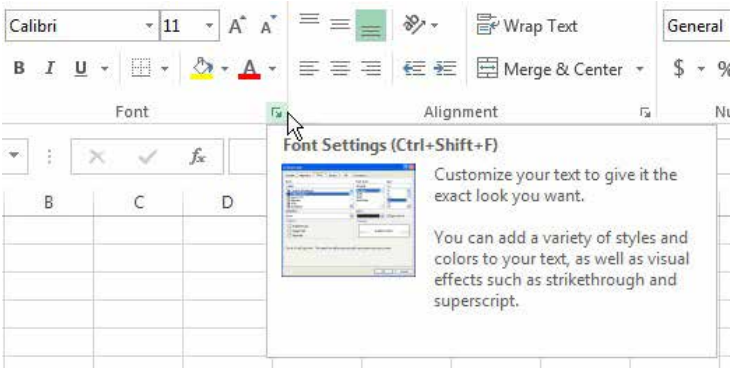
- Creating an efficient layout to make the information clearer and easier to read
- Making data input easier
- Making your spreadsheet comply with organisational style and presentation requirements

Example: format labels

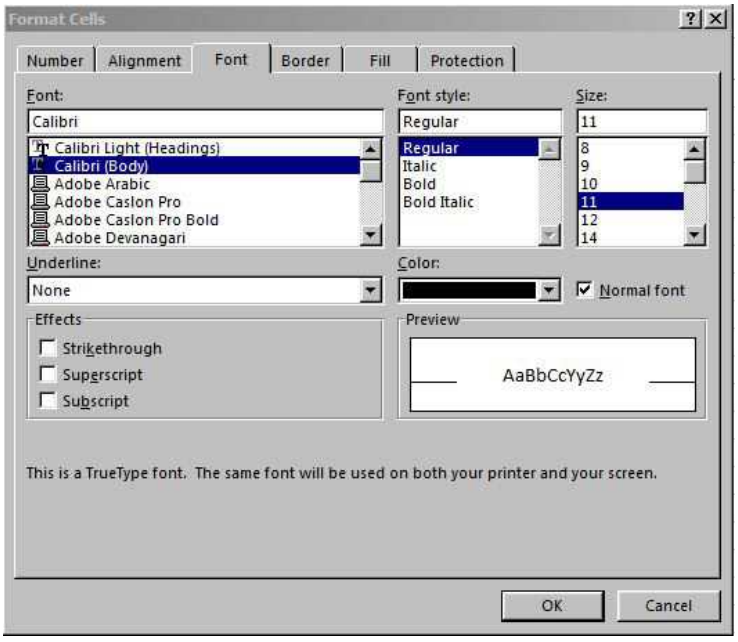
Earlier you learnt that text entered into a cell is called a label.

The following steps show how to format labels:

1. Open the 'Current clothing' worksheet.
2. Select the cells that contain 'Current clothing label'.
3. From the **Home** tab, select **Font** to access the **Format Cells** dialog box.



4. The dialog box will display as follows:



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5. Select Garamond, Bold Italic, 18. Click **OK**.
6. Select cells A4 to F4. This should cover all the headings of your columns.
7. Using the **Font** tools, change the font selections. Select Garamond, Bold, 14.
8. Select cells A5 to A16. This should cover all the month labels.
9. Using the **Font** tools, change the font selections. Select Garamond, Bold, 12. Click **OK**.
10. The worksheet should now look like the following example. Adjust the column widths to suit the formatting.

Current clothing label

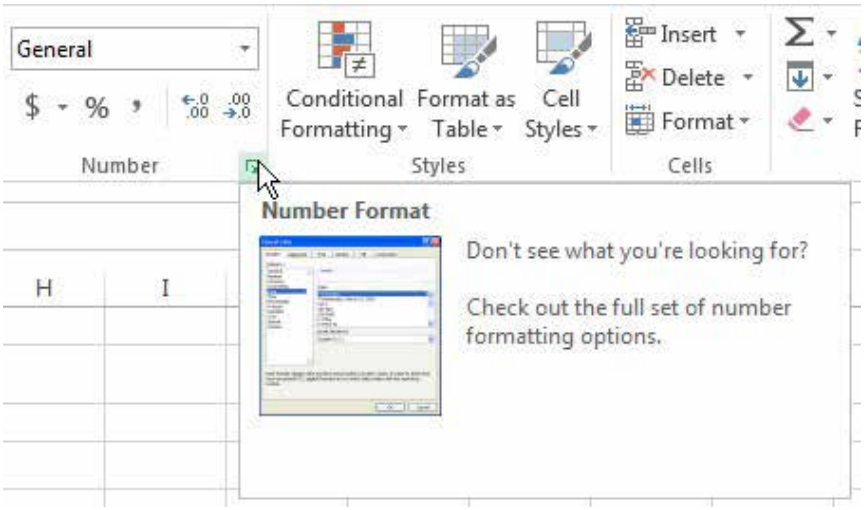
Month	Income	Expenses	Profit	Tax	End profit
January	5000	1222			
February	43543	500			
March	3454	324			
April	4500	400			
May	4500	300			
June	55000	3454			
July	43543	4322			
August	3454	543			
September	3453	2342			
October	32552	343			
November	39800	2234			
December	34000	100			

Example: format values

Earlier you learnt that a number entered into a cell is called a value.

The following steps show how to format values:

1. Open the 'Current clothing' worksheet.
2. Select cells B5 to F16. This will select all the cells where values have been inputted.
3. From the **Home** tab, select **Number** to access the **Format Cells** dialog box.



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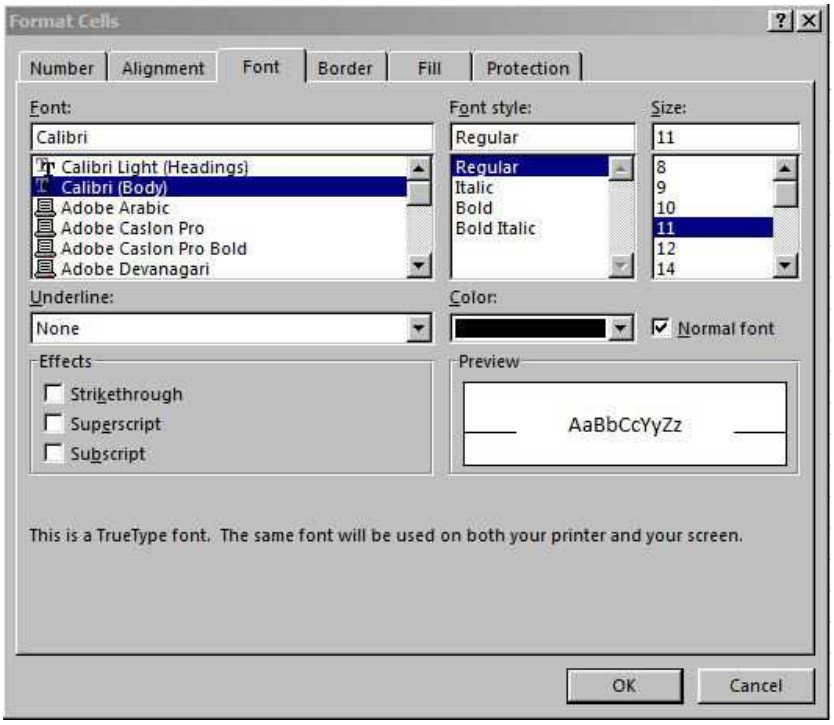
4. The dialog box will display as in the following:



5. Under the **Number** tab, select **Currency**. Check the symbol and adjust if required. Click **OK**. Your values should now be formatted as currency. If some of your values are not displayed correctly, adjust the column width until they are clearly displayed.

Alternatively, you can use the **Number Formatting** tools to quickly adjust the way values are displayed.

Example: add borders and shading

You can make data in your spreadsheet more noticeable by using borders and shading. A border alters the appearance of the cell wall and shading alters the colour of the cell.

The following steps show how to add borders and shading.

1. Open the 'Current clothing' worksheet.
2. Select cells A4 to F4. This should cover all the headings of your columns.
3. From the **Home** tab, select in the **Font** section to access the **Format Cells** dialog box and then select the **Fill** tab.

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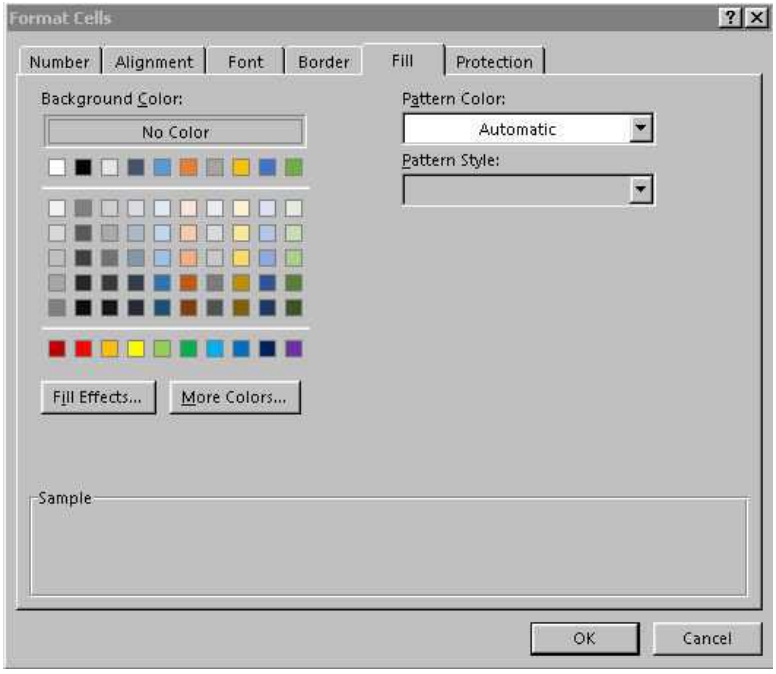
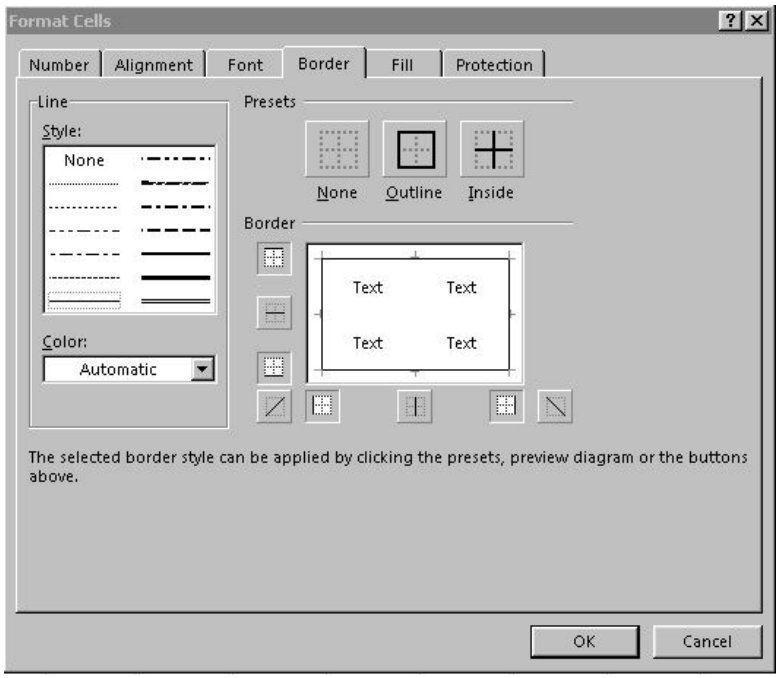


4. Select a pale colour and click **OK**.
5. View the colour on your spreadsheet; if you don't like it, change it now.
6. Select cells A5 to A16. This should cover all the month labels.
7. From the **Home** tab, select in the **Font** section to access the **Format Cells** dialog box and select the **Fill** tab. Select the same pale colour you used for the column headings. Click **OK**.
8. Select cells A1 to F19. From the **Home** tab, select in the **Font** section to access the **Format Cells** dialog box and select the **Border** tab. Look at the following example to help you:



9. Select a style of your choice, then **Outline**. Click **OK**.
10. To view your formatting, select the **File** tab FILE, then select **Print**.
11. To return to your spreadsheet, select the **Home** tab.

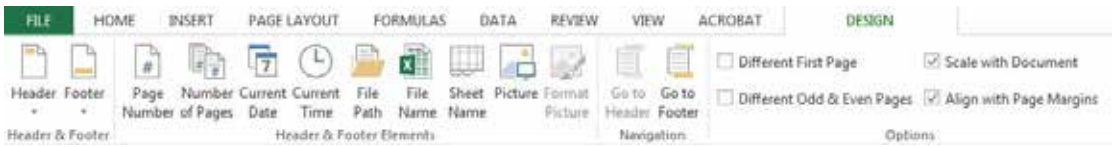
Example: add a header and footer

You may need to adjust your spreadsheet by adding additional information in a header or footer. In this exercise, you are going to add a header and footer to your spreadsheet.

The following steps show how to add a header and/or footer.

1. Open the 'Current clothing' worksheet.
2. From the **Insert** tab, select the **Header & Footer** tool . 

   Now there should be a header section in your document for you to work in. There is also a new group of tools available for your use under a tab called **Design**.



   You can type directly into the header section or you can use the new tools to insert useful information such as a date or page number.
3. To insert a footer, select the **Go to Footer** tool and type directly into the footer section, or use the **Design** tab tools.
4. Using these options, insert an appropriate header and footer into the spreadsheet.
5. Select **Print** from the **File** tab to preview the spreadsheet. If you are unhappy with its appearance, make appropriate changes.
6. Save and close your worksheet.

Practice task 5

1. Remembering the order in which Excel performs functions, work out the following calculations.
   a) =23+24*2
   b) =20+40*5
   c) =100+2+30*4
   d) =(15-5)*5

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2. Create this spreadsheet, which provides a summary of sales results for sales consultants at 'Henry Lewis Consulting & Co'. Then complete the tasks that follow.

