

BSBITU212

Create and use spreadsheets

Release 1

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Learner guide

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Release 1

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Aspire Version 1.1



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Before you begin

This learner guide is based on the unit of competency *BSBITU212 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.

Icon	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	These 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, you can use a smartphone or other device 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
	Summaries	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	<ul style="list-style-type: none">Recognises numerical and textual information within a range of resources to determine and complete work according to requirements
Writing	<ul style="list-style-type: none">Enters and amends routine data into relevant digital applications using a format appropriate to requirements
Oral communication	<ul style="list-style-type: none">Listens to short and specific instructions and uses questions to clarify understandingUses simple mathematical language to confirm and convey requirements
Navigate the world of work	<ul style="list-style-type: none">Recognises and follows explicit and implicit protocols and meets expectations associated with own role
Interact with others	<ul style="list-style-type: none">Recognises purpose of various communications directly relevant to own role and clarifies as required
Get the work done	<ul style="list-style-type: none">Uses key digital application features and functions in performing specific work tasks



Topic 1

Select and prepare resources

Organisations use spreadsheets to store and calculate numerical data, such as 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 a suitable way to enter it. For example, a report mainly containing text would be correctly entered using a word-processing application, but data that has a lot of numbers should probably 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 properly.

In this topic you will learn how to:

- 1A Use safe and efficient work practices
- 1B Identify and clarify spreadsheet task requirements

1A

Use safe and efficient work practices

Workplace safety is everyone's responsibility.

Both employers and employees must make an active contribution to ensuring their workplace is safe. Hazards need to be identified and risks assessed to reduce the risk of injury in the workplace. If you are working at a computer for an extended period of time each day, your workstation must be comfortable and designed to help you 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 regular breaks to stand up and stretch.

Another consideration 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.



Health and safety legislative requirements

You must work in line with legislative requirements, regulations, Australian and industry standards, and the relevant codes of practice.

All health and safety legislation requires employers to provide a safe workplace and adequate training and supervision, while controlling workplace hazards and risks.

Health and safety regulations support the legislation by outlining specific health and safety requirements that must be addressed.

The Model Work Health and Safety (WHS) Regulations provide a framework that has been adopted by all Australian states and territories except for Victoria and Western Australia, which have their own legislation and regulations.

Health and safety legislation outlines legal requirements 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 them to maintain health and safety
- providing rehabilitation and maximum recovery for injured workers.

Health and safety policies and procedures

Health and safety policies and procedures are documents that ensure all employees work safely and effectively.

All workplaces in Australia are required to have a policy in place that describes the organisation's and employees' responsibility for maintaining health and safety. The policy should include the organisation's goals and objectives regarding health and safety, and can help you fulfil your duty of care as an employee.

The following information relates to working in an office and using a computer workstation, and should be contained in an organisation's health and safety procedures.

Health and safety procedures outline:

- 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
- details of first-aid officers.

Control risks associated with hazardous manual tasks

It is a legal requirement for the PCBU and workers to address the risks associated with hazardous manual tasks in the workplace.

The WHS Regulations and the Code of Practice for Hazardous Manual Tasks outline specific requirements for hazardous manual tasks that must be addressed.

A person conducting a business or undertaking (PCBU) must manage risks to health and safety associated with undertaking a hazardous manual task, including risks of developing a musculoskeletal disorder (MSD).

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.

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.

To determine which control measures to implement, the PCBU must consider the following:

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

Musculoskeletal disorders

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 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.

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 shoulders, elbows, wrists, hips, knees, ankles, 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 organisation may require 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 regular exercise routines. A workstation includes a computer, monitor, keyboard, mouse, desk and chair.

Workers in an office are expected to follow standard precautions when using a workstation, particularly at a sit-down desk. 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 use during the day to make sure they are in good working order.

Your organisational policies and procedures should include steps to follow. You may need to perform this procedure at the start of your work day or at specified intervals throughout the day.

Workstation safety procedure/checklist:

- Ensure your seat is positioned in front of your computer and that you can reach your keyboard comfortably.
- Position the monitor out of direct sunlight and at the correct height.
- Ensure the environment is dust-free as dust can affect the monitor or the computer's central processing unit (CPU).
- Ensure cables are secured so no one trips over them.
- Use blinds and window coverings to reduce glare and heat at your workstation.
- Ensure temperatures do not exceed 26°C and that humidity is 40–60 per cent.

Ergonomics

The aim of ergonomics is to reduce the risk of accidents, injury and illness 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.



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 be very slight at first, but if you continue to have poor posture your symptoms may get worse and become intolerable. They may result in cumulative stress given the constant strain on your muscles, nerves or tendons.

When setting up your workstation, 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.

Ergonomic workstation design

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. Some features of the workstation may vary depending on the type of computer work being performed.

Below are some guidelines for setting up an ergonomic workstation.

Chair



Adjust the seat height to suit your furniture and equipment. Ensure that your feet are flat on the floor, your thighs are horizontal and your lower legs are vertical. If possible, use a chair with a five-caster base.

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

The backrest should support your lower back, and may also be adjusted backwards and forwards. When seated in your usual working position, move the backrest until it has 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 work tasks.

Desk



Keep your head erect when seated at your desk, and ensure that the surface of the desk is just below 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, if necessary, to make up the difference. Ensure there is clearance between the lower edge of the desk and your legs, and between the front edge of your seat and your desk.

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 may become twisted.

Position any equipment or materials you use so that you can reach them easily without twisting. For example, place frequently used stationery in the top desk drawer, and ensure your keyboard and monitor sit directly in front of you to avoid having to twist your body.

Keyboard



The angle of your keyboard can be adjusted to suit you by moving the supports underneath it. Place the keyboard as close as possible to the front of your desk. Have your upper arms hanging freely. Your forearms should be approximately horizontal.

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 give you a place to rest your hands only when pausing from typing, not while you are typing. Do not pound the keys; instead, use a light touch. Leave enough room on your desk to put the keyboard out of the way when you are not using it.

Don't place documents between yourself and the keyboard, as stretching will eventually cause muscle strain in your arms, shoulders and neck.

Mouse



Place the mouse and mouse pad 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.

Monitor



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

The viewing distance should be between 40cm and 70cm. The screen angle should be adjustable between 85 and 125 degrees. It is best to position the screen so that you can clearly read the text without having to lean forward, twist your neck or look upwards. A relaxed viewing angle is approximately 35 degrees. Place a document holder beneath or beside the monitor at the same viewing distance as the screen.

Also take surrounding factors into consideration, such as reflection, glare and shadow, when positioning your screen. You may also need to use an anti-glare filter.

Desktop layout

Items on your desk, including equipment and resources, should be arranged so they are 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 – items are 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. Objects that are used less frequently, such as your phone, should be out of the way but still within easy reach. Other resources that are rarely used, such as in- and out-trays, should be in the outer reach zone.

The following outlines some devices that can help you maintain a good posture at your workstation.

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 your eye focus.

Document holders

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

Angle boards

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 handset.

Headsets

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.

Footrests

Setting up a home office

Communication technology and organisational policies to maintain a sustainable work–life balance have created 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 arrangements 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 health and safety requirements.

Hot desking

Hot desking refers to a system where workstations are not assigned to an individual worker, but may be used by multiple workers during different periods of time.

The motivation behind hot desking is primarily the cost savings achieved by setting up fewer workstations when not all the workers are in the office at the same time.

Another common adaptation of hot desking is where workstations 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.

Considerations with hot desking:

- It is common for workers to want their own space. Consequently, they may choose one location and stick to it.
- It can take extra time each day to set up a workstation for each individual to maintain good ergonomics and work efficiency.
- Personal hygiene needs to be maintained to prevent the spread of germs on items such as keyboards and mouses.
- Workstations need to be tidied appropriately in readiness for the next user.

Benefits of using standing desks

Sitting at a desk for long periods of time has many negative health effects.

These can be overcome by using standing desks. Standing provides a greater opportunity for your body to move and adjust, and involves more muscular activity than sitting.

Some studies have shown that the negative effects of prolonged sitting cannot be counteracted by regular exercise. The only way to eliminate the problem is to avoid sitting as much as possible.



Some of the health benefits of standing include:

- alleviating back pain and other repetitive strain 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.

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

Ensure you have an ergonomically designed standing desk so that you maintain correct posture while working.

Standing desk recommendations:

- Position arms at 90 degrees when standing.
- Place the computer screen at eye level and tilt it slightly upwards.
- Place the computer monitor at least arm's length away.
- Keep your back straight and avoid leaning on the desk.

Monitor and adjust lighting

Good lighting is essential for a safe and hazard-free workplace.

You need to see things clearly in order to work effectively. Simply shifting the screen angle, adjusting blinds, altering the brightness settings on the screen and using desk lamps can reduce risks associated with poor lighting. Try to use natural sunlight rather than artificial lights if possible. If not, keep bulbs and fixtures clean, focus light on your task and use fluorescent lights to minimise eye strain and headaches.

The following are hazards associated with poor lighting:

- 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 even nausea.
- Inadequate lighting – Reading in dim light can cause eyestrain.
- Shadows – Shadows shifting across your work area can cause you to sit with bad posture in order to view your work.

Manage noise in the workplace

Noise can include any ongoing, loud or disturbing sound.

Excessive noise around machinery or equipment can cause permanent hearing loss. Noise is a problem if it disturbs or distracts employees, causes stress or interferes with communication or work.

Many offices are open-plan, 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 phone and carrying out their day-to-day tasks.

Noise in the office can come from:

- machines and equipment, such as photocopiers, fax machines, phones and printers
- outside traffic and road works
- people talking to each other or on the phone.

Noise can also be a problem in other workplaces, such as on factory floors and at construction sites. You may have to wear ear protection if you are required to work in an excessively noisy environment.

There are many ways that noise can be controlled in the workplace. Examples include:

- 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 speakers can be adjusted.

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

Monitor and adjust air conditioners

Air-conditioning systems may cause hazards due to poor-quality air or inadequate temperatures.

Air-conditioned offices often do not have enough fresh air from open windows. This can cause problems for some people. The air quality may need to be adjusted by allowing more fresh air inside or by improving the ventilation system.

Additionally, 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-conditioner settings.

Vary your activities

Make sure you plan your daily tasks so that you aren't doing repetitive work for long periods of time.

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.

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 to 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 colleague, doing some research online or doing another work task.

You should also take regular breaks. Employers are required to allow employees to take rest periods throughout the day, including tea and lunch breaks, to reduce stress and fatigue.

Take exercise breaks

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 your colleagues to try them too. 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 your palms upwards. Now lift your 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 your hands in the small of your back. Gently arch your 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).

Watch a video demonstration of the above exercises here.



Practise conservation techniques

Conserving resources at work not only benefits 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 by asking your manager or colleagues.

The following outlines ways to conserve resources at work.

Minimise paper wastage

Policies for reducing paper wastage include:

- using both sides of the paper when printing and photocopying
- recycling non-confidential waste paper
- reducing the volume of printing where possible
- reusing paper by using blank sides for rough drafts
- using recycled paper or paper from plantation timber for printed documents.

Reduce energy use

Policies and procedures for saving energy include:

- providing training programs on smart energy practices so that employees can practise energy efficiency
- turning off lights and equipment when not in use
- keeping air conditioners at 18–20°C in winter and 24–27°C in summer
- using power-saving functions on devices such as computers and tablets.



Practice task 1

Question 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 area. You may need another person to help you and check your posture. If you are not able to tick some of the checkpoints, 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 at 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 comfortably underneath?

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?

Monitor

- Does the monitor have easily adjustable brightness and contrast controls?
- Is the image on the monitor stable and flicker-free?
- Are there adjustment mechanisms to allow the monitor 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?

Question 2

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

Question 3

What should WHS policies and procedures include?

Question 4

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

1B Identify and clarify spreadsheet task requirements

Organisations use spreadsheets to perform calculations and record numerical data.

For example, sales figures and payroll information are usually recorded 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 data. 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 or produced.

Requirements for the task may also be specified by your supervisor or another 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. You need to know how long you have to complete the task because the time line will allow you to organise your time and schedules.

Instructions on organisational and task requirements should be used to check that the job has been completed correctly.

Purpose, audience and presentation requirements

Most organisations have requirements for the style in which spreadsheets should be presented.

You need to be familiar with the styles used by your organisation. An organisational style guide will explain all the specifications and design details. Some organisations use templates to ensure the layout and design of a document meets the corporate image of the organisation.

The following outlines guidelines on what to consider when determining a document's purpose, audience and presentation requirements. Always refer to your organisational style guide for instructions on format and final presentation.

Purpose

The purpose of a spreadsheet varies and will influence the type of document you produce. Clarify the purpose of the spreadsheet before you begin to determine the way it is planned and designed. For example, if the document's purpose is to provide numerical data on sales figures, you may have to collect the information and collate this into the spreadsheet.

Audience

You need to be aware of your document's audience. Keep in mind who it is intended for and decide how the information should be presented. The document's audience will affect how the information is presented. Consider the information needs of the audience and how detailed the information should be. A detailed document is likely to have many columns and rows, or may extend over several sheets.

Presentation requirements

How you present your spreadsheet will enhance the audience's ability to understand it. You need to check if there is a template for the task, such as a template for a presentation, handout or report. Think about the use of colour, columns and rows, logos and formatting requirements.

Determine and meet time lines

Whenever you are given a work task, you need to determine a time line for its completion.

A time line is a plan for how long a task will take to complete. It also breaks the task into steps and details when each step needs to be completed by. Using a diary system and a to-do list can help you prioritise tasks and keep on top of the time lines required for set tasks.

In many cases, time lines are set and agreed with your stakeholders – both internal and external. Internal stakeholders are those that work at the same organisation as you, and may include colleagues in other departments, managers and supervisors. External stakeholders are those that are outside the organisation, including customers and suppliers.

Often your manager or supervisor will give you a deadline for completing a task, e.g. prepare a spreadsheet by 2pm. Alternatively, you may have deadlines for completing regular work tasks, e.g. completing a monthly sales report or a summary of customer contact details.

Meeting a deadline demonstrates your competency and professionalism in undertaking tasks. Make sure that when deadlines are set, they are both achievable and realistic.

If you have concerns that a deadline might not be met or you have conflicting work priorities, discuss this with your manager or supervisor as soon as possible. They may be able to assist you by suggesting how the deadline can be met or agreeing to adjust the time line for the task.



Select spreadsheet software

All organisations need to manage and store numerical data, and a spreadsheet is the most appropriate tool for doing this.

In accounting, a spreadsheet is a large sheet that displays a company's financial position. It shows all financial information (such as costs, income and taxes) on a single sheet 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 sum total. The spreadsheet can present the information in a format to help a decision-maker see the financial big picture of an organisation.

The most commonly used spreadsheet software is Microsoft Excel, although some organisations prefer to use other programs. Some of these applications can be shared and worked on by multiple users at once and accessed online. This is known as cloud computing.

The following table outlines some of the key features of each.

Spreadsheet software	Key features
Microsoft Excel	<ul style="list-style-type: none"> • Calculation tools • Tools for creating graphs and charts • Tools to hide columns, rows and sheets • Provides access to external data sources • Password protection • Able to communicate with other Microsoft Office programs, including Word and Access
Google Sheets	<ul style="list-style-type: none"> • Cloud-based, meaning multiple users are able to work in the document at once to collaborate on tasks • Available as desktop software, online application and mobile app • Keeps track of revision history • Uses action items to assign a person to a task • The Explore function allows users to search for information online
Apache OpenOffice Calc	<ul style="list-style-type: none"> • Able to summarise and convert raw data into meaningful information • Formulas can be created using both numbers and words, e.g. 'sales - costs' • Includes ready-made templates • Allows users to forecast results, e.g. based on high or low sales results • Allows data from multiple users to be integrated
Smartsheet	<ul style="list-style-type: none"> • Cloud-based, meaning multiple users are able to work in the document at once to collaborate on tasks • Keeps track of time lines, calendars and task requirements • Rows can be expanded to see more detailed notes • Each row can have files and emails attached to it and a discussion board linked to it • Contains a calendar view and alerts users of upcoming deadlines • Can import data from other programs, including Microsoft Office and Google applications • Available as desktop software or mobile app

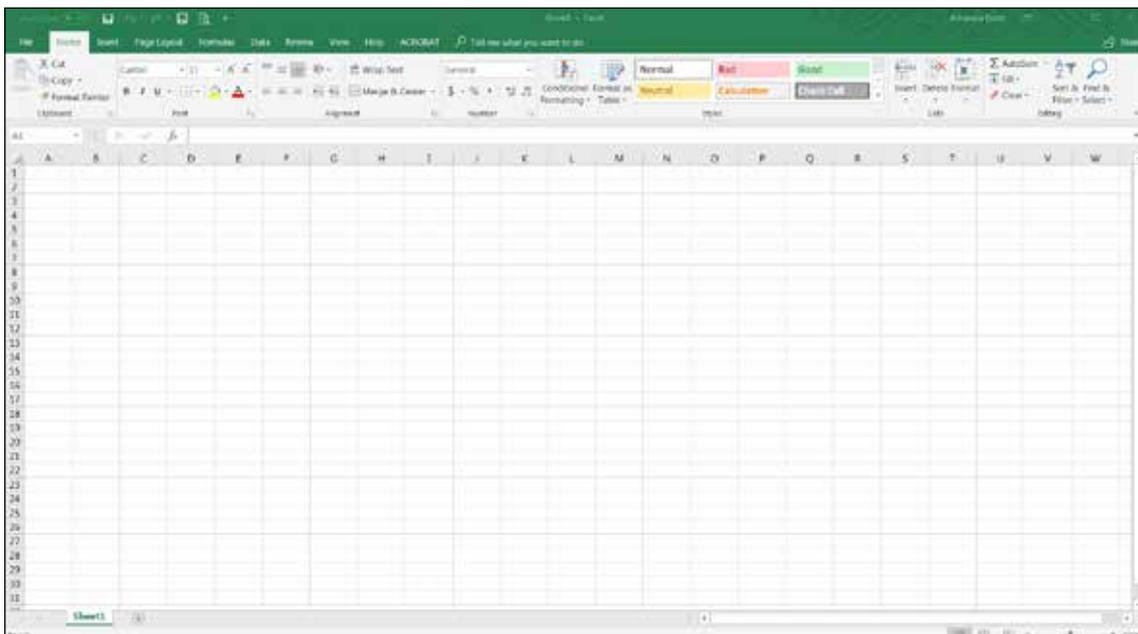
There are many organisational and reporting requirements for an organisation that requires them to produce data and information to monitor their business. An organisation will refer to these requirements in their policies and procedures, which will be used to determine the resources available to the company, including the specific software they can use. Be aware of the spreadsheet software used in your organisation, and ensure you follow organisational policies and procedures.

Review a blank worksheet

Before you start entering data into a spreadsheet, you should be familiar with various screen elements.

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.



If you look closely at this spreadsheet, you will notice there are a number of screen elements, as outlined here.

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 that cross and tick buttons appear on the Formula Bar.

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.



Title bar



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

Ribbon – button tools



In Microsoft Excel 2016, 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 the 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 should familiarise yourself with the various tools that are available in Excel 2016. 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 bubble will appear that briefly describes the tool.

Active sheet



Each new workbook you open in Excel contains three blank worksheets by default. It is possible to add or delete worksheets, and rename worksheets if you need to. For example, you may 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 (e.g. Sheet1) and selecting **Rename**. Type in the new name and press **Enter**.

Enter data and select cells

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. The left-hand column contains a list of values that starts at 1 and increases as you go down the page. The top row contains a list of letters that starts from A and continues in alphabetical order across the page. Each cell therefore has a corresponding coordinate, e.g. C4, K12, etc.

Once you have entered data into a worksheet, you will need to select data in order to amend it, format it or perform calculations. You can alter the information in a cell by selecting the cell and directly entering the new information, or by using the Formula Bar. When you select a cell, you make it active and the cell's content will be displayed on the Formula Bar. Here you can use the **Insert Function** (f_x) button to insert a basic function or calculation.



You may need to select some or all of the data in a worksheet. When data is selected, it is highlighted on the screen. The following information describes a number of techniques for selecting cells.

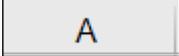
Select a group of cells by dragging the mouse

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 it.

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

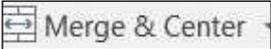
Click on the button  to the left of column A, or on the keyboard press **Ctrl+A**.

Select multiple ranges

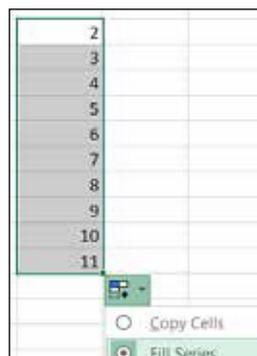
Select cells using any of the above methods and then hold down **Ctrl** before selecting the second range of cells.

Perform basic functions

Selecting cells allows you to perform basic functions, such as merging cells and automatically filling a range of cells.

To merge cells, first highlight the cells that you want to merge by clicking inside the first cell and holding your mouse down as you drag down or across the page. Once the cells are highlighted, select **Merge & Center**. 

You can also use the **Fill** option to automatically complete a row of cells. For example, if the same numerical value is needed across a row of cells, you can type the number in the first cell, then use the **Fill** option to drag the same value across. If you wish for the numbers to continue you can change the settings by clicking on the **Auto Fill Options** drop-down menu and selecting **Fill Series**.





Practice task 2

Part A

Question 1

Explain why it is important that you find out information from your supervisor in relation to the following before you begin a task.

a. The purpose of the spreadsheet

b. The intended audience

Question 2

What can be done to ensure the presentation requirements, such as layout and design of the spreadsheet, meets the professional and corporate image of an organisation?

Question 3

Explain why it is important to speak to your supervisor and confirm the delivery and time line for the development of your spreadsheet.

Question 4

If you need to collaborate on tasks with your colleagues and work in real time, which of the following software applications would you choose? Tick all that apply.

- Microsoft Excel
- Google sheets
- Apache OpenOffice Calc
- Smartsheet

Part B

Take the following steps to enter data in a spreadsheet:

1. Open Excel.
2. Highlight cells A2–E2 and select **Merge & Center**. Click inside the merged cells and type **Current Clothing Label**.
3. In the fourth row, enter the following in separate columns:
 - Month
 - Income
 - Expenses
 - Profit
 - Clear Profit

Look at the example below to help you.

	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		

4. Type January in cell A5 and select the cell. Use **Fill** to drag down and add the months until you reach December. Excel will automatically fill in the months for you.
5. Enter the values in the example above under **Income** and **Expenses**. You will be using the values you enter in calculations later, so try to be accurate.
6. Click on the cell labelled 'Clear Profit'. This cell is now current.
7. Click on the Formula Bar to select it, or press the **F2** key on the keyboard. Change the word 'Clear' to 'End'.

8. Press **Enter** or select the tick  on the Formula Bar to confirm the change.
9. Select one of the numbers you have entered in the Income column. Press the **Delete** key to delete the information. Enter a new number.
10. Save your worksheet in a suitable location on your hard drive and name it 'Current Clothing'.

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 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

Question 1

Describe the main purpose of a spreadsheet.

Question 2

Describe the following components of a spreadsheet:

a. Workbook

b. Worksheet

c. Cell

Question 3

What key can you press to access the Formula Bar in Excel?

Question 4

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



Summary

- Ergonomics is about creating comfortable working conditions. Setting up a workstation to suit your physical requirements prevents undue stress and strain.
- Environmental factors in the workplace, such as lighting, noise and air quality, affect the health of employees.
- Plan daily tasks and rest periods to prevent repetitive work being done for long periods of time.
- Performing exercises during the working day can help to prevent pain and discomfort.
- Conserving resources at work benefits the organisation by reducing costs, and helps to reduce the amount of greenhouse gas produced and the amount of waste going to landfill.
- 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.
- You can change the appearance of your spreadsheet to suit your organisation's style and presentation requirements.



Learning checkpoint 1

Select and prepare resources

Part A

1. List some reasons why 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 **three** types of office equipment you could use to improve your posture and/or efficiency at work. Explain the benefits of each piece of equipment.

Part B

Read the case study, then answer the questions 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 adjust 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. Describe why work organisation and ergonomics lead to better employee health.

Part C

1. Which of the following data types would it be appropriate to enter and store in a spreadsheet? Tick all that apply.
 - Budget information
 - Payroll data
 - A report about health and safety
 - Taxation information
 - Superannuation contributions
 - A letter to a client
 - Sales targets
 - Bank reconciliation information
2. Select **two** of the following spreadsheet applications and identify two features of each:
 - Microsoft Excel
 - Google Sheets
 - Apache OpenOffice Calc
 - Smartsheet

3. Why is it important to make sure you have confirmed the purpose of your task, the audience and the presentation requirements with your supervisor?