	A	B	C	D	E	F	G
1	Henry Lewis Consulting & Co						
2	Sales results						
3							
4		Sales Consultant					
5	Month	Hannah	Joe	Fredrick	Simon	Carolyn	Nim
6	January	12334	12324	5334	45434	2421	1232
7	February	34543	23466	5456	12334	1243	1245
8	March	3457	345	3432	23464	3434	4365
9	April	34534	7767	2323	23662	23534	2341
10	May	2367	34555	65655	25656	45634	5456
11	June	88989	23424	66434	76743	2342	7675
12	July	433	23477	2454	13123	53435	4563
13	August	5678	23244	2342	45536	23423	3245
14	September	7678	23411	11230	32111	23442	2342
15	October	4564	667	12311	634	23665	23231
16	November	7676	2234	12345	23412	6574	12353
17	December	8909	23435	12331	23234	4357	23210

- Use **Fill** to create the list of months.
- Alter the December figures as follows:
  - Hannah: 5909
  - Joe: 2343
  - Fredrick: 1231
  - Simon: 2324
  - Carolyn: 4358
  - Nim: 13210
- Save the document and name it 'Henry Lewis – sales results'.
- Practise using the alignment tools to adjust how the data sits within the cells – alter the width and height of columns and rows to see how using the alignment tools alters the viewed data.
- Use the **Merge & Centre** tool to create headings for the spreadsheet.
- Centre the data on the page both horizontally and vertically.
- **Print Preview** the report.
- Change the orientation from portrait to landscape.
- **Preview** the report.
- In a new column labelled 'Summary monthly totals', calculate the total sales figures for each month. For example: =B6+C6+D6+E6+F6+G6. (Make sure you use the mouse to point and select each cell reference.)
- Manually check the calculations using a calculator.
- Change the font type to Arial 14 point (pt).
- Bold the heading and the summary monthly totals.

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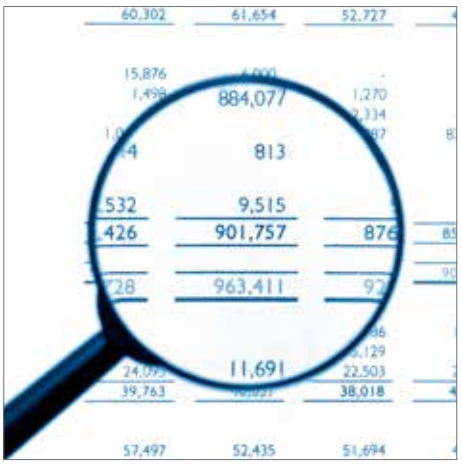
- Italicise the month and sales consultant labels.
- Adjust the column width as needed.
- Use the **Number Formatting** tools to make sure all commission and total figures are displayed in currency ($) with two decimal places.
- Adjust the column width as needed.
- Place a dark border around the outside of the data.
- Using the **Fill** tools, shade the list of names and associated data green and then shade the summary total a different colour.
- Shade the month names the same colour as the summary total. Shade the report heading a different colour.
- **Preview** your work. Save your changes.
- Add a header with today's date and time.
- Add a footer that displays the page number.
- **Preview** your work.
- Save your changes and close.

2C Use and test formulas to confirm output meets task requirements



Formulas and functions in Excel are used to perform calculations. A formula is an equation that performs calculations on data. It is used to calculate numerical data. Formulas and functions can include cell references and mathematical operations such as addition and subtraction. For example, D5+E6 is a formula.

A function is a calculation that uses a mathematical, statistical or financial operator. Excel provides a range of commonly used functions, such as **SUM** and **AVERAGE**. For example, SUM(B5:B17) uses the **SUM** function to add all the values in the selected cell range.

Depending on your organisation's requirements, you may have to use values in your spreadsheets to generate new values, such as the GST of a product or service, or an increase in product prices. Formulas and functions allow you to generate new values using existing values.

Example: create a simple formula

The following shows how to create a formula to calculate values for the Profit column in the 'Current clothing' worksheet. When creating a formula in Excel, use the cell references of the cells you want to use in your calculations. For example, =A3+B3 adds the values in the cells A3 and B3.

1. Open your 'Current clothing' worksheet.
2. Select D5, the first empty cell under 'Profit'. Enter the formula =B5–C5. Use the following example to help you:

	A	B	C	D	E	F
1						
2			*Current clothing label*			
3						
4	**Month**	**Income**	**Expenses**	**Profit**	**Tax**	**End profit**
5	January	$5,000.00	$1,222.00	=B5-C5		
6	February	$43,543.00	$500.00			
7	March	$3,454.00	$324.00			
8	April	$4,500.00	$400.00			

3. Press the **Enter** key to perform the calculation.

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4. Once you have a calculation, you can use **Fill** to perform calculations in the remainder of the column. Click and drag the D5 **Fill** handle down to D16. Your worksheet should now look like the following example:

	A	B	C	D	E	F
1						
2			*Current clothing label*			
3						
4	Month	Income	Expenses	Profit	Tax	End profit
5	January	$5,000.00	$1,222.00	$3,778.00		
6	February	$43,543.00	$500.00	$43,043.00		
7	March	$3,454.00	$324.00	$3,130.00		
8	April	$4,500.00	$400.00	$4,100.00		
9	May	$4,500.00	$300.00	$4,200.00		
10	June	$55,000.00	$3,454.00	$51,546.00		
11	July	$43,543.00	$4,322.00	$39,221.00		
12	August	$3,454.00	$543.00	$2,911.00		
13	September	$3,453.00	$2,342.00	$1,111.00		
14	October	$32,552.00	$343.00	$32,209.00		
15	November	$39,800.00	$2,234.00	$37,566.00		
16	December	$34,000.00	$100.00	$33,900.00		

5. The values in the 'Tax' column need to be calculated as 10 per cent of the profit. In E5 enter the formula =10%*D5 (this will give you 10 per cent of the value in D5). Look at the following example to help you:

	A	B	C	D	E	F
1						
2			*Current clothing label*			
3						
4	Month	Income	Expenses	Profit	Tax	End profit
5	January	$5,000.00	$1,222.00	$3,778.00	=10%*D5	
6	February	$43,543.00	$500.00	$43,043.00		
7	March	$3,454.00	$324.00	$3,130.00		
8	April	$4,500.00	$400.00	$4,100.00		

6. Press the **Enter** key to perform the calculation. **Fill** the calculation down to December.
7. Select F5, the first empty cell under 'End profit'. Enter the formula =D5–E5. This calculation subtracts 'Tax' from 'Profit', giving you the 'End profit' values. Use the following example to help you:

	A	B	C	D	E	F
1						
2			*Current clothing label*			
3						
4	Month	Income	Expenses	Profit	Tax	End profit
5	January	$5,000.00	$1,222.00	$3,778.00	$377.80	=D5-E5
6	February	$43,543.00	$500.00	$43,043.00	$4,304.30	
7	March	$3,454.00	$324.00	$3,130.00	$313.00	
8	April	$4,500.00	$400.00	$4,100.00	$410.00	

8. Press the **Enter** key to perform the calculation. **Fill** the calculation down to December.

Simple functions

Functions can be used in Excel to perform a variety of mathematical, statistical and financial calculations. As well as adding up values, functions can also determine values such as the maximum, minimum or average from a range of cells.

Look at the following information about Excel functions.

=SUM(range)

This adds the values specified within the brackets.

=MAX(range)

This returns the highest value from the values specified within the brackets.

=MIN(range)

This returns the lowest value from the values specified within the brackets.

=AVERAGE(range)

This returns the average value calculated using the values specified within the brackets.

=COUNT(range)

This counts the number of items in the range.

=NOW()

This inserts the current time and date.

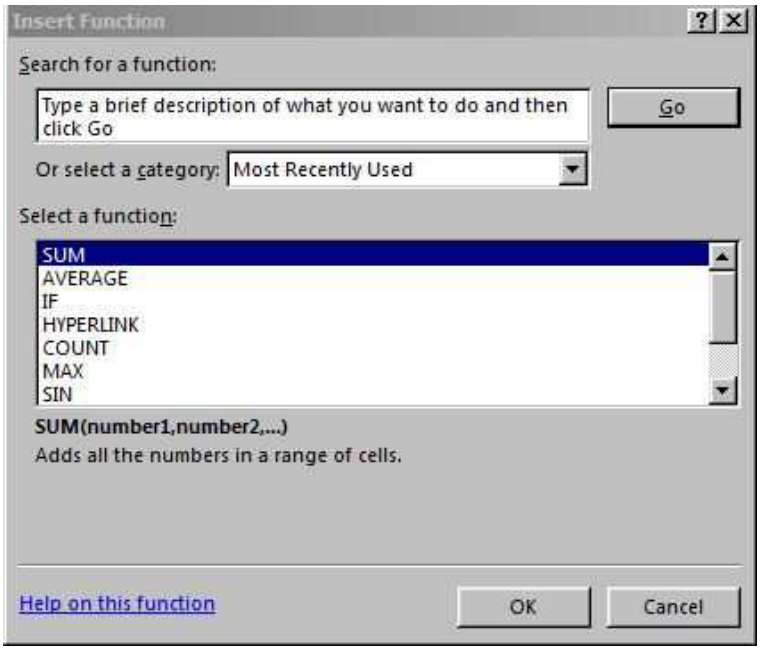
=RAND()

This inserts a random number between 0 and 1.

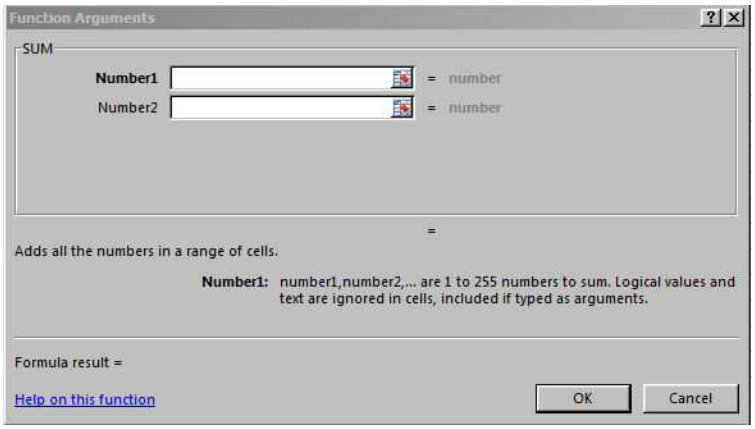
Example: use a simple function

The following steps show how to use a function to calculate totals in the 'Current clothing' worksheet. It shows how to use the **SUM** function to add the totals for each column of the worksheet that has a numerical value.

1. Select cell A18 on your worksheet and enter 'Totals'.
2. Select cell B18. From the **Formulas** tab, select the **Insert Function** button  . You will see the following **Insert Function** dialog box. Highlight **SUM** and click **OK**.



3. You will see the following **SUM** dialog box. As you have selected a cell at the end of a column full of numerical values, the **SUM** function is going to add all of these values together. Number 1 shows the formula that the **SUM** function will use to make the calculation and the formula result is displayed at the bottom of the dialog box. Click **OK**.



4. Cell B18 should now hold the calculation of all income values added together.

continued ...

... continued

5. Select the cells C18, D18, E18 and F18 one at a time and use the **SUM** function to add the values of their corresponding columns. Your worksheet should now look similar to the following example:

Current clothing label

Month	Income	Expenses	Profit	Tax	End profit
January	$5,000.00	$1,222.00	$3,778.00	$377.80	$3,400.20
February	$43,543.00	$500.00	$43,043.00	$4,304.30	$38,738.70
March	$3,454.00	$324.00	$3,130.00	$313.00	$2,817.00
April	$4,500.00	$400.00	$4,100.00	$410.00	$3,690.00
May	$4,500.00	$300.00	$4,200.00	$420.00	$3,780.00
June	$55,000.00	$3,454.00	$51,546.00	$5,154.60	$46,391.40
July	$43,543.00	$4,322.00	$39,221.00	$3,922.10	$35,298.90
August	$3,454.00	$543.00	$2,911.00	$291.10	$2,619.90
September	$3,453.00	$2,342.00	$1,111.00	$111.10	$999.90
October	$32,552.00	$343.00	$32,209.00	$3,220.90	$28,988.10
November	$39,800.00	$2,234.00	$37,566.00	$3,756.60	$33,809.40
December	$34,000.00	$100.00	$33,900.00	$3,390.00	$30,510.00
Totals	$272,799.00	$16,084.00	$256,715.00	$25,671.50	$231,043.50

AutoSum

The **AutoSum** icon Σ is under the **Home** tab in the **Editing** grouping. **AutoSum** enables you to add values automatically using the **SUM** function. Simply select the range of values that you want to calculate and click the **AutoSum** icon.

Use the **Fill** handle to repeat the sequence of the function.

Relative and absolute cell references

The cells in an Excel spreadsheet are all relative to each other. This means that if you place a value in one cell and then move it, the values will alter as the cell collects information from other cells around it.

For example, the totals you calculated for each of your columns may need to be moved to another part of the spreadsheet. However, if you move these totals to another location, their values will alter as the cells are no longer reading information from the cells immediately above them. This kind of reference is called a relative reference.

To make the values remain the same wherever you place them in the spreadsheet, you need to make the reference absolute. Relative references change when you copy and move them, and absolute references do not change.

To make a cell reference absolute, you need to place the $ symbol in the reference. Here is an example of the difference between a relative reference and an absolute one.

Type of reference	Formula example
Relative	=C5+B5
Absolute	=$C$5+$B$5

Example: create an absolute cell reference

The following steps show how to create an absolute reference:

1. Open the 'Current clothing' worksheet.
2. Select B18, which should be the 'Income' total.
3. In the formula bar you will see =SUM(B5:B17). Click in between the B and the 5. The formula will turn blue. Press the F4 key.
4. The formula will now read =SUM($B$5:B17). The B18 reference is now absolute.
5. Repeat the absolute cell reference process with the C18, D18, E18 and F18 references.

Test your absolute reference creation by copying and pasting any of your absolute references to any empty cell. The value of the absolute reference you choose should remain the same wherever it is placed.

Test, adjust and confirm formulas

It is important that the formulas used within a spreadsheet are appropriate for the data that needs to be produced and that they can be tracked for errors.

This is where it is important that cell references are used. When cell references are used, it is possible to trace calculation errors within a report.

Identify errors

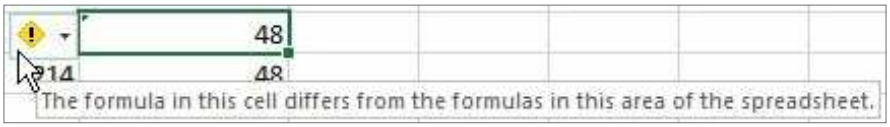
Excel has many features to assist you in identifying errors.

First there is an alert that appears if there is an inconsistency in a formula. Look at the following example:

	A	B	C	D	E	F
1	Monthly stock control					
2						
3	Product code	Product description	Quantity at start of month	Quantity in	Quantity out	Balance at end of month
4	PL123	Recycled White	209	50	65	194
5	PL344	Blue A4 paper	54	250	244	60
6	PL232	Green A4 paper	355	0	67	48
7	PL987	Yellow A4 paper	12	250	214	48

Alerts that there is a possible error in the formula

If you select the cell with the alert and hold your pointer over the green triangle symbol that appears, you will notice that a help bubble appears and explains the error that has been identified by Excel.

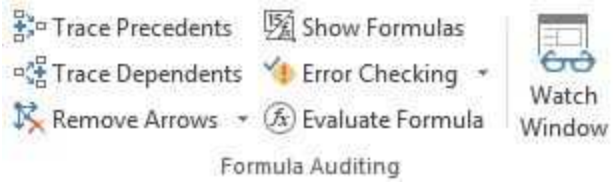


This helps you investigate and compare this formula to other similar formulas in the spreadsheet to find out where the problem might lie and ultimately fix the error.

Once you have investigated the error, you can choose the option to ignore the warning if there is no error. This will remove the green error flag from the spreadsheet.

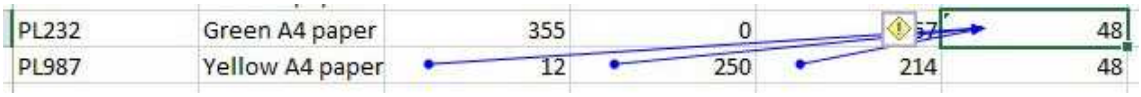
Formula auditing tools

Formula Auditing tools are located under the **Formulas** tab. They are useful when you are investigating errors and working out how to fix them.



Of particular use is the **Show Formulas** tool, which changes the view so you can reveal or hide all the formulas in the spreadsheet.

Another useful tool is the **Trace Precedents** tool, which shows where the data in the calculations comes from. To use this tool, you first need to select the cell that contains the error and then select **Trace Precedents**. The spreadsheet will show preceding connections, as per the following example:



Check calculations

As discussed earlier, it is important that you also undertake manual checks as necessary. This means checking values against the original data, using a calculator to verify results and discussing problems and calculations with colleagues and supervisors.

The case study in Practice task 6 shows how important it is to check your calculations. You should also consult your supervisor or manager about the calculations and results your spreadsheet has recorded.

Task requirements

Most organisations have developed policies and procedures for how reports are to be presented. Paying attention to the presentation of your document will enhance the reader's ability to understand it.

It is also important to ensure that the contents of any reports you are producing are accurate.

As part of the production process, it is necessary to check all information, including:

- names, addresses and phone numbers
- product information and pricing
- dates
- reference details (such as customer number, product code)
- spelling
- figures and calculations
- document-specific facts (such as summary totals, highlighted information for action or review).

Check information

If the information contained in the spreadsheet is not accurate, it can cause problems for the company that you represent. For example, you might work for a retail outlet and be asked to keep a record of daily sales. You might accidentally mistype Monday's daily sales as $43,000 when it should have been $4,300. This would affect not only the spreadsheet that you are preparing, but other financial reports that determine profit and loss. This could then affect other decisions that management may make; for example, the number of staff required to work on a particular day.

Taking the time to check information and making sure that it is correct helps to save time and improve office efficiency. Checking information and report requirements with colleagues, supervisors and managers assists in the preparation of reports that meet the organisation's needs.

Practice task 6

1. Enter this data into a new worksheet, then complete the tasks that follow.

	A	B	C	D
1	January - sales commissions			
2	Name	Total sales	%commission	January commission
3	Mary	$34,050.00	10%	
4	William	$29,881.00	15%	
5	Jarrod	$9,837.00	10%	
6	Audrey	$19,884.00	12%	
7	Sam	$12,098.00	12%	

- Calculate the January commission using cell references; for example, =B3*C3 will calculate Mary's January commission.
- Using **AutoSum**, calculate the total of the January commissions.
- Using the **MAX** function, calculate the highest commission.
- Using the **MIN** function, calculate the lowest commission.
- Using the **AVERAGE** function, calculate the average commission.
- Save the file as 'January sales commissions'.

continued ...

... continued

2. Read this case study, then complete the tasks that follow.

Case study

Daisy works as an administrative assistant in a large office. One of her tasks is to create spreadsheets. Her supervisor has asked her to create a spreadsheet with the cost price and selling price of various products. Daisy then has to calculate the new price of stock after a 20 per cent discount. To calculate the discount of the value in B5, she uses =10%*B5. To calculate the 'Sale price' to be shown in D5, she uses =SUM(B5:C5).

Daisy's results look like this:

	A	B	C	D
1				
2		**Sale Items**		
3				
4	**Product Code**	**Selling Price**	**Discount**	**Sale Price**
5	E343	$120.00	$12.00	$132.00
6	T343	$140.00	$14.00	$154.00
7	G342	$150.00	$15.00	$164.00
8	H988	$160.00	$16.00	$176.00
9	H879	$100.00	$10.00	$110.00
10	A232	$90.00	$9.00	$99.00
11	M213	$30.00	$3.00	$33.00
12	N787	$125.00	$12.50	$137.50

a) Explain the mistakes Daisy has made in her calculations for the 'Discount' and 'Sale price' columns.

b) What could be the consequences of the organisation using this data?

continued ...

... continued

c) Rewrite the functions for the 'Discount' and 'Sale price' columns.

d) Describe what Daisy could have done to make sure her calculations were accurate.

2D Overcome problems with spreadsheet design and production

You may need to access help when producing Excel spreadsheets. You may not understand how an Excel function works or you may need help operating a printer.

Whatever the problem, you need to have a plan in place for dealing with the unexpected. Organisations usually have a number of ways of dealing with software or hardware problems. They may have manuals or training booklets for you to look at or they may have a help desk for employees.

Here are some examples of possible problems.

Hardware

- Your monitor stops working.

Software

- Your software has been upgraded and you are unsure how to use it.

Formatting

- You want to add borders and colour shading to your spreadsheet.

Layout

- You want to change the orientation from portrait to landscape.

Formulas

- You want to know why a formula seems to be giving the incorrect answer.

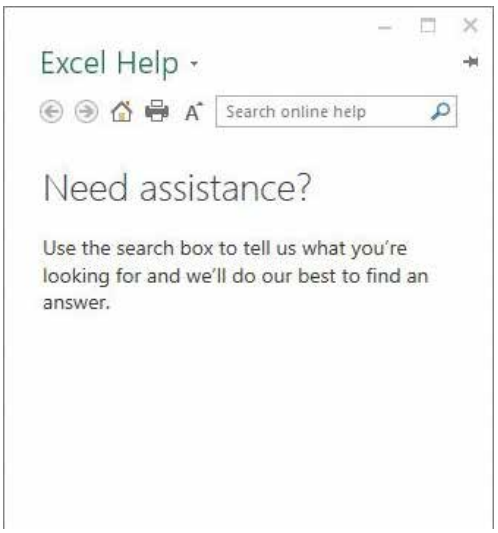
Function

- You want to know how to use the **AVERAGE** function.

Printing

- You want to know how to print to the colour printer.

Use Excel Help

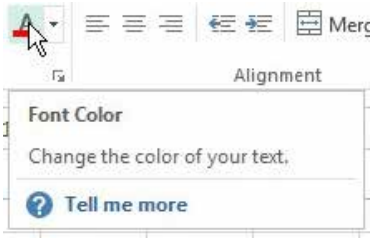


If you are working in Excel, you can use the **Help** facility ? . Full access to the **Help** facility requires you to be connected to the internet. However, you can access standard **Help** facilities without being online.

To use **Help**, simply click on the **Help** facility and either use the chapter index or type a keyword about the information you need help with into the **Search** bar.

You can also use **F1** to access the **Help** facility.

Use tool buttons



Each time you move your mouse pointer over a tool button, it will display a Help bubble that tells you what the button is used for.

For instance, from the **Home** tab, if you move your pointer over the font tool the arrow is pointing to, you see this Help message:

Use manuals

Excel software comes with user manuals that describe the software's features and provide step-by-step instructions for carrying out different functions. You can find manuals in paper-based and online formats. Look for paper-based manuals in your organisation or your local library.

There are many websites where you can find information about Microsoft Office applications. These websites contain frequently asked questions (FAQ) and solutions to common problems. You can also download updates, tools and any fixes that Microsoft has developed for software problems.

You may find the following websites useful:

http://support.microsoft.com

This is Microsoft's main site for finding help to solve problems for all Microsoft products. You can ask questions online and download files, including service packs, drivers and patches. This site also gives you access to the Microsoft Knowledge Base, which offers help for all aspects of problems that can be experienced when using Office 2013.

http://office.microsoft.com

This site provides resources for all Office applications. It has news and announcements and useful files that you can download. If you are connected to the internet, you can open this site by choosing **Help** and connecting to Office.com.

Use training booklets

There are many ways to learn about computer functions and software packages. You may go to a training course to learn a particular computer function or a supplier may instruct you in the use of a piece of equipment. You may receive training when you start a new job.

Training courses usually provide a comprehensive set of instructions or notes that are worth keeping for future reference.

Practice task 7

Read the case study, then answer the questions that follow.

Case study

Chinh works as an administrative assistant in a small manufacturing organisation. One of his tasks is to create Excel spreadsheets for his supervisor.

When creating spreadsheets, Chinh often needs to use Excel **Help** to answer questions about software functionality. If he is unsure of a screen icon's function, he points to the icon with his mouse and reads the Help bubble.

Recently Chinh attended a two-day Excel training course at a local community centre. He kept the training booklet given out and stores it on his bookshelf. It has a handy index at the back for quick solutions to problems. He has also photocopied pages from various manuals he has found around the office and placed them in a Help folder on his desk.

Sometimes Chinh experiences software function problems that cannot be solved using Excel **Help**. He then uses Microsoft's support website to find a solution or refers to the paper-based material he has gathered.

1. If Chinh experiences software functionality problems, where does he go for help?

2. Describe how Chinh uses paper-based manuals for help.

3. If you experience a software problem when creating a spreadsheet, describe the steps you should take to solve the problem.

Summary

1. Organisations use Excel spreadsheets to store and perform calculations on numerical data.
2. You may need to adjust the height and width of columns and rows to suit the data.
3. Formulas and functions are used in Excel to perform calculations.
4. When using formulas and functions, you need to make sure that the result you get is the result you want. Always test your calculations.
5. You can change the appearance of your spreadsheet to suit your organisation's style and presentation requirements.
6. Always check the data to make sure it is accurate and there are no spelling or presentation errors.
7. To solve problems when producing a spreadsheet, make sure you have access to paper-based or online help.
8. You can ask Excel for help at any time by pressing the **F1** key.

Learning checkpoint 2
Create simple spreadsheets

This learning checkpoint allows you to review your skills and knowledge in creating simple spreadsheets.

Part A

Read this product documentation and product pricing worksheet, then answer the questions that follow.

Product documentation	
Product Code	**Price (before GST)**
E334	1700.00
E343	1200.00
E788	1500.00
E708	1000.00
E356	8000.00
E376	2500.00

Product pricing worksheet

	A	B	C	D
1				
2			**Product Pricing**	
3				
4	**Product Code**	**Price (before GST)**	**10% GST**	**Actual Price**
5	E343	$1,700.00	$170.00	$1,530.00
6	E334	$1,200.00	$120.00	$1,080.00
7	E708	$1,500.00	$150.00	$1,350.00
8	E788	$1,000.00	$100.00	$900.00
9	E376	$8,000.00	$800.00	$7,200.00
10	E356	$2,500.00	$250.00	$2,250.00
11				
12				
13	**Total Sales Tax =**		**$1,590.00**	

1. Proofread the product pricing worksheet against the product documentation. What major errors has the person entering the data into the worksheet made?

2. On the worksheet, the actual price of product E343 is given as $1,530.00. What is the correct actual price of this product?

3. What is the correct GST for product E788?

4. What is the correct actual price for product E356?

5. Which value on the worksheet is correct?

6. Write a short paragraph describing the consequences of entering incorrect data. Give a suggestion for how to prevent incorrect data being entered.

Part B

Recreate the following spreadsheet.

- Use Fill to enter the days of the week
- Enter the values underneath the days
- Format the labels to make data input easier
- Add a border around the 'Day Totals' and the 'Week Total'
- Use the following example to help you. Use Excel Help facilities where necessary to assist you in producing the spreadsheet.