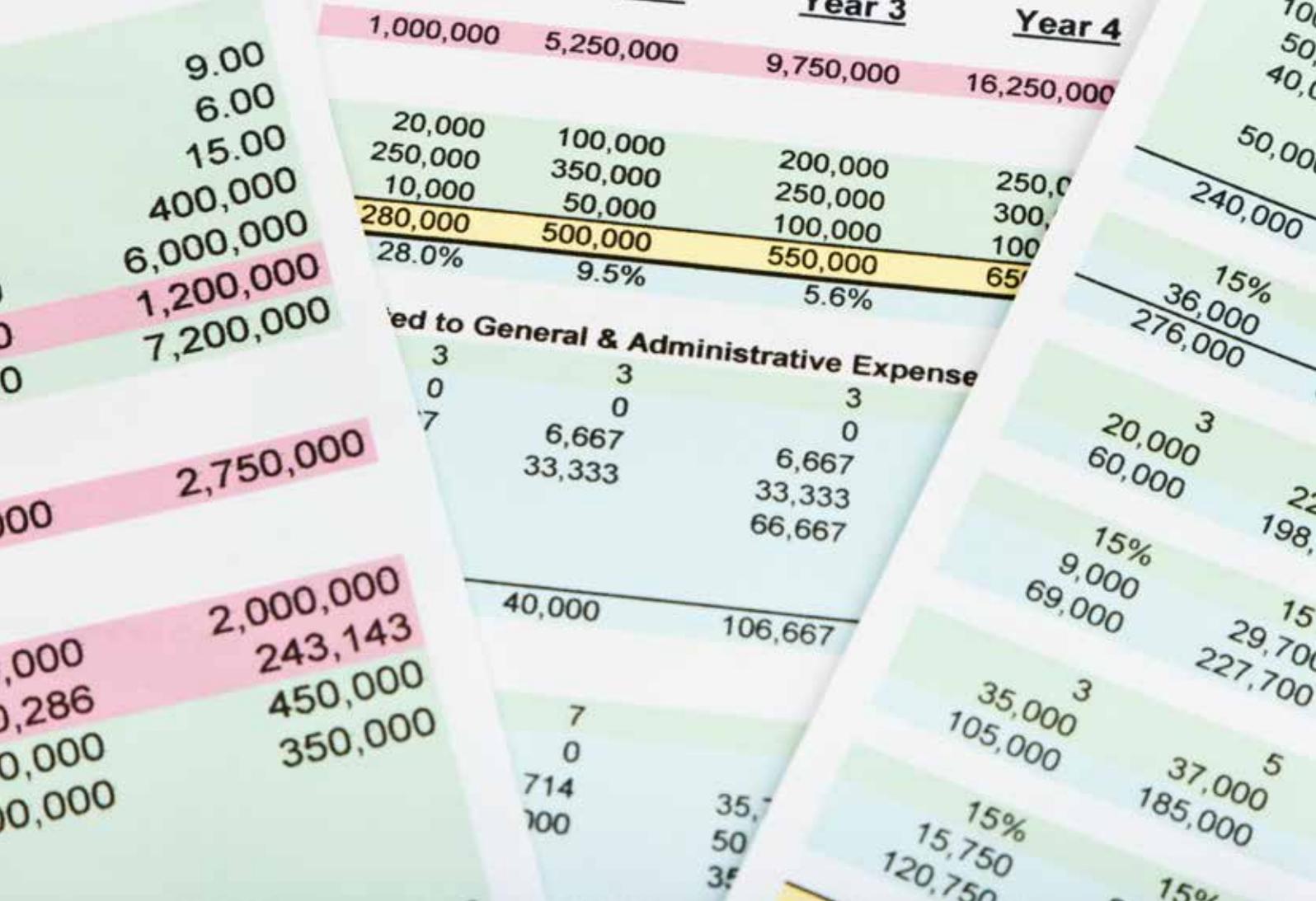
4. Give an example of what you can do to make sure you meet a deadline for the delivery of a spreadsheet task.

Part D

1. 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
4	Henry Lewis Consulting & Co						
5	Sales results						
6		Sales consultant					
7	Month	Hannah	Joe	Frederick	Simon	Carolyn	Nim
8	January	\$12,334	\$12,324	\$5,334	\$45,434	\$2,421	\$1,232
9	February	\$34,543	\$23,466	\$5,456	\$12,334	\$1,243	\$1,245
10	March	\$3,457	\$345	\$3,432	\$23,464	\$3,434	\$4,365
11	April	\$34,534	\$7,767	\$2,323	\$23,662	\$2,534	\$2,341
12	May	\$2,367	\$34,555	\$65,655	\$25,656	\$45,634	\$5,456
13	June	\$88,989	\$23,424	\$66,434	\$76,743	\$2,342	\$7,675
14	July	\$433	\$23,477	\$2,454	\$13,123	\$53,435	\$4,563
15	August	\$5,678	\$23,244	\$2,342	\$45,536	\$23,423	\$3,245
16	September	\$7,678	\$23,411	\$11,230	\$32,111	\$23,442	\$2,342
17	October	\$4,564	\$667	\$12,311	\$634	\$23,665	\$23,231
18	November	\$7,676	\$2,234	\$12,345	\$23,412	\$6,574	\$12,353
19	December	\$8,909	\$23,435	\$12,331	\$23,234	\$4,357	\$23,310
20							

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

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
- 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

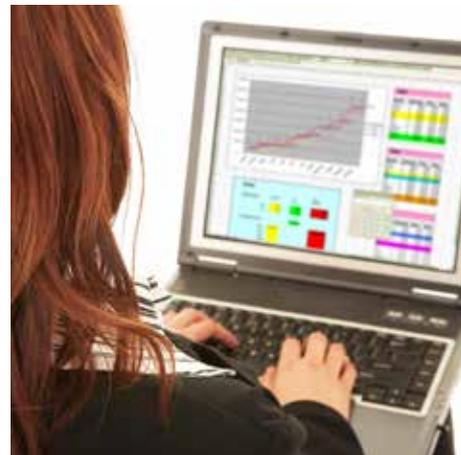
2A Enter, check and amend data

When data is entered, Excel treats the data differently depending on whether it is text, numbers or dates/times.

Data entered into Microsoft Excel worksheets consists of:

- text, such as customer names and addresses, or product information
- numbers, such as quantities, customer numbers, pricing and sales figures
- dates or times, such as dates of sale, dates of entry and monthly date ranges.

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 27 Aug 18. So if a date was formatted as 27/08/2018, it would need to be amended.



Data entry

To enter data into Excel, the cell in the worksheet must be active.

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 then 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 by selecting the first drop-down list.

Editing options	
<input checked="" type="checkbox"/>	After pressing Enter, <u>m</u> ove selection
Direction:	Right ▾

Numerical data

Some default settings apply when entering numbers.

When entering numbers, the automatic alignment will be to the right of the cell.

	A
1	123
2	
3	

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

	A	B	C
1	1.23457E+21	Tom Evans	
2			

Adjust the width of the cell to correct this problem.

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. Microsoft Excel 2016 tries to match the formatting with the way the information is typed in.

	A
1	19-May-15
2	19/05/2015
3	

Edit data

To edit data, it is necessary to activate the cell contents.

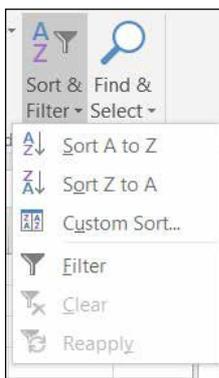
A common processing problem occurs when people want to change the data; for example, from Simon Jones to Simone Jones. To change this, you can either select the cell and retype the whole name. Alternatively, you can double-click on the cell itself, or select the cell and either press **F2** on the keyboard or click on the Formula bar. These options allow you to edit a specific part of the entry, rather than having to retype the entire thing.

Sorting data

Often, data needs to be sorted according to set procedures.

For example, customers may need to be sorted alphabetically according to surnames and purchases may need to be sorted in date order or by customer reference number.

To sort the data alphabetically, go to the **Home** tab and select the **Sort & Filter** drop-down menu, 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 will recognise adjoined columns and rows, and sort them appropriately. Excel also recognises label headings and does not include these in the sorting.

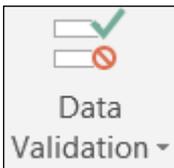
If, however, there are blank rows or columns, Excel will not include these in the sorting. If you want blank rows and columns to be included, select the data to be sorted first before selecting the sorting option you wish to apply.

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.

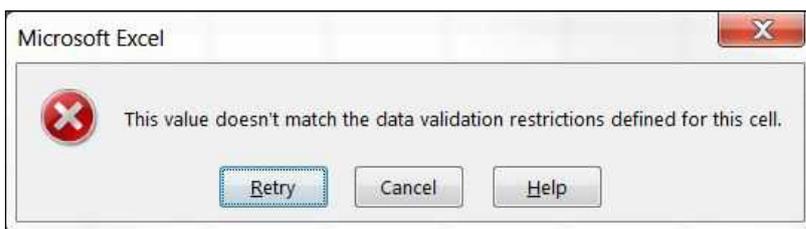
For example, you may want only numbers or dates to be entered into certain cells. To do this, you need to set validation rules in your worksheet.

To set validation rules, select the cells you wish to apply the rule to by dragging your mouse over them. Then select the **Data** tab and click on the **Data Validation** drop-down menu.



Select **Data Validation** to open a dialog window. Here you can set the criteria for what can be entered into the cells you have selected. For example, under Allow, select **Text length** to decide how many characters or digits you will allow in a cell. You can do this by placing a minimum and maximum value in the relevant fields.

Once you have set a validation rule, if you try to enter too many digits in a cell, Excel will 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. To do this, go back to the **Data Validation** dialog box and select the **Error alert** tab. Here you can change the error message that is displayed by typing a new one in the Error message box.

If you set a validation rule, always create an error message to help you and your colleagues enter the correct data.



Practice task 4

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						

2. Select cells A5 to A12.
3. From the **Data** tab, select the **Data Validation** tool and select the **Data Validation** option to open the dialog box.

The screenshot shows the 'Data Validation' dialog box with the 'Settings' tab selected. Under 'Validation criteria', the 'Allow' dropdown is set to 'Text length' and the 'Ignore blank' checkbox is checked. The 'Data' dropdown is set to 'between'. The 'Minimum' field contains the number '3' and the 'Maximum' field also contains '3'. At the bottom, the 'Apply these changes to all other cells with the same settings' checkbox is unchecked. Buttons for 'Clear All', 'OK', and 'Cancel' are visible.

4. Under **Allow**, select **Text length**.
5. Under **Data**, select **between**, then enter '3' in both the **Minimum** and **Maximum** fields. This means only three digits or characters are allowed in each of the selected cells. Click **OK** to save these rules.
6. Select the **Error Alert** tab.
7. In the **Error message** box, type 'You must enter one character and two digits'. Click **OK**.

The screenshot shows the 'Data Validation' dialog box with the 'Error Alert' tab selected. The 'Show error alert after invalid data is entered' checkbox is checked. The 'Style' dropdown is set to 'Stop'. The 'Error message' text box contains the text 'You must enter one character and two digits'. A red 'X' icon is visible in the background. Buttons for 'Clear All', 'OK', and 'Cancel' are visible at the bottom.

8. Now try to enter four digits into one of the worksheet cells you selected earlier (A5–A12). Excel should display the error message you typed in.

Checking and proofreading data

When using formulas and functions, you need to make sure that the result you get is correct.

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. Ensure the formula in your spreadsheet is correct by checking the result against the result in your calculator.

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.

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.

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, 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, so you will need to check these carefully.

Following instructions about content and format

There are often guidelines or instructions for producing a spreadsheet, which help to communicate an organisation's professionalism to those outside of the organisation.

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 cross-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 accuracy of information.

It is therefore important that care is taken in design and layout, and that it adheres to the corporate image of the organisation. Often, an organisational style guide is developed so that there is consistency in the presentation and final look of the spreadsheets produced right across an organisation. This may include using standard templates. In many cases, if a standard template is used, predefined styles will automatically appear in the document.

Clarify the use of house styles for your organisation with your supervisor and colleagues, and ask what the requirements are for the task you are going to undertake before you begin. If you have your own ideas on how the content or format of a spreadsheet could be improved, speak to your supervisor.