	A	B	C	D	E	F
1		**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
2		34	23	43	45	54
3		67	45	34	67	12
4		54	23	67	80	12
5		67	36	90	69	90
6		34	67	13	12	45
7		69	89	45	10	87
8		12	40	65	34	12
9		90	32	10	60	23
10		23	90	27	13	45
11	**Day Totals**					
12						
13	**Week Total**					

- Use a calculator to work out each of the daily totals. In B11, write a formula that calculates Monday's totals. Make sure your formula gives the same results as your calculation.
- Repeat this to add a day total for every day.
- Use a calculator to add up all the daily totals. In B13, write a formula that calculates the weekly total. Make sure your formula gives the same result as your calculation.
- **Print Preview** your spreadsheet. Adjust the alignments of your labels and values until you are satisfied with how your spreadsheet looks. Print out your spreadsheet.

Part C

Recreate the following 'Staff Salaries' spreadsheet by entering the data into each cell. The 'Hourly Rate' is how much each person is paid per hour and the 'Weekly Hours' are how many hours are worked per week. Use Excel **Help** facilities to assist you, as needed, to produce the spreadsheet.

	A	B	C	D	E	F
1						
2			Staff Salaries			
3						
4		Hourly Rate	Weekly Hours	Salary	Salary Rise	New Salary
5	Joanne	25	40			
6	Peter	20	35			
7	Chong	24	40			
8	Rose	28	30			
9	Dylan	18	25			
10	Sienna	35	40			
11	Dan	40	40			
12	Brooke	25	35			
13	Mark	23	25			
14						
15	Total Salaries					

- Format all the labels so they are Arial, Bold, 10. Add a pale colour to all the cells with labels. Add a border to the cells 'Staff Salaries' and 'Total Salaries'.
- Use a calculator to work out how much salary Joanne will receive. In D5, write a formula that calculates Joanne's salary. Make sure your formula gives the same results as your calculation. Use **Fill** to add the values for the remaining salaries.
- All staff are going to receive a salary raise of 15 per cent per week. The 'Salary Rise' column is going to show 15 per cent of the values in the Salary column. Use a calculator to work out 15 per cent of Joanne's salary. In E5, write a formula that calculates 15 per cent of Joanne's salary. Make sure your formula gives the same results as your calculation. Use **Fill** to add the values for the remaining salaries.
- The 'New Salary' column is going to hold the value of the 'Salary' and 'Salary Rise' columns added together. Use a calculator to add up Joanne's new salary. In F5, write a formula that adds up Joanne's new salary. Make sure your formula gives the same results as your calculation. Use **Fill** to add the values for the remaining salaries.
- The value in B15 is going to contain all the 'New Salary' values. Using a calculator, add up all the new salaries. In B15, write a function within a formula to add up all the 'New Salary' values. Make sure your formula gives the same results as your calculation. Make the cell reference of B15 absolute.
- **Print Preview** your spreadsheet. Adjust the alignments of your labels and values until you are satisfied. Print out your spreadsheet.

Topic 3
Produce simple charts

A chart is a graphical representation of selected worksheet information. Charts are used to visually represent numerical data. It is usually easier to analyse columns and rows of numerical data if they are displayed in a chart. Charts make it easy to spot trends, highlight changes and compare figures over a period of time.

The best type of chart to use will depend on the type of data being converted into a chart; for example, you might choose a pie chart to show one data series and a column chart to show multiple data series. How you format a chart will depend on organisational and task requirements. Formatting a chart enhances the presentation and readability of the information.

In this topic you will learn how to:

3A Select a chart type and design to enable valid representation of numerical data

3B Create charts

3C Use formatting features to modify the chart type and layout

3A Select a chart type and design to enable valid representation of numerical data

When producing charts, it is important to follow both organisational and task requirements. An organisation may have a set preference for the type of charts it uses. For instance, it may prefer to use column charts as opposed to line charts because it is easier to analyse the information. An organisation may also use certain colour codes for the presentation of data; if this is the case, these rules should be followed to ensure consistency of image.

Task requirements can depend on a set of instructions and protocols in the production of charts. You may be asked to prepare a summary report of monthly sales as well as a chart. If this is the case, you need to produce two documents. If the policy is that a certain type of chart design is used for the production of various reports, you need to do this.

If you have any suggestions for improving the readability and analysis of charts and their associated data, discuss them with your supervisor or manager.

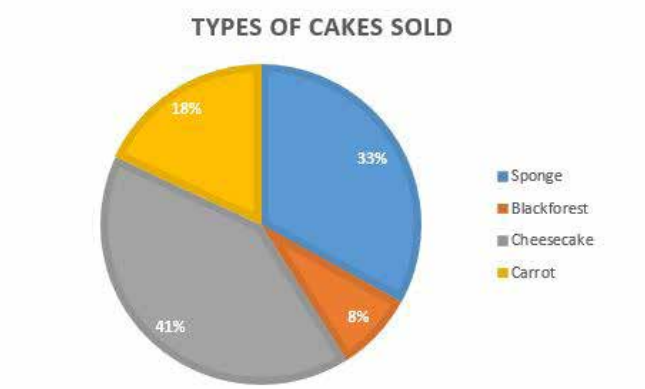
Chart types and their features

If you are using an Excel spreadsheet, you will be able to display your data in a chart. The types of charts you can select include area, bar, column, pie, line and scatter.

Charts are visually appealing and make it easy to see data and recognise patterns and trends. They make it easier to absorb information at a glance.

Example: chart

The following example shows the percentages of types of cakes sold in a bakery presented in a pie chart. It is easier to look at the cake shop data in a chart, rather than in the columns and rows of a worksheet.



Charts are linked to information contained in the selected cells. That means if the cell data is updated (for example, the value 45 changes to 88), the chart is also updated accordingly.

Choose and design a chart

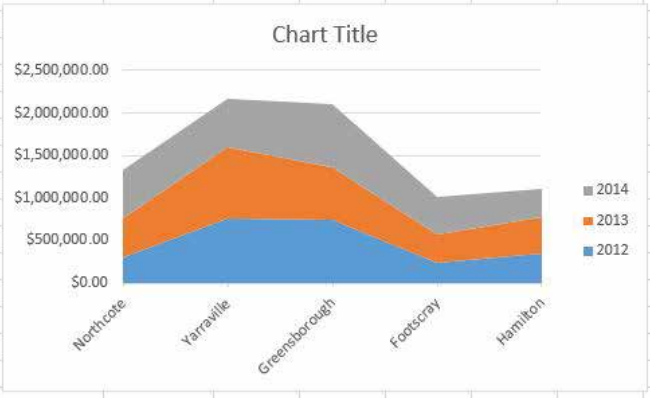
The kind of chart you choose and its design should reflect your organisation's needs. In this section, you will look at different types of charts and consider some of their most appropriate uses.

Area chart

Area charts are used to demonstrate changes over time. For instance, they may be used to show and compare changes to sales over a given time. Area charts highlight total values across a time line.

The following example shows how yearly real estate sales figures vary for different outlets.

	A	B	C	D	E	F
1		Northcote	Yarraville	Greensborou	Footscray	Hamilton
2	2012	$303,002.00	$766,299.00	$736,252.00	$234,333.00	$345,222.00
3	2013	$451,909.00	$827,266.00	$627,262.00	$342,244.00	$423,234.00
4	2014	$568,218.00	$568,209.00	$743,662.00	$443,422.00	$342,344.00



Bar chart

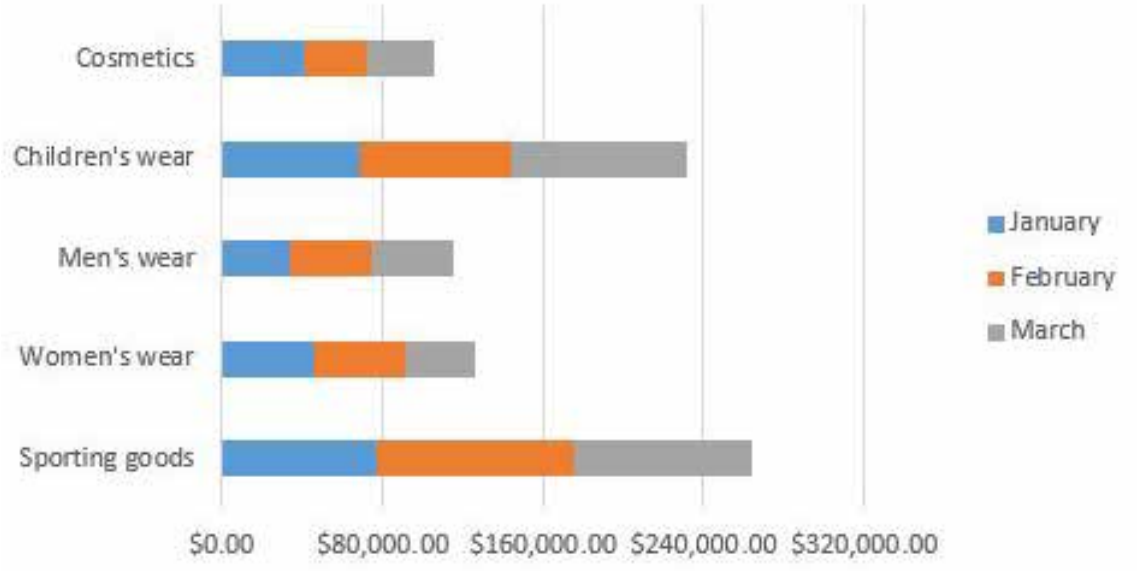
A bar chart displays information as a series of horizontal bars. These charts are useful for comparing data arranged in columns or rows. Bar charts show the differences between individual items.

The following example shows how monthly sales vary for different departments of a retail outlet.

Stacked bar chart

Use a stacked bar chart to compare the values of individual totals to a total across categories.

The following example compares monthly department sales figures, as well as the total overall amount.

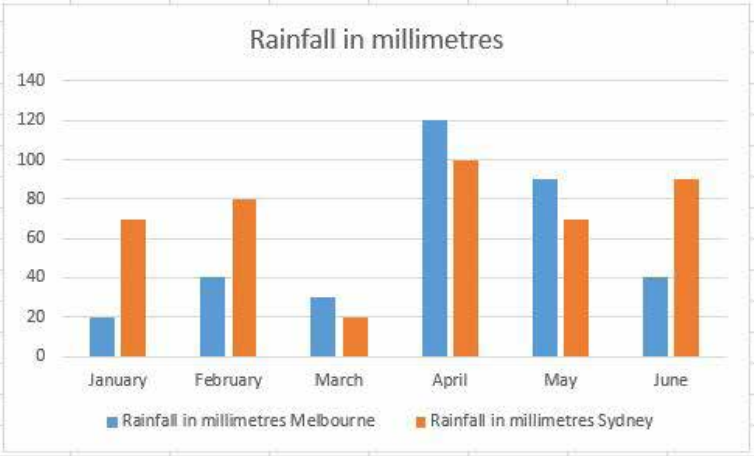


Column chart

A column chart has vertical columns and is useful for comparing separate types of data from a data series.

The following example shows how rainfall data can be used in a comparison.

Rainfall in millimetres		
	Melbourne	Sydney
January	20	70
February	40	80
March	30	20
April	120	100
May	90	70
June	40	90

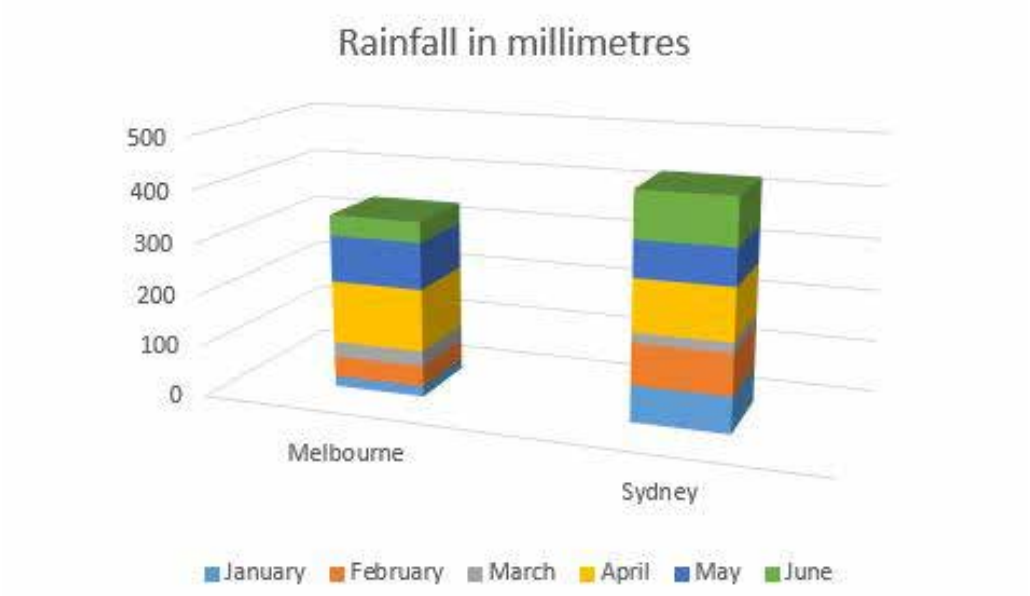


3-D column chart

If you prefer the 3-D look for your column chart, choose 3-D when making your chart selection.

Use a stacked column chart to compare the values of individual totals to a total across categories.