Practice task 5

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

When entering data:

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

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

	A	B	C	D
1			Custoemr Accountis	
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
11				
12				

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

3. Cross-reference the worksheet with the customer documentation. How many errors are there in the worksheet?
4. What should customer Smith's new balance be?
5. Recreate the 'Customer accounts' worksheet with accurate information.
6. Select cells B5–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, some adjustments will be required to meet 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.

Adjusting cell settings

To ensure that all text is visible, you may need to adjust the cell settings.

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.

	A	B
1	Ingrid Heffernan	
2		
3		

If there is data in the adjacent cell, the text that is entered becomes hidden behind the edge of the cell.

	A	B	C
1	Ingrid Heffe	Morris Green	
2			
3			

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.

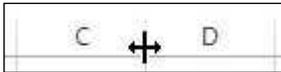
To ensure the printed and on-screen versions of the document both show the full content of the cell in the worksheet, you need to adjust the width of the cell. Alternatively, you can wrap the text inside the cell and adjust the height if necessary.

	A	B
1	Ingrid Heffernan	Morris Green
2		
3		

Adjust cell width

Position your cursor between the column headings at the top of the worksheet. The cursor should change into a two-headed arrow.

Click 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 by double-clicking between the column headings. The columns will automatically adjust to match the width of the longest entry.

Adjust cell height

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 up or down until the row is the required height.

Wrap text

To wrap text in a cell, select the cell and use the **Wrap Text** tool, which is located on the **Home** tab. The height of the cell should automatically adjust to fit the text.



You can also adjust the height and width of cells by selecting the **Format** drop-down menu in the **Home** tab. From here, select either **Row height** or **Column width** and enter the number you wish to change it to.

Inserting new columns and rows

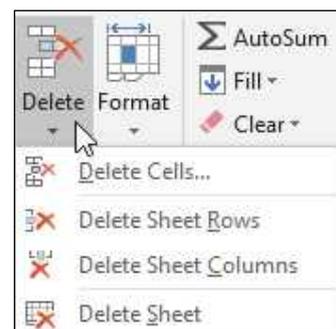
Inserting new columns and rows enables additional data to be entered.

To insert a new column, you can either select a cell or the entire column to the left of where you would like a new one to be inserted (you can select the entire column by clicking on the letter at the top of the column). Then go to the **Home** tab and select the **Insert** drop-down menu. Select **Insert Sheet Columns** and a new column should appear to the right of the column you selected.

To add a new row, select the cell or row below where you would like the new row to be inserted (select the row by clicking on the relevant number on the left-hand side). Then select the **Insert** drop-down menu and select **Insert Sheet Rows**. A new row will appear above the one that was selected.

To delete a row or column, select the relevant cell, row or column, then select the **Delete** drop-down menu in the **Home** tab.

Select the appropriate option (**Delete Sheet Rows** or **Delete Sheet Columns**). The remaining rows or columns will automatically shift up or across. You can also choose to delete an individual cell.





Practice task 6

Take the following steps to insert a new column in a spreadsheet.

1. Open your Current-Clothing spreadsheet.
2. Select Column E, which should now be titled 'End profit'.
3. Go to the **Home** tab and select the **Insert** drop-down menu. Select **Insert Sheet Columns** to insert a new column to the left of 'End profit'.
4. Select cell E4 and label the new column '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			
17						

Cell alignment

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 in 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 in a cell can also be adjusted for the height of the cell. Data can be aligned to the top, centre or bottom of a cell. The default is to align the text to the bottom of the cell.

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

The direction of text can also be changed to a vertical or diagonal alignment by selecting the **Orientation** icon. 

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 a spreadsheet.

In the following example, the heading 'Henry Lewis Consulting & Co' and the heading 'Sales results' have both 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							

To perform this action, select the cells you wish to merge and then select the **Merge & Center** tool in the **Home** tab. 

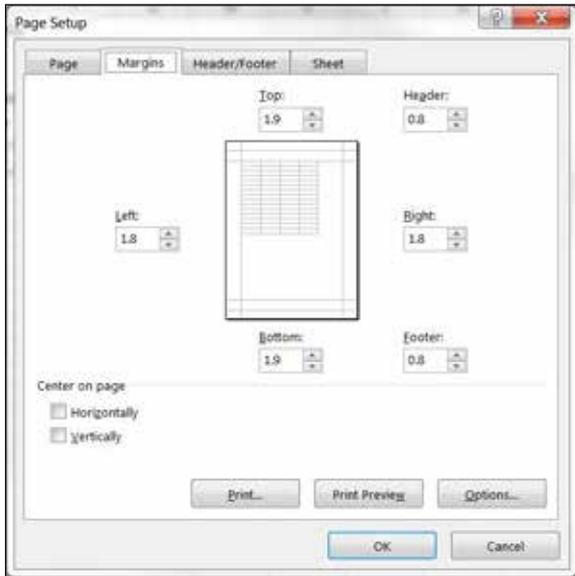
You can also use the arrow to open the drop-down menu and select **Merge Across** if you do not want the contents of the cell to be centred.

Centre data on the page

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, select the **Page Layout** tab. Select the **Margins** drop-down menu, then select **Custom Margins**.



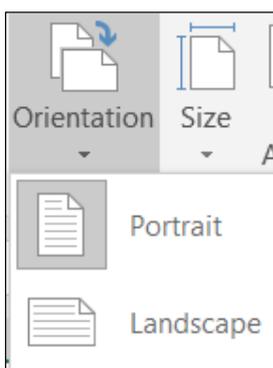
Check the options to centre on the page both **Horizontally** and **Vertically**. The display in the dialog box shows how the changes will appear in the spreadsheet. You can also select **Print Preview** to see how data will be displayed on the page. Select **OK**. When printed, the data will now be 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.

Due to their layout, 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, select the **Page Layout** tab, then select the **Orientation** drop-down menu and 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). Go to the **File** tab, then select **Print**. You can change the scaling options using the drop-down menu under Settings.

Simple calculations in Excel

Routine or simple calculations are often performed in Excel to calculate data.

Excel is used to calculate a variety of data; for example, in financial reports, sales statistics and stock levels.

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.

BODMAS refers to the order of operations and stands for:

- Brackets
- Orders
- Division and Multiplication
- Addition and Subtraction

This means that anything inside brackets is calculated first, then division/multiplication is calculated in the order it appears, then the remaining numbers are added or subtracted in the order they appear.

Calculations can be performed either on values (e.g. 1, 2, 3) or on the cell reference (e.g. A1). When calculating data, it is always better to use the cell reference (e.g. A15), as opposed to the value (e.g. 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

Great care needs to be taken to ensure that the data entered is accurate.

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.

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 when preparing reports and statistical data.

As discussed earlier, it is always best practice to use cell references (e.g. 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 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 change how this value is displayed by converting it into currency, a percentage, a fraction or a scientific number.

You can also 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.

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

Formatting your spreadsheet has a number of advantages:

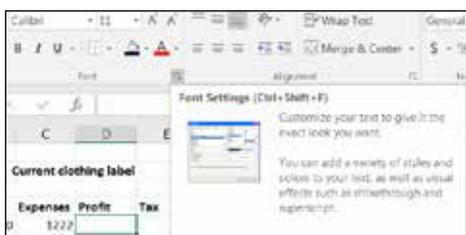
- It creates an efficient layout to make the information clearer and easier to read.
- It makes data input easier.
- It ensures your spreadsheet complies with organisational style and presentation requirements.



Practice task 7

Take the following steps to format labels (text entered into cells) and values (numbers entered into cells).

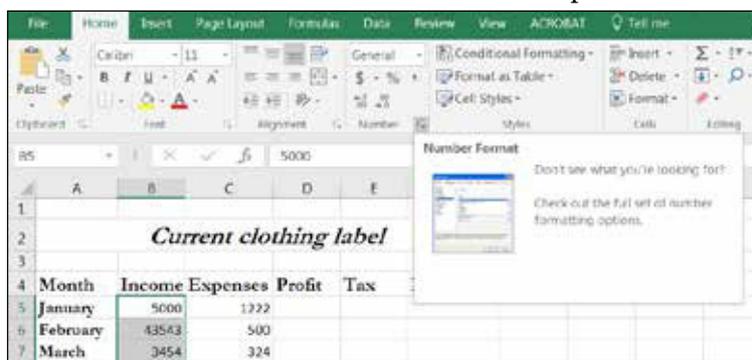
1. Open the 'Current clothing' worksheet.
2. Select the cell labelled 'Current clothing label'.
3. From the **Home** tab, select **Font Settings** by clicking on the icon in the bottom right corner of the Font section. This will open the **Format Cells** dialog box.

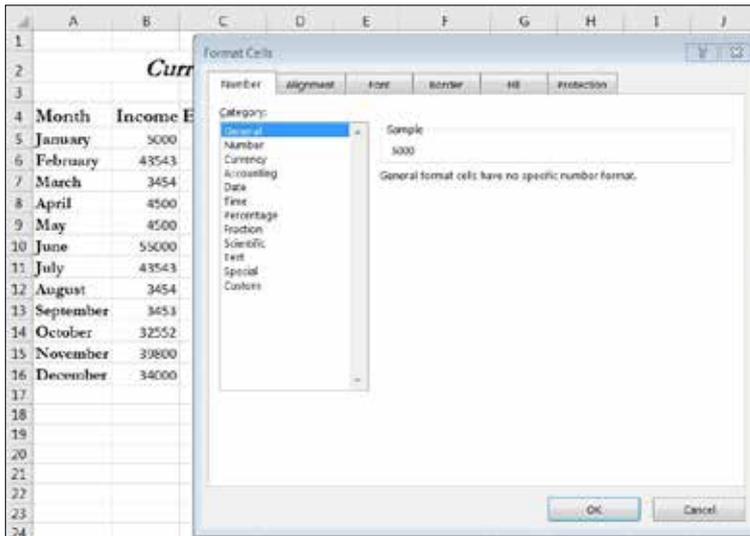


4. Under Font, select **Garamond**, then select **Bold Italic** under Font style, and choose size **18**. Click **OK**.
5. Select cells A4–F4. This should cover all the headings of your columns.
6. Using the **Font** tools in the **Home** tab, change the font selections. Select **Garamond, Bold, 14**.
7. Select cells A5–A16. This should cover all the month labels.
8. Using the **Font** tools, change the font selections to **Garamond, Bold, 12**. Click **OK**.
9. Adjust the column widths to suit the formatting. The worksheet should now look like the following example.

<i>Current clothing label</i>					
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			

10. Select cells B5–F16. This will select all the cells where values have been input.
11. From the **Home** tab, select **Number Format** by clicking on the icon in the bottom right corner of the **Number** section. This will open the **Format Cells** dialog box.





- Under the **Number** tab, select **Currency**. Check that the symbol is a dollar sign (\$) 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.



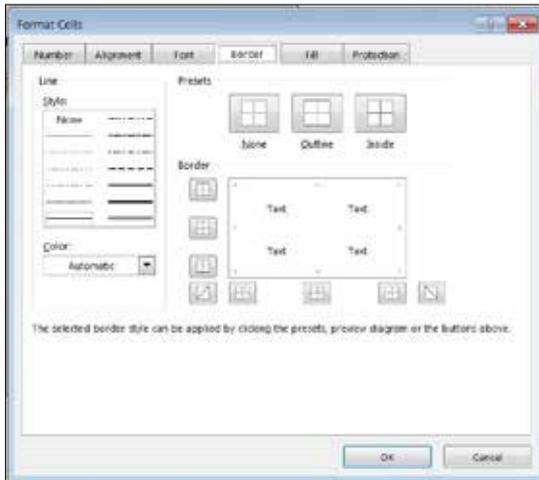
Practice task 8

The following steps show how to add borders and shading to cells in the spreadsheet.

- Open the 'Current clothing' worksheet.
- Select cells A4–F4. This should cover all the headings of your columns. Then hold down **Ctrl** and select cells A5–A16. This should cover all the month labels.
- From the **Home** tab, access the **Format Cells** dialog box by selecting  in the **Font** section.



- Select the **Fill** tab in the dialog box. Select a pale colour and click **OK**.
- View the colour on your spreadsheet; feel free to change it if you don't like it.
- Select cells A1–F19. This should cover all the content in the spreadsheet. Access the **Format Cells** dialog box again and select the **Border** tab.



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

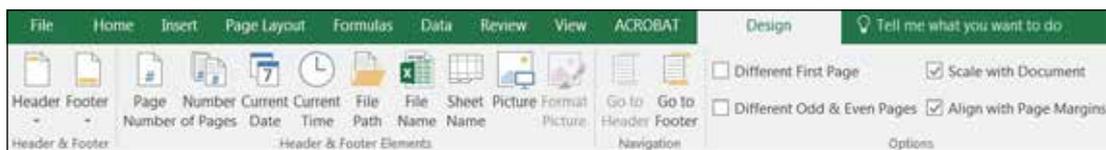
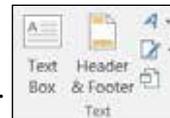


Practice task 9

In this exercise, you will 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.
3. Now there should be a header section in your document for you to work in. There will also be a new group of tools available for you to use under a **Design** tab.



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.

4. To insert a footer, select the **Go to Footer** tool in the **Design** tab and type directly into the footer section, or use the **Design** tab tools to insert page numbers, a date, time and file path.
5. Using these options, insert an appropriate header and footer into the spreadsheet.
6. Go to the **File** tab and select **Print** to preview the spreadsheet. If you are unhappy with its appearance, make appropriate changes.
7. Save and close your worksheet.



Practice task 10

Question 1

Remembering the order in which Excel performs functions, work out the following calculations.

- $=23+24*2$
- $=20+40*5$
- $=100+2+30*4$
- $=(15-5)*5$

Question 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'.
- Use the alignment tools to alter the width and height of columns and rows.
- Use the **Merge & Centre** tool to create headings for the spreadsheet.
- Centre the data on the page both horizontally and vertically.
- Change the orientation from portrait to landscape.
- In a new column labelled 'Summary monthly totals', calculate the total sales figures for each month, e.g. =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 14pt.
- Bold the heading and the summary monthly totals.
- 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.
- Add a header with today's date and time.
- Add a footer that displays the page number.
- Select **Print** in the **File** tab to print preview the report.
- 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.

When creating a formula in Excel, use the cell references in your calculations. For example, $=A3+B3$ adds the values in the cells A3 and B3.



Practice task 11

The following shows how to create a formula to calculate values for the Profit column in the 'Current clothing' worksheet.

1. Open your 'Current clothing' worksheet.
2. Select D5, the first empty cell under 'Profit'. Enter the formula $=B5-C5$.

	A	B	C	D	E	F
1						
2	<i>Current clothing label</i>					
3						
4	Month	Income	Expenses	Profit	Tax	End profit
5	January	\$5,000.00	1222	$=B5-C5$		
6	February	\$43,543.00	500			
7	March	\$3,454.00	324			
8	April	\$4,500.00	400			
9	May	\$4,500.00	300			
10	June	\$55,000.00	3454			
11	July	\$43,543.00	4322			
12	August	\$3,454.00	543			
13	September	\$3,453.00	2342			
14	October	\$32,552.00	343			
15	November	\$39,800.00	2234			
16	December	\$34,000.00	100			
17						
18						
19						
20						

- Press the **Enter** key to perform the calculation.
- 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	<i>Current clothing label</i>					
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		
17						
18						
19						

- 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).

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

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

	A	B	C	D	E	F
1						
2	<i>Current clothing label</i>					
3						
4	Month	Income	Expenses	Profit	Tax	End profit
5	January	\$5,000.00	\$ 1,222.00	\$ 3,778.00	\$ 377.80	<code>=D5-E5</code>
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	

- 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.

The **AutoSum** icon 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.



The following outlines some other simple Excel functions.

=SUM(range)

This adds the values specified in the brackets.

=MAX(range)

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

=MIN(range)

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

=AVERAGE(range)

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

=COUNT(range)

This counts the number of items in the range.

=NOW()

This inserts the current time and date.

=RAND()

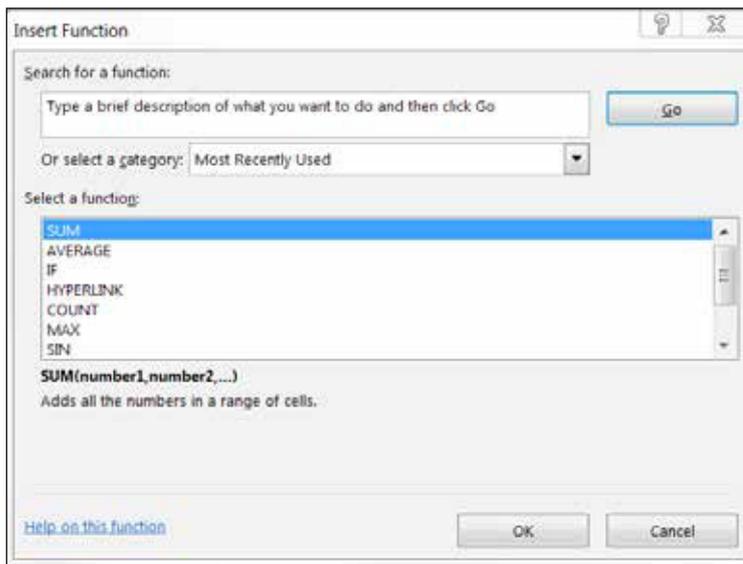
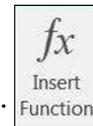
This inserts a random number between 0 and 1.



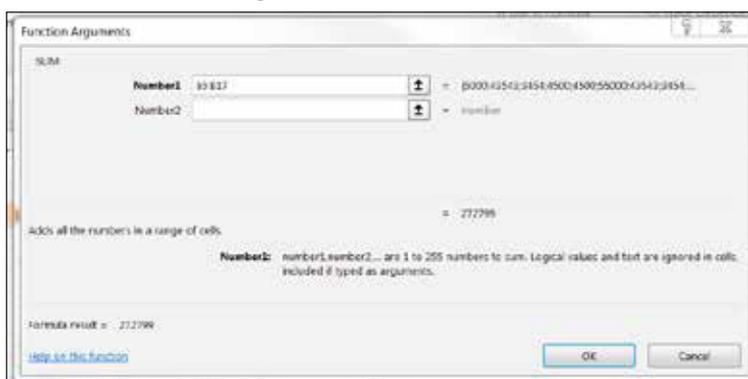
Practice task 12

Take the following steps to use a function to calculate totals in the 'Current clothing' worksheet.

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



4. As you have selected a cell at the end of a column full of numerical values, the **SUM** function will 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**.



5. Cell B18 should now hold the calculation of all income values added together.
6. 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.

	A	B	C	D	E	F
1						
2	<i>Current clothing label</i>					
3						
4	Month	Income	Expenses	Profit	Tax	End profit
5	January	\$5,000.00	\$ 1,222.00	\$ 3,778.00	\$ 377.80	\$ 3,400.20
6	February	\$43,543.00	\$ 500.00	\$ 43,043.00	\$ 4,304.30	\$ 38,738.70
7	March	\$3,454.00	\$ 324.00	\$ 3,130.00	\$ 313.00	\$ 2,817.00
8	April	\$4,500.00	\$ 400.00	\$ 4,100.00	\$ 410.00	\$ 3,690.00
9	May	\$4,500.00	\$ 300.00	\$ 4,200.00	\$ 420.00	\$ 3,780.00
10	June	\$55,000.00	\$ 3,454.00	\$ 51,546.00	\$ 5,154.60	\$ 46,391.40
11	July	\$43,543.00	\$ 4,322.00	\$ 39,221.00	\$ 3,922.10	\$ 35,298.90
12	August	\$3,454.00	\$ 543.00	\$ 2,911.00	\$ 291.10	\$ 2,619.90
13	September	\$3,453.00	\$ 2,342.00	\$ 1,111.00	\$ 111.10	\$ 999.90
14	October	\$32,552.00	\$ 343.00	\$ 32,209.00	\$ 3,220.90	\$ 28,988.10
15	November	\$39,800.00	\$ 2,234.00	\$ 37,566.00	\$ 3,756.60	\$ 33,809.40
16	December	\$34,000.00	\$ 100.00	\$ 33,900.00	\$ 3,390.00	\$ 30,510.00
17						
18	Totals	\$272,799.00	\$ 16,084.00	\$256,715.00	\$25,671.50	\$231,043.50
19						
20						

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'. 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



Practice task 13

Take the following steps 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 should see =SUM(B5:B17). Click in between B and 5. The formula should turn blue. Press the **F4** key.
4. The formula should now read =SUM(\$B\$5:B17).
5. Click in between B and 17 and press the **F4** key.
6. The formula will now read =SUM(\$B\$5:\$B\$17).
7. To confirm the formula, press the **Enter** key. The B18 reference is now absolute.
8. 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 into an empty cell. The value of the absolute reference you choose should remain the same wherever it is placed.

Test, adjust and confirm formulas

The formulas used in a spreadsheet must be appropriate for the data that needs to be produced, and need to be tracked for errors.

It is important that cell references are used to track any calculation errors in a report.

Excel has many features to assist you in identifying errors, including a green triangle symbol that appears in the top left corner of a cell if there is an inconsistency in a formula.

\$ 4,304.30
\$ 313.00
\$ 410.00

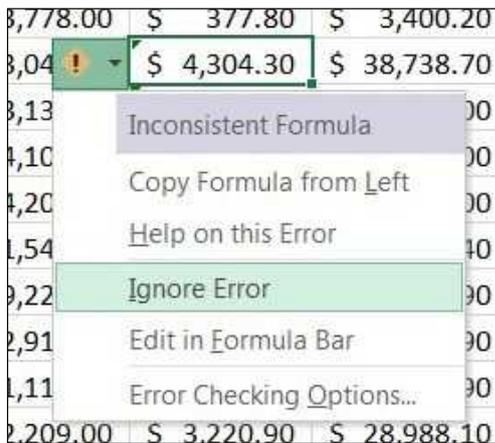
If you select the cell with the alert and hold your pointer over the green triangle, a help bubble will appear to explain the error that has been identified by Excel.

\$ 778.00	\$ 377.80	\$ 3,400.20			
\$ 3,040.00	\$ 4,304.30	\$ 38,738.70			
\$ 1,130.00					
\$ 100.00	\$ 410.00	\$ 2,500.00			

The formula in this cell differs from the formulas in this area of the spreadsheet.

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.

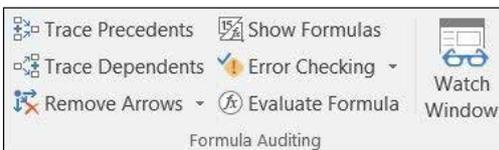
Once you have investigated the error, you can choose the option to ignore the warning if there is no error. This will remove the green error flag from the spreadsheet.



Formula auditing tools

Formula auditing tools are useful when you are investigating errors and working out how to fix them.

To access these tools, go to the **Formulas** tab.



The **Show Formulas** tool changes the view so you can reveal or hide all the formulas in the spreadsheet.

	A	B	C	D	E	F
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						

Current clothing label

Month	Income	Expenses	Profit	Tax	End profit
January	5000	1772	=B5-C5	=D5*05	=E5-F5
February	43543	500	=B6-C6	=D6*06	=E6-F6
March	3454	324	=B7-C7	=D7*07	=E7-F7
April	4500	400	=B8-C8	=D8*08	=E8-F8
May	4500	300	=B9-C9	=D9*09	=E9-F9
June	55000	3454	=B10-C10	=D10*010	=E10-F10
July	43543	4322	=B11-C11	=D11*011	=E11-F11
August	3454	543	=B12-C12	=D12*012	=E12-F12
September	3453	2342	=B13-C13	=D13*013	=E13-F13
October	32552	343	=B14-C14	=D14*014	=E14-F14
November	39800	2234	=B15-C15	=D15*015	=E15-F15
December	34000	300	=B16-C16	=D16*016	=E16-F16
Totals	=SUM(B55:B517)	=SUM(C55:C517)	=SUM(D55:D517)	=SUM(E55:E517)	=SUM(F55:F517)

Another useful tool is the **Trace Precedents** tool, which shows where the data in the calculations comes from. This is useful for tracking errors. 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, which you can use to determine the root of the problem. The following shows an example of this tool in action.

\$ 51,546.00	\$ 5,154.60	\$ 46,391.40
\$ 39,221.00	\$ 3,922.10	\$ 35,298.90
\$ 2,911.00	\$ 291.10	\$ 2,619.90
\$ 1,111.00	\$ 111.10	\$ 999.90
\$ 32,209.00	\$ 3,220.90	\$ 27,054.40

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 important to ensure that the contents of any report you are producing are accurate and meet the requirements for the purpose and audience it is intended for. If you are unsure, ask your supervisor to check your work to confirm it meets the requirements and that you are doing your job correctly.