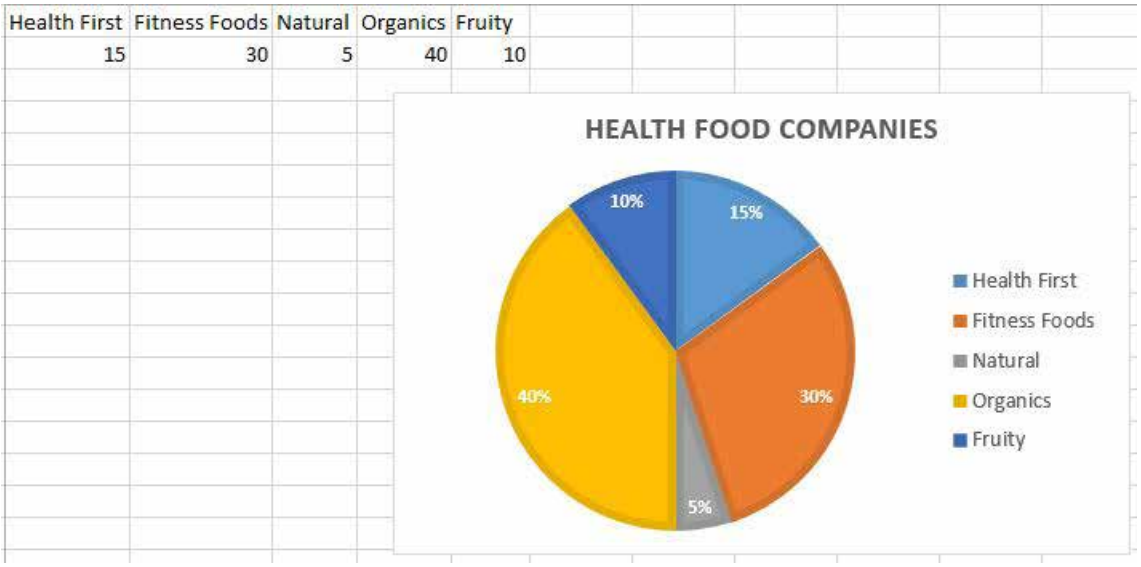
The following example compares monthly rainfall for Melbourne and Sydney, as well as the total overall amount.



Pie chart

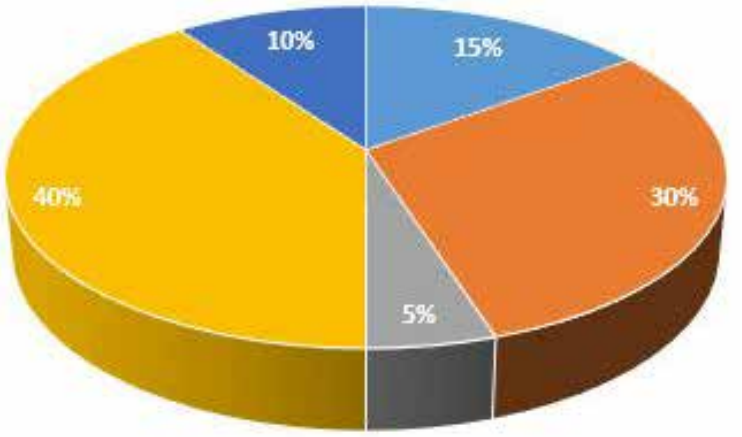
A pie chart shows a data series in percentage segments. It is useful for showing data as a percentage of a whole. Pie charts are commonly used to show which products are selling or how much market share an organisation enjoys.

The following example of a two-dimensional pie chart shows the market shares of five health food companies.



3-D pie chart

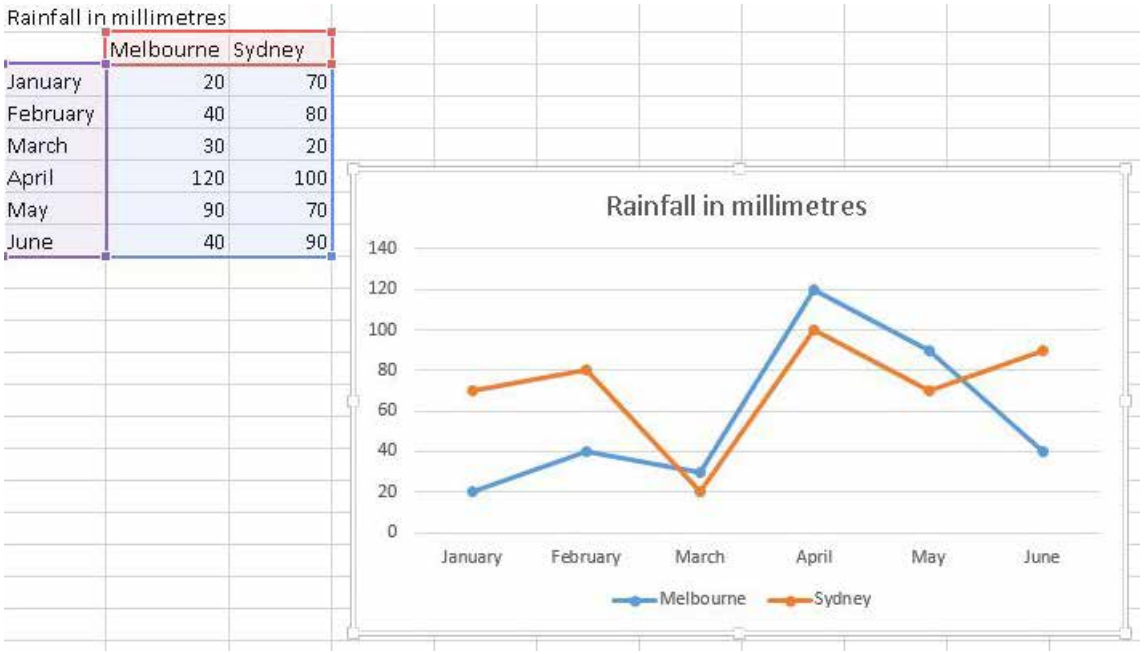
If you prefer the 3-D look for your pie chart, choose 3-D when making your chart selection.



Line chart

A line chart shows the movement of values in a data series using single or multiple lines. It is useful for showing how the values of a data series can change over a period of time.

The following example uses a line chart to show rainfall in Melbourne and Sydney.



Rainfall in millimetres

	Melbourne	Sydney
January	20	70
February	40	80
March	30	20
April	120	100
May	90	70
June	40	90

Scatter chart

A scatter chart is used to compare and arrange data to analyse the relationships of information. A scatter chart displays clusters and is commonly used for statistical comparisons.

The following example uses a scatter chart to display and analyse estimated sales and actual sales.

Monthly sales targets

	Estimated	Actual
Jan-12	34000	35272
Feb-12	45000	38002
Mar-12	54000	65027
Apr-12	50000	65282
May-12	48000	53899
Jun-12	48000	42722

Practice task 8

Read the scenario, then answer the question that follows.

Scenario

Hemline Miller is a boutique fashion chain specialising in womenswear. Each outlet regularly provides a monthly report on trade, including sales figures, customer numbers and quantity of stock sold. Liza Guilano, the business owner, is happy with these reports. However, she realises that some of the newer store managers are finding the information cumbersome to interpret. Liza has decided that in addition to the reports, she would like to trial preparing the information in chart form – a chart that compares the data for each of the outlets. She believes that a graphical representation of the data will be easier for the managers to decipher and compare.

Liza asks you, the office manager, to prepare an example of how the data would be presented in chart form. She asks you to use bright colours in the charts, as this complements the style and colour range of the business. She also asks you to present the information in column form, with values and stores identified in the chart. It is important that there is a heading on each of the charts to clearly identify the information that is being reviewed.

What are the organisational and task requirements for producing the chart/s?

3B Create charts

Before you start to produce charts, become familiar with the terms used when referring to parts of a chart.

The following information explains the meanings of terms you need to know.

Axes

An axis is a line that labels the information in a chart according to the labels in the columns and rows of your spreadsheet. Axes (the plural of axis) provide a reference for measurement or comparison of the data in the chart. Most charts have a vertical axis (known as the Y axis) and a horizontal axis (known as the X axis).

Categories

Categories are the names that are placed along the X axis of a chart and are determined by the labels in your spreadsheet.

Data range

The data range is the selection of values you choose from a worksheet to place in a chart; for example, all the numbers in one row or one column of data.

Legend

The legend is the key used to identify the various data series. If you include the series labels from your worksheet, Excel will add these to the legend. Otherwise the legend will display series 1, series 2 and so on.

Produce a chart

To produce a chart, you must first enter data into a worksheet. You then need to select the data you want to appear in the chart. Use the **Insert** tab and select the appropriate chart for the data that you wish to present. A chart is linked to the worksheet it is created from, so if you alter the data in the worksheet, the chart will be updated.

To produce the chart, choose the data that you want to present. Select the data by either clicking and dragging over it with the mouse, or clicking on the cell to select it and then using the **Shift** key and arrows on the keyboard to select the data.

The following example shows what selected data looks like.

	A	B	C	D	E	F
1		Northcote	Yarraville	Greensborou	Footscray	Hamilton
2	2012	$303,002.00	$766,299.00	$736,252.00	$234,333.00	$345,222.00
3	2013	$451,909.00	$827,266.00	$627,262.00	$342,244.00	$423,234.00
4	2014	$568,218.00	$568,209.00	$743,662.00	$443,422.00	$342,344.00

Example: choose and produce a chart

The type of chart you choose will depend on your organisational requirements.

The following steps show how to produce a column chart.

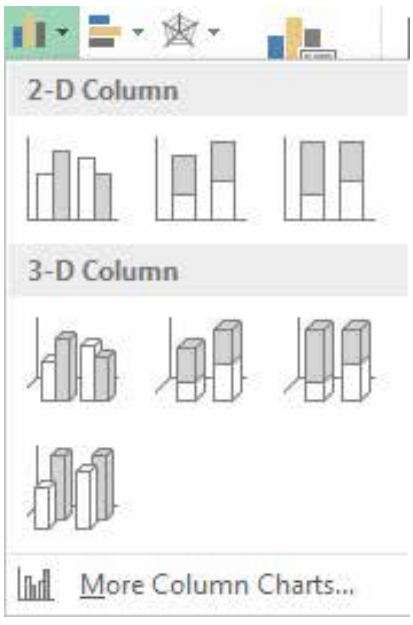
1. Open Excel and enter the following data into a worksheet. Save the worksheet as 'Company cars'.

	A	B	C	D	E
1					
2	**Company Cars**				
3					
4	**Make**	**Melbourne**	**Perth**	**Sydney**	**Adelaide**
5	Ford	3	3	2	1
6	Holden	2	5	1	6
7	BMW	1	4	5	1
8	Audi	1	3	4	3
9	Mazda	5	3	6	4

2. Select cells A4 to E9. This selection should cover all the labels and values. This selection has now become your data range. Do not include any blank rows or columns in your selected cell range.

4	**Make**	**Melbourne**	**Perth**	**Sydney**	**Adelaide**
5	Ford	3	3	2	1
6	Holden	2	5	1	6
7	BMW	1	4	5	1
8	Audi	1	3	4	3
9	Mazda	5	3	6	4
10					

3. From the **Insert** tab, select the appropriate chart you wish to display; for example, 'Column'.



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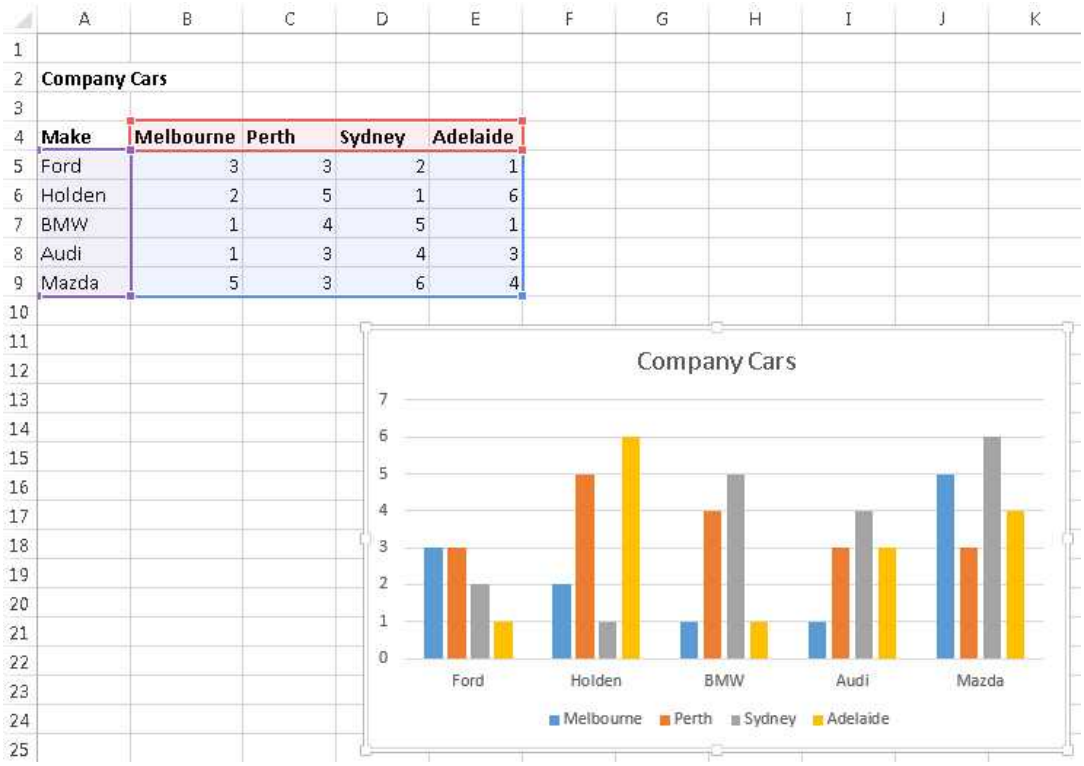
4. The chart will now display as an object in your spreadsheet.



5. To move the chart to a separate sheet within the workbook, select **Move Chart** from the **Design** tab. A dialog box will appear; select to place the chart in a new sheet and then name it appropriately (for example, 'Cars by state').

6. The chart will now have a separate sheet in the workbook. If you look at the worksheet names, you will notice that the chart now appears there.

7. If the data you want to include in a chart is not in adjacent rows and columns, use the **Ctrl** key to make multiple selections in different locations on your worksheet.
8. Trendlines can be added by selecting the **Trendline** tool from the **Layout** tab in **Chart** tools.

Practice task 9

Create this spreadsheet data for Hemline Miller that shows sales, customer numbers and quantities sold. Save the document as 'Hemline Miller January report'.

Hemline Miller
January report

Store	*Sales*	*Customer numbers*	*Quantity sold*
Chadstone	78009	567	1298
Bundoora	95080	892	2098
Wangaratt	120708	927	1792
Seymour	110920	828	1777
Newport	102787	998	2143

1. Create a column chart that compares the sales data.
2. Create a scatter chart that compares customer numbers with quantity sold.
3. Create pie charts for sales, customer numbers and quantity sold.

3C Use formatting features to modify the chart type and layout

After you insert a chart into your worksheet, you will notice that two new tabs appear when you click the chart: **Design** and **Format**. The **Layout** tools also appear next to the chart.

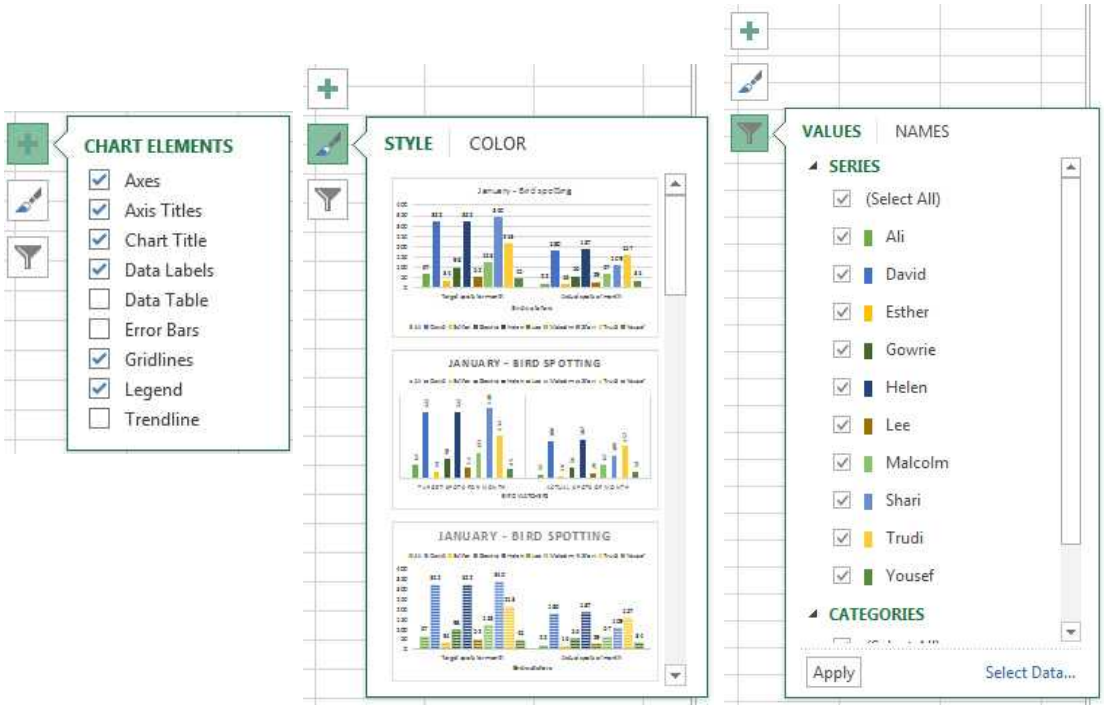
Chart tools

Design tools enable you to change the type of chart selected, choose the style and layout, alternate the view of data between row or column, and check or adjust the data selected.

Formatting tools enable you to alter the general appearance of the chart such as colour, font type and font size.

The data table is the data contained in the spreadsheet that the chart draws its information from.

Layout tools enable you to add to and adjust the appearance of the chart by adding titles, labels, gridlines and so forth.



Why format your chart?

You need to format your chart depending on the organisational and/or task requirements. Formatting the chart can also enhance the presentation and overall readability of the information.

Balance the time taken to prepare the chart with the required output medium. For example, if you do not have a colour printer or are not presenting the charts electronically, it is not necessary to spend a lot of time selecting colours. You only need to ensure the font type and size are appropriate and the chart is well presented.

All parts of the chart are separate components and can be formatted and adjusted as appropriate. To select part of the chart, point and click to select it and then use the tool bar or right-click mouse shortcut menus to make appropriate changes. Formatting of the chart can relate to colour choice, using gridlines, adding borders, adding titles and labels, font size and type, and even changing the choice of chart type to be used.

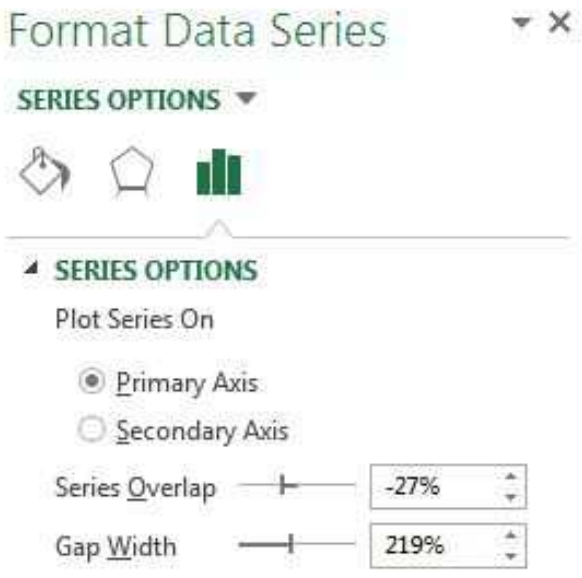
Titles in a chart are separate objects and can be moved around and resized by clicking and dragging with your mouse.

Example: format your chart

Once you have created a chart, you need to format it to suit your organisational requirements. This may include formatting the data range, text and legend, or adding a pattern to the chart area.

The following steps show how to format a chart.

1. Open the 'Company cars' chart.
2. Click inside any of the Adelaide data series columns. Right-click your mouse and select **Format Data Series**. You will see the following **Format Data Series** dialog box:



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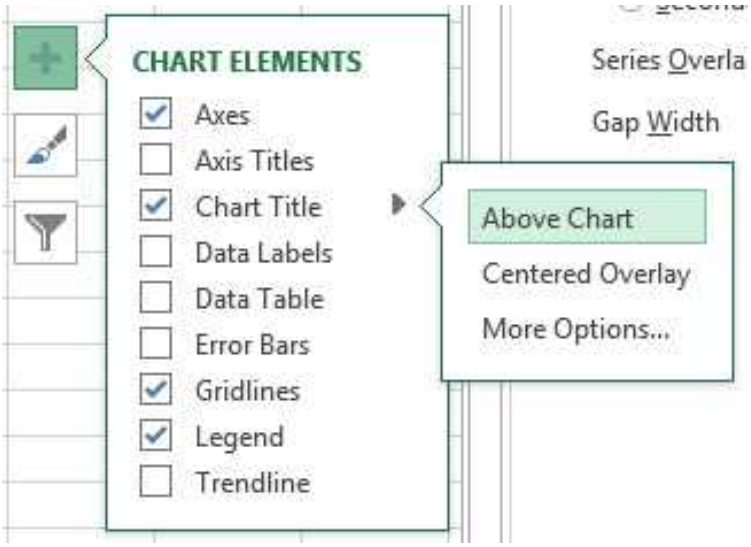
3. Click **Fill** and select **Gradient fill**, then choose a preset colour and click on **Close**. You will notice that the Adelaide data now has a shade effect in the chart. If you want to change the look to something different, select **Picture or Texture fill** instead, then select an appropriate texture.
4. Repeat this process to choose **Gradient** fills for the Melbourne, Perth and Sydney columns.
5. The **Plot Area** is the space behind the columns. Right-click in the **Plot Area** and select **Format Plot Area**. The **Format Plot Area** dialog box will appear. From **Fill**, select **Solid Fill** and choose an appropriate colour. Click **Close**.
6. The **Chart Area** is the space behind the legend and the chart labels. Right-click in the **Chart Area** and select **Format Chart Area**. The **Format Chart Area** dialog box will appear. From **Fill**, select **Solid Fill** and choose an appropriate colour. Click **Close**.
7. To add a border to the **Chart Area**, right-click and select **Format Chart Area**. From the **Format Chart Area** dialog box, select **Border** colour, choose **Solid Line** and make the colour black. Click **Close**.
8. To add a chart title, select **Chart Title** and then **Above Chart** from the **Layout** options. Type 'Company cars' in the text box.



9. To add axis titles to the chart, select **Axis Titles** from the **Layout** options and add a horizontal title ('Make of car') and vertical title ('Number of cars').
10. To format the text in the chart title, select the **Chart Title** and use the formatting tools on the **Home** tab. Format the title to be Arial, Bold, 16. Format the labels of the axes ('Make of car' and 'Number of cars') to be Arial, Bold, 12. Format the legend to be Arial, Bold, 10.
11. To add data labels to the chart, select **Data Labels** from the **Layout** options, then select an appropriate position in the chart (such as centre). This example displays the number of cars for each model on each data range.
12. Format gridlines in the chart by right-clicking and selecting **Format Major Gridlines**. Select **Line Style** and choose a dashed line style. Click **Close**.

continued ...

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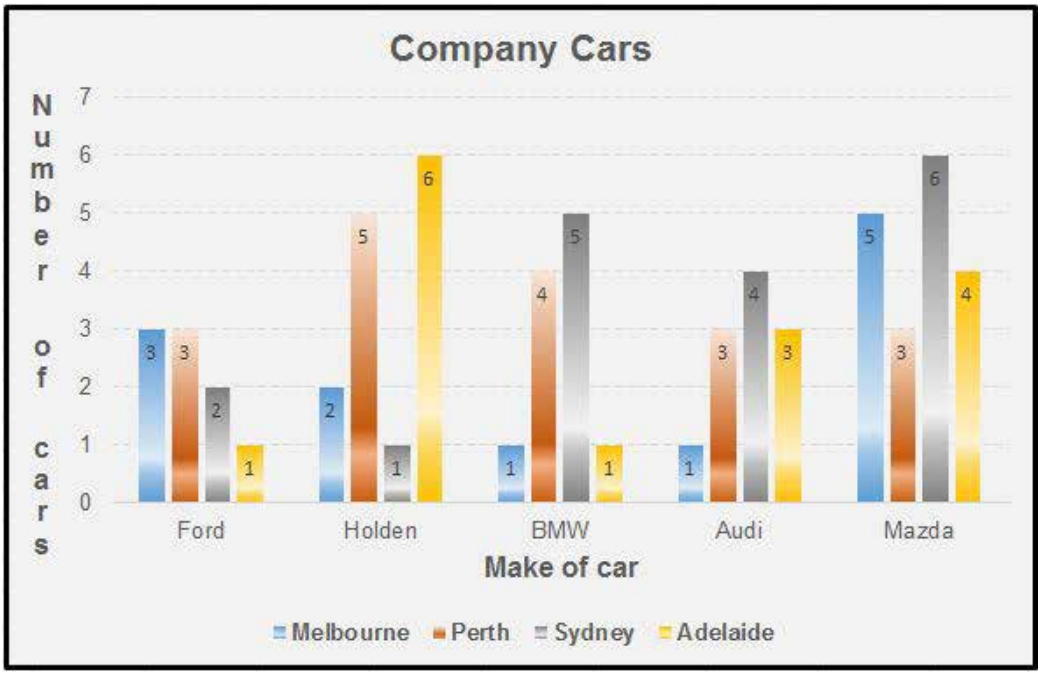
13. The chart should appear similar to the following example:



Practice task 10

Open your document 'Hemline Miller January report'. Format the charts (using bright colours, gradients and textures) to include relevant titles and labels as follows:

1. Column chart – include the title 'January – sales'.
2. Scatter chart – include the title 'January – customer numbers vs quantity sold'.
3. Pie charts – include relevant titles for sales, customer numbers and quantity sold, as well as data labels showing percentages of the total.

Summary

1. A chart is a graphical representation of selected spreadsheet data.
2. Charts are visually appealing and make it easy to display comparisons, patterns and trends in data.
3. The type of chart you choose to display data will depend on organisational and task requirements.
4. When you insert a chart into an Excel worksheet, two new tabs appear – **Design** and **Format**. The Layout options also become available.
5. Each component of a chart can be formatted and adjusted individually as needed.
6. In a workbook, a chart can appear either as an object in a worksheet or in a separate worksheet.

Learning checkpoint 3
Produce simple charts

This learning checkpoint allows you to review your skills and knowledge in producing simple charts.

Part A

Explain the type of data most suited to each of these chart types:

1. Pie

2. Column

3. Stacked bar

4. Line

Part B

Produce a chart that suits your organisation's needs. Talk to your supervisor to identify any existing data, or data that you could enter, to create a chart. If it is not possible for you to use data from your organisation, complete the following activity based on information from past employment or from your life experiences; for example, a budget or savings plan.

- Choose a chart type that best suits the data you have entered. Create the chart.
- Format each part of the data range with a different colour. Add a gradient, texture or pattern to each data series.
- Format the title and legend to increase their readability.
- Print out your chart.

Part C

Read the following data and complete the tasks that follow.

	A	B	C	D
1				
2	National Sales Figures			
3				
4		2013	2014	2015
5	Sydney	23,000	15,000	40,000
6	Perth	35,000	13,000	25,000
7	Melbourne	12,000	25,000	30,000
8	Brisbane	45,000	30,000	50,000
9	Adelaide	10,000	15,000	20,000

- Choose a chart that best suits this data. Create the chart.
- Save the worksheet as 'Sales figures' and store it in an appropriate place.
- Format each of the data ranges with a new colour. Add a gradient, texture or pattern to each data series.
- Format the title and legend to increase readability.
- Print out your 'Sales figures' chart.