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 and product code)
- spelling
- figures and calculations
- document-specific facts (such as summary totals and highlighted information for action or review).

Check information

If the information contained in the spreadsheet is not accurate, it can cause problems for your organisation.

For example, if you work for a retail outlet and are 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 decisions made by management, such as 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.

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



Practice task 14

Part A

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'.

Part B

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 the formula =10%*B5. To calculate the 'Sale price' to be shown in D5, she uses the formula =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	\$ 165.00
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

Question 1

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

Question 2

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

Question 3

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

Question 4

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 to learn more about how an Excel function works or to help you operate 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 an IT helpdesk 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 to your spreadsheet, but are not sure how to.

Layout

You want to change the orientation from portrait to landscape and need help doing this.

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

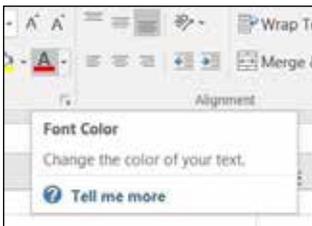
You want to know how to print using the colour printer.

Excel Help

When working in Excel, you can use the help facility to assist you with certain functions.

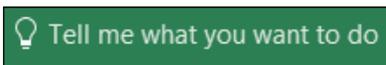
Each time you move your mouse cursor over a tool button, it will display a bubble that tells you what the button is used for.

For instance, in the **Home** tab, if you move your cursor over the font tool, you will see this message.



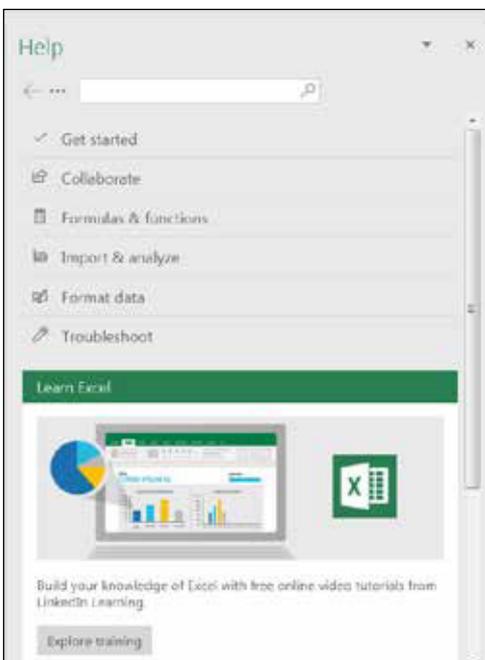
Many of these bubbles have a **Tell me more** link, which connects directly to the relevant help page.

Alternatively, you can search for specific things you need help with by typing keywords into the search bar.



Full access to the help facility requires you to be connected to the internet. However, you can access standard help facilities offline.

You can also press **F1** on the keyboard to access the help facility.



Manuals and training booklets

You can refer to user manuals and training booklets for instructions on how to carry out certain functions in Excel.

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 print and electronic formats.

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

You may find the following websites useful:

<http://aspirelr.link/microsoft-support>

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 problems that can be experienced when using Office 2016.

<http://aspirelr.link/microsoft-office>

This site provides resources for all Microsoft Office applications. It has news and announcements, as well as useful files you can download. If you are connected to the internet, you can open this site directly through the help facility.

Additionally, you may have received training in using Excel by attending an external training course or one offered by your organisation. Training materials are a useful resource to refer to as they usually provide a comprehensive set of instructions on how to carry out certain tasks.



Practice task 15

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 the help facility to assist him with various software functions. 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 at work. 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's help facility. When this occurs, he accesses Microsoft's support website to find a solution or refers to the material he has gathered.

Question 1

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

Question 2

Describe how Chinh uses manuals and training materials for help.

Question 3

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



Summary

- Organisations use Excel spreadsheets to record numerical data and perform calculations.
- You may need to adjust the height and width of columns and rows to fit the data.
- Formulas and functions are used in Excel to perform calculations.
- When using formulas and functions, make sure the result is correct.
- You can change the appearance of your spreadsheet to suit your organisation's style and presentation requirements.
- Always check the data to make sure it is accurate.
- To solve problems when producing a spreadsheet, make sure you have access to online and offline materials to help you.
- You can access the help facility in Excel at any time by pressing the **F1** key.



Learning checkpoint 2

Create simple spreadsheets

Part A

Read the product documentation and the 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
4	Product pricing			
5	Product code	Price (before GST)	GST amount (10%)	Actual price (inc. GST)
6	E343	\$1,700	\$170	\$1,530
7	E334	\$1,200	\$120	\$1,080
8	E708	\$1,500	\$150	\$1,350
9	E788	\$1,000	\$100	\$900
10	E376	\$8,000	\$800	\$7,200
11	E356	\$2,500	\$250	\$2,250
12				
13		Total sales tax	\$1,590	

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

2. In 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. Describe the consequences of entering incorrect data. How can you prevent incorrect data from being entered into a spreadsheet?

- How does the using the organisational style guide help you with consistency of design and layout of a spreadsheet?

Part B

Recreate the following 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	Daily totals					
12	Weekly total					

- Format the labels to make data input easier.
- Add borders and light shading around cells A11–F11. Format cells B11–F11 as **Bold**.
- Merge cells B12–F12, format as **Bold** and align left.
- Add borders and darker shading around cells A12–F12.
- In cell B11, write a formula that calculates Monday’s totals. Use a calculator to check that the formula gives the correct amount. Use **Fill** to apply the formula to each daily total.
- In cell B12, write a formula that calculates the weekly total. Use a calculator to check that the formula is correct.
- 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 spreadsheet by entering the data into each cell. The ‘Hourly rate’ is how much each person is paid per hour and the ‘Weekly hours’ refers to how many hours are worked per week.

Use Excel help facilities to assist you to produce the spreadsheet if necessary, then complete the steps that follow.

	A	B	C	D	E	F
1	Staff salaries					
2		Hourly rate	Weekly hours	Weekly salary	Salary rise	New weekly salary
3	Joanne	25	40			
4	Peter	20	35			
5	Chong	24	40			
6	Rose	28	30			
7	Dylan	18	25			
8	Sienna	35	40			
9	Dan	40	40			
10	Brooke	25	35			
11	Mark	23	25			
12						
13		Total weekly salaries				

1. Format all the text labels so they are **Arial, Bold, 10**. Add a pale colour to all the cells with text labels. Add a border to the cells 'Staff salaries' and 'Total weekly salaries'.
2. In D3, write a formula that calculates Joanne's weekly salary. Use a calculator to check your formula. Use **Fill** to add the values for the remaining salaries.
3. All staff are going to receive a salary raise of 15 per cent. The 'Salary rise' column should 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 E3, write a formula that calculates 15 per cent of Joanne's salary. Use a calculator to check your formula. Use **Fill** to add the values for the remaining salaries.
4. The 'New weekly salary' column should hold the value of the 'Weekly salary' and the 'Salary rise' columns added together. In F3, write a formula that adds up Joanne's new salary. Use a calculator to check your formula. Use **Fill** to add the values for the remaining salaries.
5. The value in D13 should contain all the 'New weekly salary' values. In D13, write a formula to add up all the 'New weekly salary' values. Make the cell reference of D13 absolute.
6. Select cells D3 to F11 and set to currency with two decimal points.
7. **Print preview** your spreadsheet. Adjust the alignments of your labels and values until you are satisfied. Print out your spreadsheet.

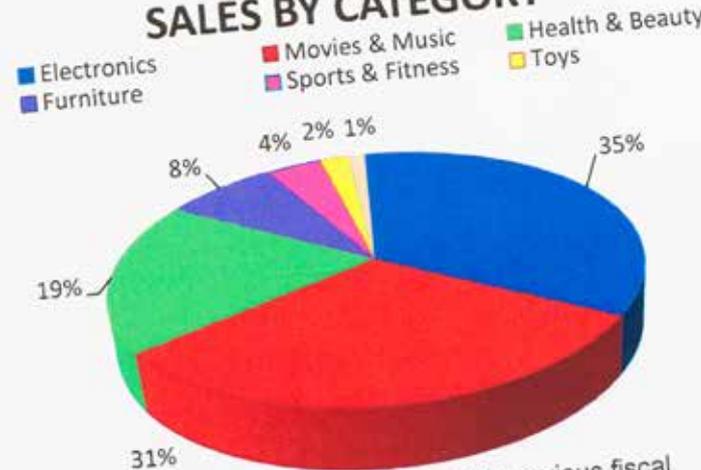
MONTHLY SALES



SALES BY REGION (USD\$ Million)

	2006	2007	2008	2009	2010
	\$ 453	\$ 480	\$ 547	\$ 560	\$ 586
	\$ 96	\$ 81	\$ 85	\$ 89	\$ 90
	\$ 41	\$ 35	\$ 35	\$ 36	\$ 33
	\$ 142	\$ 120	\$ 127	\$ 129	\$ 135
	\$ 133	\$ 129	\$ 140	\$ 145	\$ 155
	\$ 186	\$ 183	\$ 190	\$ 191	\$ 198
	\$ 174	\$ 187	\$ 198	\$ 210	\$ 213
	\$ 1,225	\$ 1,215	\$ 1,322	\$ 1,360	\$ 1,410

SALES BY CATEGORY



segmentation. Accordingly, the related figures for the previous fiscal

Topic 3

Produce simple charts

A chart is a graphical representation of selected worksheet data.

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 represent numerical data
- 3B Create charts
- 3C Use formatting features to modify the chart type and layout

3A Select a chart type and design to represent 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 example, it may prefer to use column charts as opposed to line charts because they make it 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 the organisation's image remains consistent.

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 may 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.

Types of charts and their features

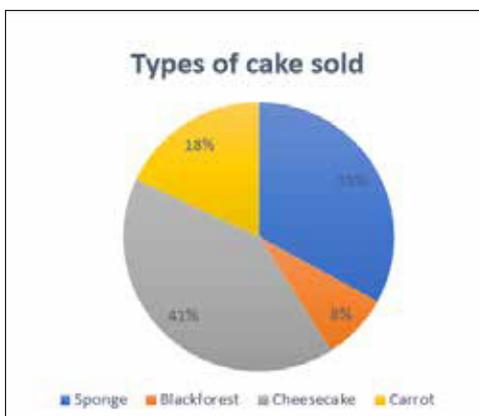
If you are using an Excel spreadsheet, you will be able to display your data in a chart.

The types of charts you can create in Excel include:

- area chart
- bar chart
- column chart
- pie chart
- line chart
- scatter chart.

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

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 than to look at the figures in a worksheet.



Charts are linked to information contained in the selected cells. This means that if the cell data is updated, the chart is updated accordingly.

The kind of chart you choose and its design should reflect your organisation's needs.

Area chart

Area charts can be used to demonstrate changes over time.

For instance, they may be used to 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.



Bar charts

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.



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

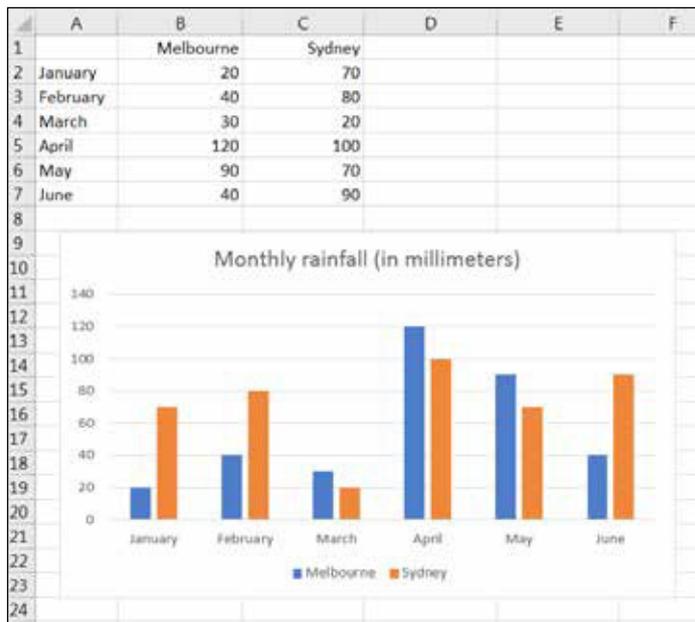
The following example compares monthly department sales figures, as well as the total overall amounts for the sales quarter.



Column charts

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

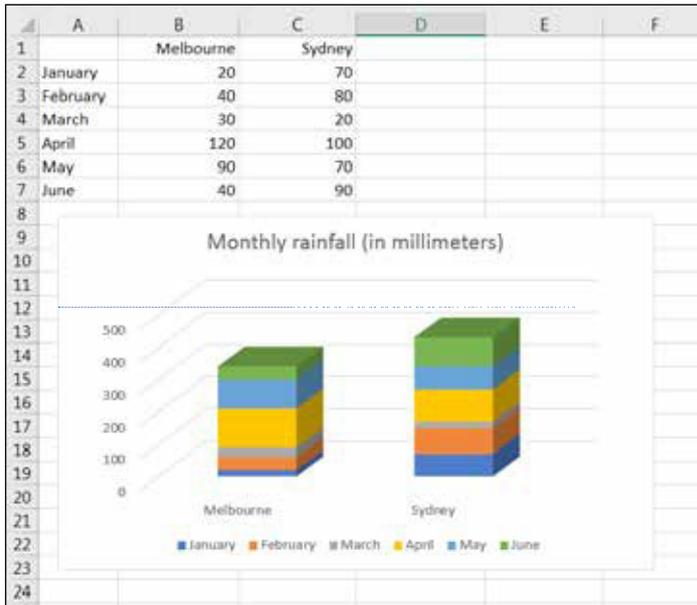
The following example shows how rainfall data in Sydney and Melbourne can be compared using a column chart.



If you prefer the 3D look for your column chart, choose 3D 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 charts

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 has.

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



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

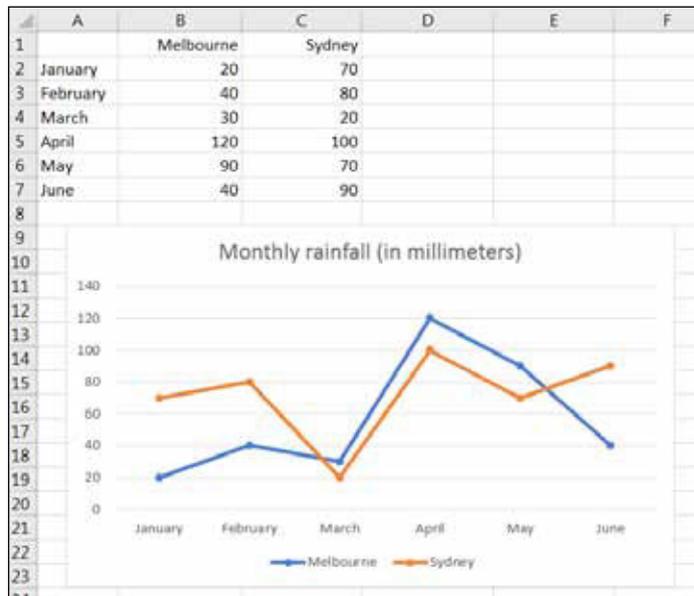


Line chart

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 time.

The following example uses a line chart to compare total monthly rainfall in Melbourne and Sydney.

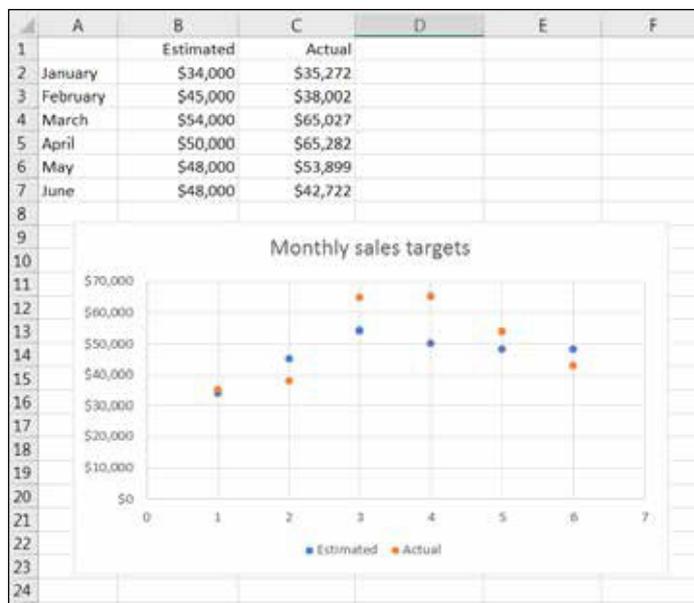


Scatter chart

A scatter chart is used to compare and arrange data to analyse the relationships between numerical 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 and actual sales results.





Practice task 16

Read the case study, then answer the question that follows.

Case study

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 as 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.

As you are the office manager, Liza asks you 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 as column charts, 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 charts?

3B

Create charts

Before you start to produce charts, you should 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.

Axis
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 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).

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

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 simply say series 1, series 2, etc.

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.

Producing a chart

To produce a chart, you must first enter data into a worksheet.

Select the data, either by clicking and dragging over it with the mouse, or by selecting one of the cells, then holding down the **Shift** key and pressing the arrows on the keyboard.

	A	B	C	D	E	F
1		Northcote	Yarraville	Greensborough	Footscray	Hamilton
2	2015	\$303,002	\$766,299	\$736,252	\$234,333	\$345,222
3	2016	\$451,909	\$827,266	\$627,262	\$342,244	\$423,234
4	2017	\$568,218	\$568,209	\$743,662	\$443,422	\$342,344

Use the **Insert** tab and select the appropriate chart under the Charts section. The type of chart you choose will depend on your organisational requirements.

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.



Practice task 17

Take the following steps to produce a column chart.

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

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

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

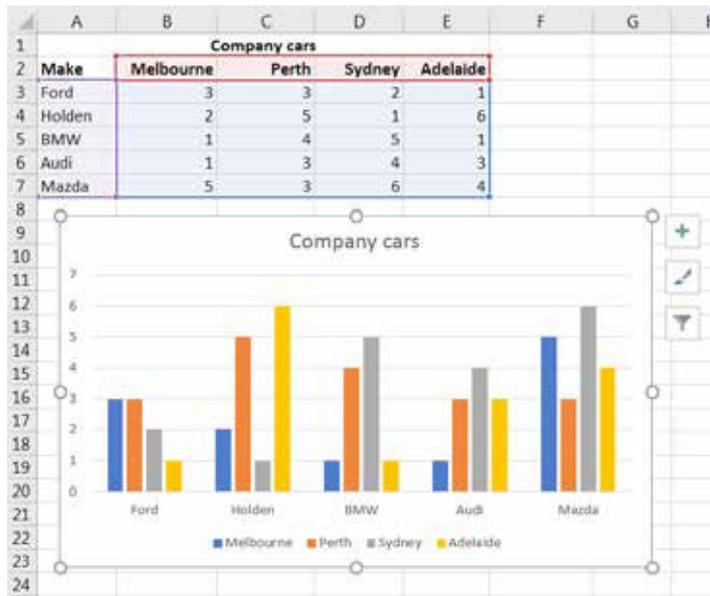
4	Make	Melbourne	Perth	Sydney	Adelaide
5	Ford	3	3	2	1
6	Holden	2	5	1	6
7	BMW	1	4	5	1
8	Audi	1	3	4	3
9	Mazda	5	3	6	4
10					

3. Go to the **Insert** tab and select **Insert column chart**. The chart will now display as an object in your spreadsheet.

Insert Column or Bar Chart

Use this chart type to visually compare values across a few categories.

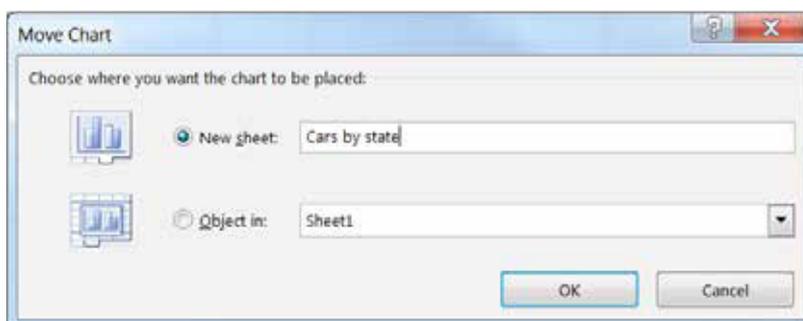
Click the arrow to see the different types of column and bar charts available and pause the pointer on the icons to see a preview in your document.



4. To move the chart to a separate sheet in the workbook, go to the **Design** tab and select **Move Chart**.



5. A dialog box will appear. Select the option to place the chart in a new sheet. Give it an appropriate name, e.g. 'Cars by state'. Click **OK**.



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. Add trendlines by selecting the **Design** tab and selecting **Trendline** from the **Add Chart Element** tool.



Practice task 18

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

Hemline Miller			
January report			
Store	Sales	Customer numbers	Quantity sold
Chadstone	78,009	567	1,298
Bundoora	95,080	892	2,098
Wangaratta	120,708	927	1,792
Seymour	110,920	828	1,777
Newport	102,787	998	2,143

2. Create a column chart that compares the sales data (remember to only select the Store and Sales columns).
3. Create a scatter chart that compares customer numbers with quantity sold.
4. Create pie charts for the following (remember to include the store regions):
 - a. Sales results
 - b. Customer numbers
 - c. Quantity sold

3C

Use formatting features to modify the chart type and layout

Once you have created a chart, you need to format it to suit organisational and task requirements.

This may include formatting the data range, text and legend, or adding a pattern to the chart area. Formatting the chart can also enhance the presentation and overall readability of the numerical data.

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 that any information in the chart is clearly presented.

All parts of the chart are separate components and can be formatted and adjusted as needed. To select part of the chart, point and click to select it and either use the toolbar or right-click mouse shortcut menus to make appropriate changes.

There are various options for formatting, including:

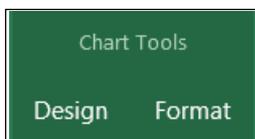
- using colours
- adding gridlines
- adding borders
- inserting or amending titles and labels
- changing font size and type
- changing the type of chart used.

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

Design, format and layout tools

There are various tools available to help you improve the appearance of your charts.

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



Design tools enable you to:

- change the type of chart selected
- choose the style and layout
- alternate the view of data between row and column
- check and adjust the selected data.

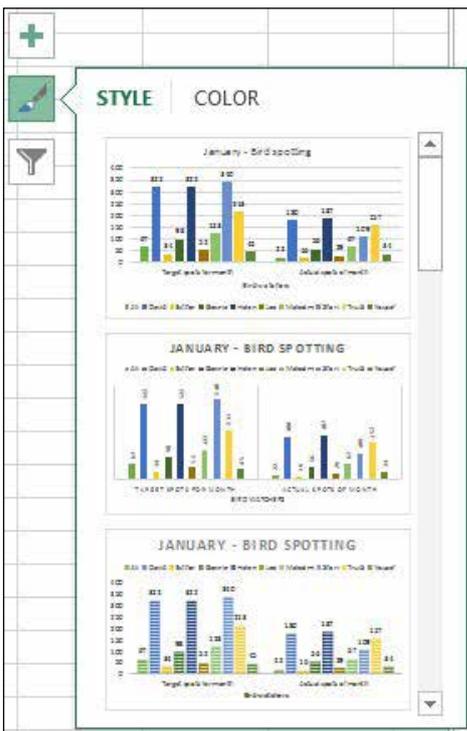
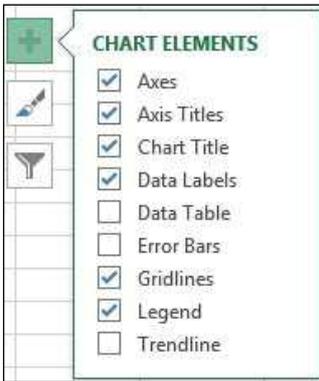


Formatting tools enable you to alter the general appearance of the chart, such as the colour, font type and size.



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

Layout tools enable you to adjust the appearance of the chart by adding various elements such as titles, labels and gridlines.

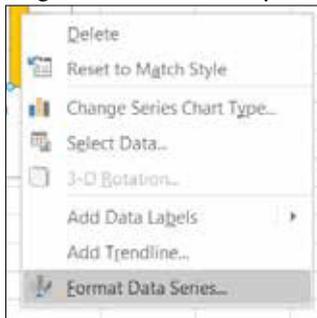




Practice task 19

Take the following steps to format a chart.