Topic 4
Finalise spreadsheets

In the workplace, it is important to produce quality spreadsheets and charts that adhere to organisational and task requirements. Make sure that the final spreadsheet and chart have been thoroughly checked and proofread before sending or presenting them, so the correct message and company image are delivered to the appropriate person/s.

For example, if you have not spellchecked a document and it contains errors, or if you use an old product code, this sends a message to the receiver of the information. They may think that you, and the company or department, do not really care about the matter contained in the report.

In this topic you will learn how to:

4A Preview, adjust and print spreadsheets and accompanying charts

4B Ensure data input meets time lines and requirements for speed and accuracy

4C Name and store a spreadsheet, and exit an application safely

4A Preview, adjust and print spreadsheets and accompanying charts

When preparing spreadsheets and charts, it is important that you adhere to the required time lines and job instructions. If you believe that there needs to be alterations to either the time line or job instructions, you need to discuss this with your supervisor and/or the person who has requested the work.

Many businesses have strict deadlines for completing tasks – it may be that your manager needs a financial report for a weekly meeting. Failing to meet the deadline and provide the required information may affect other tasks.

Many spreadsheets need to be accessed by other people in your work team, so ensuring that you save files appropriately will save time and improve office efficiency. Accessing spreadsheets is made easier by using appropriate file referencing and saving options.

Save files to the correct drive (for example, the network drive), the appropriate folder (for example, your department name) and appropriate sub-folders (for example, project name) and assign a file name that is relevant to the file (for example, 'Sales report March 2016').

Print your worksheet

Once you have created a workbook or spreadsheet, you will probably need to print it. Before printing, you need to make sure you have undertaken a number of checks.

First, make sure you have adhered to and met all organisational and task requirements for completing the spreadsheet. This incorporates instructions for information to be included, as well as formatting and layout of information. Proofread your spreadsheet and check all formulas and functions before printing. If needed, make appropriate adjustments to the data.

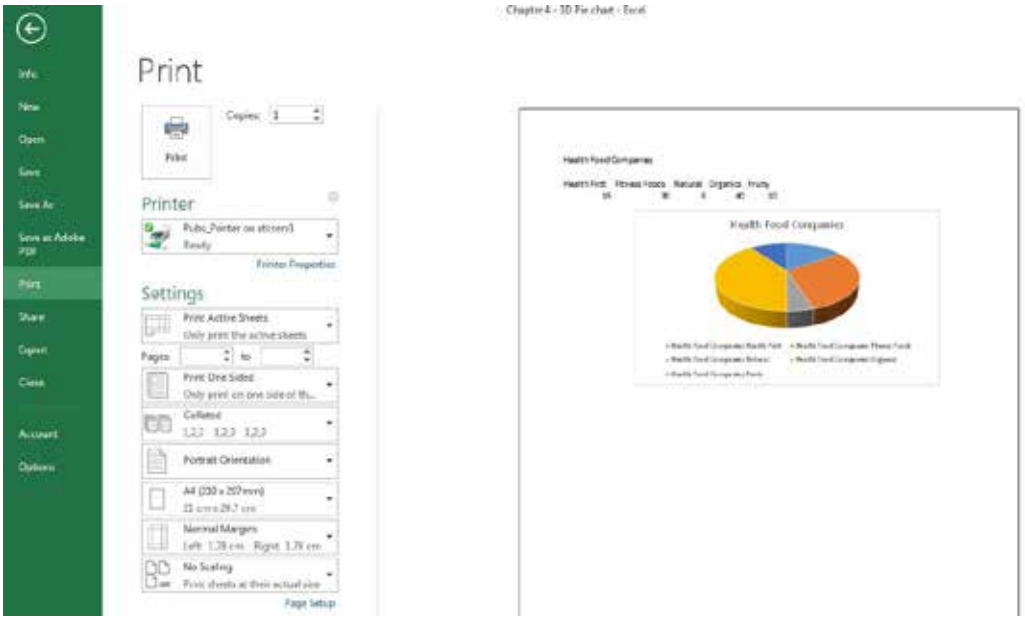
Many organisations follow a policy that spreadsheets are previewed and checked on-screen prior to printing. Even if this is not the current policy in your workplace, it is a good practice to include in your routine work processes.

It is also important that you do a **Print Preview** of the data prior to printing, as this can save time and improve efficiency. It reduces paper wastage and allows you to undertake a check of the data – ensuring accuracy of information and presentation.

Print Preview

The following steps show how to preview your work in Excel.

1. To preview your spreadsheet or chart, select the **File** tab FILE, then **Print**.
2. The preview of the job will appear to the right of your screen and look similar to the following example:



Be careful when selecting multiple worksheets. If you have a number of worksheets active at one time, any data that you alter and input will be repeated on all of the selected worksheets. To deactivate multiple selected worksheets, simply click on one worksheet name. This will then become the active worksheet.

Example: print a worksheet

The following steps show how to print a worksheet.

1. Open the document 'Current clothing'.
2. From the **File** tab, select **Print**. The worksheet will be displayed exactly as it will be printed.
3. Under **Settings**, select **Landscape** orientation and scaling of 135%. (Scaling allows you to adjust the size of the printout and make it larger or smaller on the printed page.)
4. Use the **Settings** to alter this from all pages in the document to only selected pages. Alter the printer you are using if necessary, then select how many copies you want to print. It is also possible to choose whether the multiple printed copies are collated. Click **Print**.

Example: print a selection from a worksheet

You may be dealing with a very large worksheet or your manager may have requested only some information from a worksheet.

If this occurs, you may need to print part of a worksheet:

1. Open the 'Current clothing' worksheet.
2. Select cells A4 to B18. This should cover all the 'Month' and 'Income' data.
3. From the **File** tab, select **Print**.
4. From **Settings**, select the first drop-down menu and **Print Selection**.
5. Click **Print**.

Month	Income
January	$5,000.00
February	$43,543.00
March	$3,454.00
April	$4,500.00
May	$4,500.00
June	$55,000.00
July	$43,543.00
August	$3,454.00
September	$3,453.00
October	$32,552.00
November	$39,800.00
December	$34,000.00
Totals	$272,799.00

Print a workbook

To print an entire workbook comprising multiple worksheets, follow the instructions for printing a worksheet, but in **Print** select **Print Entire Workbook**.

Example: print a chart

The following steps show how to print a chart.

1. Open the document 'Company cars'.
2. Select the chart by clicking on it. Because this has been selected, only the chart will be previewed and not the data in the spreadsheet.
3. From the **File** tab, select **Print**. Your chart will be displayed exactly as it will be printed. Under the **Margins** drop-down menu, manually adjust the left and right margins by selecting **Custom Margins**.
4. Alter the printer that you are printing to if necessary, then select how many copies of the chart you want to print. Click **Print**.

You can adjust the size of the printout by altering 'Adjust to' to more than 100% of normal size in the **Page Setup** dialog box available from **Print**.

Practice task 11

1. Open your document 'Company cars'.
   - Preview the spreadsheet. Check the appearance of the data and chart, and make any necessary adjustments prior to printing.
   - Print one copy of the spreadsheet.
   - Close the file.
2. Open your document 'Company cars'.
   - Select cells A4:B9; this will select only the make of the cars and Melbourne data.
   - Print only the selected data.
   - Close the file.
3. Open your document 'Company cars'.
   - Select the chart only.
   - Print the chart.
   - Close the file.
4. From your 'Current clothing' worksheet, print out the 'Profit', 'Tax' and 'End profit' columns, including the 'Totals'. Adjust the size of your selection until it is 150 per cent of its normal size.

4B Ensure data input meets time lines and requirements for speed and accuracy

Whenever you are given a work task, you need to plan a time line, which is a plan for how long it will take to complete a task. It also breaks the task into steps and details when each step must be completed.

Time lines will normally be pre-designated and depend on instructions given or dates when tasks need to be done by. This means that work you are completing needs to be finished within a specified time.

You may have to create a spreadsheet to your manager's specifications, which may include a deadline. The spreadsheet may be needed for a board or client meeting and if it is not ready on time, it will not be useful.

Find out when the spreadsheet is required and enter the date in your diary. Identify and plan the task requirements to work out how long it is likely to take. Careful planning means there will be no last-minute panic.

If you are developing a spreadsheet for someone else, always clarify exactly what is required; for example, are formulas needed and do you have to create a new column? If you have to write formulas, make sure you allow enough time to have them checked by your manager.

Time lines

Preparing a checklist can help you plan a work task. Creating spreadsheets will become easier once you are familiar with your organisation's requirements.

Look at the following example of a checklist.

Task	Deadline	Requirements	Completed
Create a spreadsheet for the manager	Thursday 17 March	Enter product data. Proofread the data. Format the spreadsheet using the organisation's style guide. Create a new column named 'Discount'. Write a formula to calculate 10% of customers' balances. Create a column named 'Sale price'. Write a formula to calculate the new sale price.	✓

Enhance speed and accuracy

When producing reports and charts in Excel, it is important that you undertake tasks in a timely and efficient manner. Keeping to time lines is one aspect; another is using the software appropriately and efficiently to save time and ensure the accuracy of data.

Use shortcut menus (right-click mouse button) to bring up quick commands for undertaking actions. Use shortcut keys to undertake actions quickly (for example, **Ctrl X** to cut, **Ctrl V** to paste). Familiarise yourself with the tools available in the ribbons and the groups of tools under each tab. If you think there should be an easier way of doing something, there probably is. Search the Excel **Help** facility for assistance.

Use the numeric keypad on your keyboard for data entry of values. Although Excel is mainly used for entry of numbers, learning to improve your typing speed and accuracy can help. Learning to touch-type may be a way to improve your typing speed.

Organisational time lines

In a workplace, you will often be required to meet specific deadlines. Your supervisor may tell you what the deadline is for completing set tasks (for example, prepare a draft summary report by 2.00 pm) or you may have regular deadlines for common tasks (for example, on a monthly basis, create a report of customers whose invoices are unpaid and overdue) or there may be financial requirements (for example, a summary report of GST costs). It is important to adhere to organisational time lines for the efficient running of the business.

If for some reason a deadline may not be met or you have conflicting work priorities, discuss this with your supervisor. However, do not leave it until the last minute. Your supervisor may be able to help you by making suggestions about how the deadline can be met or they may be willing to adjust the deadline.

Using a diary system and a to-do list can help you prioritise tasks and be aware of the time lines required for set tasks.

Time lines agreed with an internal or external client

Most organisations have a range of clients, who are either internal or external. Internal clients are those who work in the same organisation, such as work colleagues, people in other departments, managers and supervisors. External clients are those who are outside the organisation, such as customers and suppliers.

In many cases, time lines are set and agreed with your clients, both internal and external. If you agree to a deadline for completing a task, it is important that you meet it and if you can't, speak to your supervisor and the client. Your supervisor may be able to make suggestions that you have not thought of to help you meet the deadline. Speaking with your client will allow you to discuss the issue/s with them and may help you to adjust the deadline.

Meeting a deadline demonstrates your competence in undertaking tasks; it also shows professionalism on the job. When deadlines are being set, be sure that they are both achievable and realistic.

Time lines agreed with a supervisor or the person requiring the spreadsheet

In many cases, the time line for the completion of a task is set by your supervisor or another person. They may have certain deadlines to meet as well and this is why they are setting a certain time frame for the completion of the task that they have requested from you.

If you are asked to complete a task, always ask what the deadline is. If you have a high workload at present, ask them if the deadline that they have specified is definite or if it is able to be negotiated. In many cases, there will be room for negotiation. If it cannot be negotiated, explain your conflicting priorities or discuss them with your supervisor, and try to work out a happy medium or see if you can get additional assistance so you can meet your other deadlines. Your supervisor may be able to pass some of your other work on to another colleague to complete.

Always ensure that the time line set is realistic and achievable, and that if there are any problems, you discuss them with your supervisor and/or the person who requires the spreadsheet.

Practice task 12

Read the case study, then answer the questions that follow.

Case study

Charles works as a personal assistant to a manager in a large organisation. One of his tasks is to create spreadsheets. Charles is asked to create a spreadsheet with information about products. He is given a lot of information about the products including their codes, their prices and how many had been sold over the last financial year.

Charles clarifies with his manager the exact information that is needed. He finds out that his manager wants to know how much every product costs in order to calculate a 10 per cent discount off all stock for a stocktake sale. His manager also wants to know how much the products would cost with the discount. Charles is given two days to produce the spreadsheet.

Charles selects the information that is needed in the spreadsheet. He breaks the task into parts and creates a checklist for every task that needs to be done and when it should be completed. He then writes a formula to calculate 10 per cent of the products' prices and a formula to work out the new prices of the products. He tests his formula and shows it to his manager.

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1. How did Charles decide what information was needed in the spreadsheet?

2. How did Charles organise his tasks so that he could manage his time effectively?

3. Imagine you are Charles. What columns of information would you place in your spreadsheet to produce the results your manager wants?

4. Write a short paragraph explaining why using a checklist can help you produce a spreadsheet on time.

4C Name and store a spreadsheet, and exit an application safely

Information is a valuable asset in any organisation. How information is stored and the security measures used to protect it are central to an organisation's procedures.

The spreadsheets you create will usually be stored on a server that allows access by multiple users. A server is a computer that delivers information and software to other computers linked by a network.

To enable staff to log onto a server, the systems administrator issues each user with a username. The user must then create a password. Usernames and passwords:

- give users access to the information they require to complete workplace tasks
- allow users to have different levels of access to information.

You may find that some of the spreadsheets you work with are confidential. Ask your manager for your organisation's policies regarding confidential material.

Document loss

Data also needs to be safeguarded against accidental or deliberate damage. Data loss is usually caused by human error or system failure. Many organisations use a data cartridge at the end of the day to back up the information on the database. This cartridge can then be taken off-site for safety. If any damage occurs to the server or the premises, a complete information backup is available.

A server is made up of lots of files and folders. Organising this information helps users find what they want. If you are saving information onto a server, make sure you know where to put it. Find out your organisation's policies regarding the storage and security of Excel files.

Create a spreadsheet to be used by previous versions of Excel

Microsoft Excel 2013 has many advanced features that are not available in previous versions. If you are creating a spreadsheet that is to be accessed electronically by people with older versions of Excel, you will need to work in Compatibility Mode, which turns off some of the newer, more advanced features and ensures that those working in older versions (for example, 2003) will still have full editing capabilities.

To create a spreadsheet in Compatibility Mode, select the **File** tab, select **Save as** and select Excel 97–2003 Workbook in the **Save As Type** list.

In the file name box, type a name for your spreadsheet and click **Save**. It is important that this is done when you are starting to create a spreadsheet.

Name, store and close spreadsheets

When producing spreadsheets, you need to be aware of how to name them and where to store them. All organisations have policies and procedures for naming and storing spreadsheets. Ask your manager to explain your organisation's requirements.

Files can be stored in soft or hard copy. This means that they can be stored electronically in a computer or in a paper-based form in a filing cabinet.

Hard and soft copy storage

Paper reports can become damaged, yellowed and brittle. Also, unless you are very careful about storage and use, important reports can be easily torn, misfiled or accidentally disposed of. Storing many reports can also be expensive and some organisations prefer to store information digitally. Digital storage saves on paper and space.

Another advantage to storing reports digitally is that powerful databases can be used to search the stored information. Databases enable you to find specific information that would be much harder to find by searching through hard copies of reports.

Databases also provide management with powerful metrics and reporting tools. For example, statistical information can be gathered from a database and detailed reports produced.

Folder structure and naming standards

Folder structure and naming standards are needed to allow staff to set up folders quickly and easily. Shared directories are folders on a network that a group of people have access to.

If you use shared directories, you need to assess whether an electronic file should be placed in the shared directory or stay on your own computer's hard drive. Decide which reports are for your use and which need to be shared.

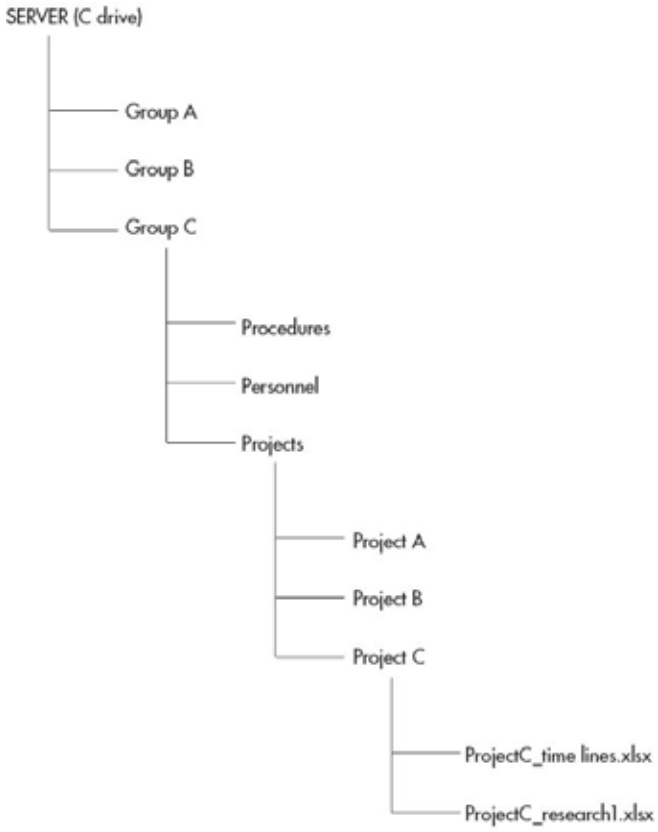
Advantages of using shared directories and naming standards
• It can prevent the loss or misfiling of electronic documents. • Work is less likely to be duplicated. • It makes it easier to share information between colleagues. • Reports on the same or related subjects are located together, which helps people find and retrieve files.

Example: shared directory

To set up a shared directory, you must first allocate a shared network drive. Your IT coordinator can help with this.

The first place to organise a directory is at the folder level. Folders have a tree-like structure that branches from a parent directory to sub-folders in a hierarchical structure.

The following example shows the structure of a shared directory.



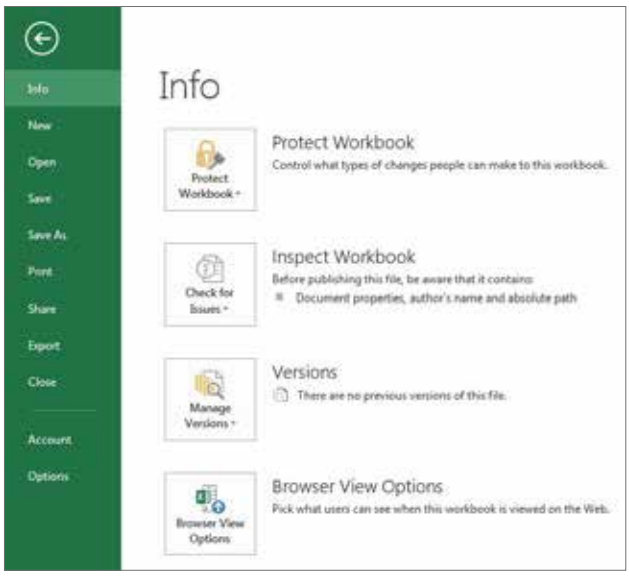
In this structure, the server has three folders for three separate work groups: Group A, Group B and Group C. Group C has three major folders: Procedures, Personnel and Projects. The Projects folder includes: Project A, Project B and Project C. Project C has two spreadsheets: ProjectC_time lines.xlsx and ProjectC_research1.xlsx.

The file path for retrieving a file starts at the server and ends when the correct file is located. For example, to reach ProjectC_time lines.xlsx, the file path to follow is C:\Group C\Projects\Project C\ProjectC_time lines.xlsx.

In Microsoft Excel 2013, the spreadsheet extension is .xlsx.

Document properties

As well as using user-friendly naming and saving conventions and adhering to organisational requirements, it can be useful to use document properties to record common information about a file.



Document properties assist in describing or identifying a file and include details such as title, author name, subject and keywords that state the spreadsheet's topic or content. The information contained in document properties can also be used when conducting a search for files on your computer.

To set document properties, select the **File** tab and select **Info**.

Back up files

Many organisations have set procedures for backing up files. In many large organisations, this is administered through the IT department and is an automatic process. In this case, the only thing you need to make sure you have done is to save your files to the appropriate network drives and folders.

In smaller organisations, it may be necessary for you to back up files yourself – this may be done on a daily or weekly basis. It may require you to back up files to another disk drive. If this is the case, check with your supervisor for procedures for backing up.

Backing up files is an important protocol. It helps prevent the loss of documents and information, and is extremely useful when something happens to the network or computer system.

Most folders and files are stored on servers and are backed up using external disk drives or data cartridges. Information from an entire server can be saved onto an external drive and stored in a safe location.

The organisation should regularly delete old electronic files and folders to ensure an efficient use of server space. Always ask for authorisation before making any deletions.

USB memory sticks are also useful for storing and backing up information, especially when you require a portable copy of the information.

Hard-copy storage

It is common for spreadsheets that are stored digitally to also be stored in hard copy. This safeguards against a computer system failure. Hard-copy storage requires space and a filing system that uses consistent, simple and meaningful names similar to digital storage.

Hard-copy spreadsheets must be kept up to date. It is necessary to manage hard-copy spreadsheets, as storage space in organisations is often scarce and valuable. Old or superseded spreadsheets must be destroyed on a regular basis. Retention schedules list the time frame spreadsheets need to be kept for before they can be destroyed. Spreadsheets without permanent value may be scheduled for eventual destruction.

Find out what kind of hard-copy filing system is used in your workplace or place of study.

Close applications

After creating or modifying an electronic spreadsheet, you need to exit the software application without causing damage or loss to the data. Data loss occurs when a computer program stops performing its expected function. Often the program or even the whole computer may appear to freeze.

All computer users will experience data loss at some time and will be unable to access their data, which can be accidentally erased or corrupted and made inaccessible. The main cause of data loss is human error.

There are precautions you can take to prevent data loss. Try to work on only one spreadsheet at a time.

Data loss can also occur if someone else tampers with your work. If you are working on a spreadsheet at your workstation, you need to lock your computer or exit the application before leaving your workstation unattended.

Use multiple applications

If you need to work with multiple applications open, make sure you close applications that are no longer needed. This will help your computer work more quickly and will prevent data loss in the event of computer failure.

Other causes of data loss include virus damage, operating system or application software bugs, and failed upgrades.

Another precaution against data loss is to be on your guard with your computer. For example, if your computer starts to make unusual noises, shut it down immediately and do not turn it back on until you have received advice from an IT coordinator.

To exit the program, select the exit button ✕ , which is located in the top right corner of the window. If you have recently made changes to your spreadsheet, you will be prompted to save these changes.

Practice task 13

Read the case studies, then answer the questions that follow.

Case studies

Matthew works as an office administrator in a large organisation. His duties include formatting reports and saving them on the server. He is also responsible for backing up the server at the end of each day. At the end of a busy day, Matthew had completed several reports for different departments within the organisation. He had to save each of them in a different location, and it took him a while to work out where they all belonged. He wasn't sure if he had saved them all in the correct place. After this, he was running late and decided not to back up the server. The next morning, the reports that Matthew had saved were needed for an important board meeting. However, during the night a virus had infected the server, destroying all the information from the previous day.

Fred has retired from an organisation after working as an administrative assistant for 10 years. The areas Fred was responsible for were accounts and projects. The day after he retired, someone needed a file that Fred had created and stored. The file contained vital accounting information. It was discovered that Fred had saved more than 500 files in a variety of folders and the file could not be located. The folders had ambiguous names such as Folder1 and Folder2 and the files had names such as august1.doc and march2.doc.

1. What would be the consequences if Matthew did not save some of the reports in the correct place?

2. Can you think of any consequences of not backing up data on the server?

3. Describe why Fred's folder and file naming system failed.

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4. Fred was responsible for two areas. What could he have done to make sure files could be easily located?

5. Explain why folder and file names should be consistent, simple and meaningful.

Summary

1. Producing a spreadsheet means creating it and having it ready for viewing by your colleagues or manager.
2. Working within a designated time line means you must plan your work.
3. Make sure you have formatted, checked all formulas and functions, and proofread your spreadsheet before printing it.
4. It is possible to print a whole spreadsheet or parts of a spreadsheet, depending on what is required.
5. A chart can be printed on its own or as part of a worksheet.
6. You need to understand your organisation's policies and procedures about saving and storing spreadsheets.

Learning checkpoint 4
Finalise spreadsheets

This learning checkpoint allows you to review your skills and knowledge in finalising spreadsheets.

Part A

Read the case study, then complete the tasks that follow. Use shortcut keys and menus to assist in maximising the efficiency of the software.

Case study

Mario works as a personal assistant for a manager in a large organisation. His manager asks him to produce a spreadsheet of customer information. The spreadsheet must list 200 customers and their accounts. It must also calculate a 10 per cent interest charge on the accounts and display customers' new balances. The spreadsheet needs to be ready in two days. The following table lists five customers that Mario has to enter:

Customer information	
Customers	**Balances**
Sanchez	$2,300.00
McGregor	$4,000.00
Cunningham	$5,000.00
Wijerwadene	$4,500.00
Taylor	$2,500.00

1. Prepare a checklist of all the tasks Mario will need to do to make sure the worksheet is completed on time.

2. Produce a worksheet with these details, then complete the following tasks:
    - Calculate the 10 per cent interest charge and the customers' new balances.Check the data you entered against the customer information you have been given and correct any errors.
    - Create a 3-D column chart as an object in the worksheet that displays the information visually.
    - Name and store your worksheet in a suitable location.
    - Select and print the data in your worksheet. Preview the data before printing and make adjustments as necessary to format the data.
    - Print the chart out as a separate page. Preview the chart before printing and make adjustments to include a chart title.
    - Exit Excel.

Part B

In this activity you will create a worksheet, accurately enter data, proofread the worksheet, write formulas and check that they are correct. Find some data from your workplace, previous employment or life experience that needs to be entered in a worksheet. Make sure the worksheet requires a formula. Talk to your trainer or supervisor if you need to. Once you have identified the data, try to complete the task in one hour. Follow these guidelines when entering your data:

- Enter the data accurately and proofread your entries.
- Use formulas and functions to perform at least one calculation. Use a calculator to check that your calculation is accurate.
- Ask advice from your manager to find out what you should name your worksheet and where you should store it.
- Print out your worksheet and present it to your manager or trainer.

Part C

In this activity you will create a worksheet, accurately enter data, proofread the worksheet, write formulas and check that they are correct. Try to complete this task in one hour.

- Look at the following 'Sales results' table. In a worksheet, enter the data exactly as it is in the example.
- Calculate the monthly totals and enter them into the 'Totals' boxes.
- Use a function to work out the 'Overall total'.
- Check that all data and calculations you entered are correct. Remember to proofread the spelling of the names.
- Name the worksheet 'Sales results' and store it in an appropriate place.
- Print out your worksheet to present it to your trainer.

Sales results				
Name	January	February	March	April
Andrew	$2,333.00	$5,412.00	$3,456.00	$5,412.00
Bella	$2,345.00	$6,712.00	$1,233.00	$5,000.00
Anh	$5,000.00	$6,000.00	$1,244.00	$3,000.00
Jacqui	$2,345.00	$2,000.00	$2,355.00	$3,400.00
Dylan	$6,000.00	$1,500.00	$1,200.00	$3,500.00
Imran	$8,500.00	$2,345.00	$4,500.00	$12,300.00
Aisla	$2,456.00	$1,200.00	$5,000.00	$1,200.00
Totals				
Overall total				