1. Open the 'Company cars' chart.
2. Right-click inside any of the Adelaide columns and select **Format Data Series**.

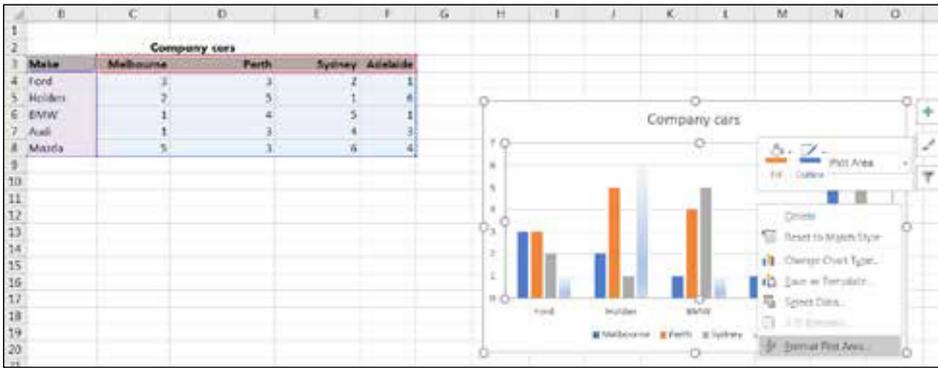


3. In the dialog box, select the **Fill** tab and select **Gradient fill**. Choose a preset gradient colour and click **Close**.

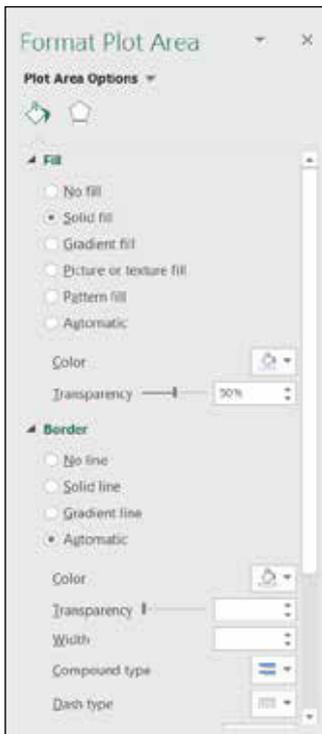


You will notice that the Adelaide data now has a shade effect in the chart. If you want to change the look to something different, select **Picture or texture fill** instead, then select an appropriate texture.

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** to open the dialog box.



6. In the **Fill** tab, select **Solid fill** and choose an appropriate colour. You can also adjust the transparency to make the colour lighter or darker. Click **Close**.



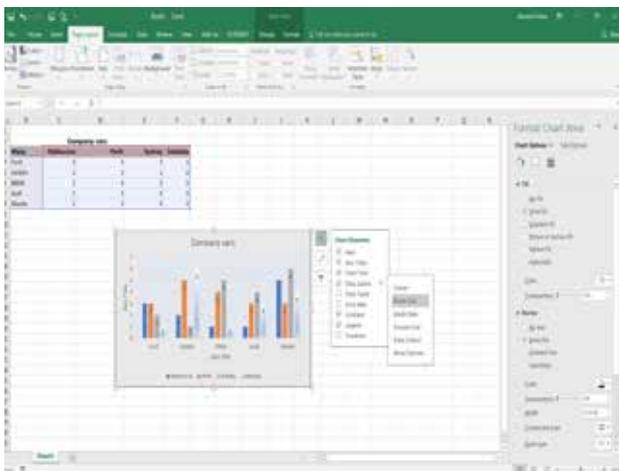
7. The **Chart area** is the space behind the legend and the chart labels. Right-click in the **Chart area** and select **Format Chart Area** to open the dialog box.



8. In the **Fill** tab, select **Solid Fill** and choose an appropriate colour. Click **Close**.



9. To add a border to the chart area, select **Solid line** under the **Border** section, then change the colour to black. Click **Close**.
10. To add a chart title, click on the chart title box and type 'Company cars' in the textbox.
11. To add axis titles to the chart, select **Chart Elements**, then tick **Axis Titles** from the drop-down menu. In the horizontal (x-axis) textbox type 'Make of car' and in the vertical (y-axis) textbox type 'Number of cars'.
12. To format the text in the chart title, select the **Chart title** and use the formatting tools in 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**.
13. To add data labels to the chart, click on the chart and select **Chart Elements**, then tick the **Data Labels** options. Use the arrow to the right of this option to select an appropriate position in the chart (such as **Inside End**).



14. Format gridlines in the chart by right-clicking on a gridline and selecting **Format Gridlines**. This will open a dialog box. Under **Line**, select a dash type. Click **Close**.

The chart should appear similar to the following.



Summary

- A chart is a graphical representation of selected spreadsheet data.
- Charts are visually appealing and make it easy to display comparisons, patterns and trends in data.
- The type of chart you choose to present data will depend on organisational and task requirements.
- When you insert a chart into an Excel worksheet, two new tabs appear: Design and Format. The Layout options also become available.
- Each component of a chart can be formatted and adjusted individually as needed.
- 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

Part A

1. Explain the type of data most suited to each of these chart types:
 - a. Pie chart

- b. Column chart

- c. Stacked bar chart

- d. Line chart

Part B

Look at the following data and complete the tasks that follow.

	A	B	C	D	
1	National sales figures				
2		2015	2016	2017	
3	Sydney	\$23,000	15,000	40,000	
4	Perth	35,000	13,000	25,000	
5	Melbourne	12,000	25,000	30,000	
6	Brisbane	45,000	30,000	50,000	
7	Adelaide	10,000	15,000	20,000	
8					

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



Topic 4

Finalise spreadsheets

You need to be able 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 is delivered.

For example, if you have not spellchecked a document and it contains errors, or if you use an old product code, this sends a negative 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 meets time lines and requirements for speed and accuracy
- 4C Name and store spreadsheets and exit applications 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 alterations are needed to either the time line or job instructions, you should discuss this with your supervisor and/or the person who has requested the work.

Many businesses have strict deadlines for completing tasks; for example, your manager might need 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 make sure you save files appropriately so that spreadsheets are easier to access.

Save files:

- in the correct drive, e.g. the network drive
- in the appropriate folder, e.g. your department name
- in an appropriate sub-folder, e.g. the project name
- with an appropriate file name that is clear and specific, e.g. 'Sales-report-March-2018'.



Print a worksheet or workbook

Before printing a workbook or spreadsheet you have created, 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. You should also 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 good practice to include it in your routine work tasks.

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.

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 become the active worksheet.

Scaling allows you to adjust the size of the printout and make it larger or smaller on the printed page.

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.

To print a workbook comprising multiple worksheets, follow the instructions for printing a worksheet, but in the first drop-down menu under Settings select **Print Entire Workbook**.



Practice task 20

Take the following steps to print part of a worksheet.

1. Open the 'Current clothing' worksheet.
2. Select cells A4–B17. This should cover all the 'Month' and 'Income' data.

Month	Income
January	\$5,000
February	\$43,543
March	\$3,454
April	\$4,500
May	\$4,500
June	\$55,000
July	\$43,543
August	\$3,454
September	\$3,453
October	\$32,552
November	\$39,800
December	\$34,000
Total	\$272,799

3. From the **File** tab, select **Print**.
4. Select the first drop-down menu under Settings and change to **Print Selection**.
5. Under **Settings**, select the Orientation drop-down menu and change it to **Landscape Orientation**.
6. Select the **Scaling** drop-down menu, and select **Custom Scaling Options**. In the Page Setup dialog box, change the scaling to 135%. Click **OK**.



7. Click **Print**.



Practice task 21

Take the following steps 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, select **Custom Margins**. Change the settings of the top, bottom, left and right margins. Click **OK**.
4. Select the first drop-down menu under Settings and change to **Print Selected Chart**. Click **Print**.



Practice task 22

1. Open your document 'Company cars' and do the following:
 - Select cells A4:B9; this will select only the make of the cars and Melbourne data.
 - Print only the selected data.
 - Close the file.
2. 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 meets time lines and requirements for speed and accuracy

Whenever you are given a work task, you need to create a time line, which is a plan for how long it will take to complete the task, usually broken down into smaller tasks or steps.

Time lines will normally be pre-designated and depend on task instructions and deadlines. 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. The spreadsheet may be needed for a board or client meeting; sometimes 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 to use, always clarify exactly what is required; for example, are there graphs or formulas needed? If you have to write formulas, make sure you allow enough time to have them checked by your manager.

Time line checklist

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	17 March	<ul style="list-style-type: none"> Enter product data. Proofread the data. Format the spreadsheet using the organisation's style guide. Create a new column titled 'Discount'. Write a formula to calculate 10 per cent of customers' balances. Create a column titled '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.

Try to stick to time lines and use the software appropriately and efficiently to save time and ensure data is accurate. It is better to complete the task carefully and methodically rather than producing work that needs to be repeated due to inaccuracies.

Use shortcut menus (right-click the mouse button) to bring up quick commands for undertaking actions. Use shortcut keys to undertake actions quickly (e.g. use **Ctrl+X** to cut and **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 to enter data. Try to improve your typing speed and accuracy for text-based entries.

Determine and meet time lines

In a workplace, you will often be required to meet specific deadlines.

In many cases, time lines are set and agreed with your stakeholders – both internal and external:

- Internal stakeholders are those that work at the same organisation as you, and may include colleagues in other departments, managers and supervisors.
- External stakeholders are those that are outside the organisation, including customers and suppliers.

Often your manager or supervisor will give you a deadline for completing a set task (e.g. prepare a draft summary report by 2pm). Alternatively, you may have deadlines for completing regular work tasks (e.g. completing a monthly report on any customers whose invoices are unpaid or overdue). There may even be financial requirements to complete a task by a certain date (e.g. create a summary report of GST costs to submit to the ATO by the end of the financial year). It is important to adhere to organisational time lines for the efficient running of the business.

Meeting a deadline demonstrates your competency and professionalism in undertaking tasks. Make sure that when deadlines are being set, they are both achievable and realistic. It will not reflect well on you if your work is submitted well ahead of the deadline, but contains mistakes and has a poor presentation.

If you have concerns that a deadline might not be met or you have conflicting work priorities, discuss this with your manager or with the client as soon as possible. They may be able to assist you by suggesting how the deadline can be met, or they may be willing to adjust the deadline or task requirements.

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.





Practice task 23

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, prices and how many have been sold over the last financial year.

Charles clarifies with his manager the exact information that is needed. His manager wants to know how much every product costs to calculate a 10 per cent discount off all stock for a stocktake sale. 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 by. He then writes a formula to calculate the new prices of the products with a 10 per cent discount applied. He tests his formula and shows the spreadsheet to his manager.

Question 1

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

Question 2

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

Question 3

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

Question 4

How can a checklist help you to produce a spreadsheet according to time lines?

4C

Name and store spreadsheets, and exit applications safely

How information is stored and the security measures used to protect it are central to an organisation's procedures.

Information is a valuable asset in any organisation.

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 work tasks
- allow each user to have a different level of access to information.



Some of the spreadsheets you work with may be confidential. Ask your manager for your organisation's policies regarding confidential information.

Document loss

Data 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 to back up the information on a database at the end of the day. This cartridge can then be taken offsite for security. This means that 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 are looking for. 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 2016 has many advanced features that are not available in previous versions.

If you are creating a spreadsheet that may 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 (e.g. Microsoft Excel 2003) will still have full editing capabilities.

To create a spreadsheet in Compatibility Mode, go to the **File** tab and select **Save As**. Select **Browse** and under the Save as type drop-down list, select **Excel 97–2003**.

In the File name field, type an appropriate name for your spreadsheet and click **Save**. You should do this when you first create a spreadsheet to avoid issues down the track.

Folder structure and naming standards

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.

Folder structure and naming standards allow staff to set up and access folders quickly and easily.

Shared directories are folders on a network that a group of people have access to. If you use these, you need to assess whether an electronic file should be placed in the shared directory or stay on your computer's hard drive. Decide which reports are for your use and which need to be shared with other.

Advantages of using shared directories and naming standards:

- They 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 relevant files.

Hard- and soft-copy storage

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.

Many organisations prefer to store information digitally. Paper reports can be easily torn, misfiled or accidentally disposed of, and physical storage can also be expensive.

Digital storage, on the other hand, saves on paper and space. Another advantage of 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, enabling detailed reports to be produced.

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.

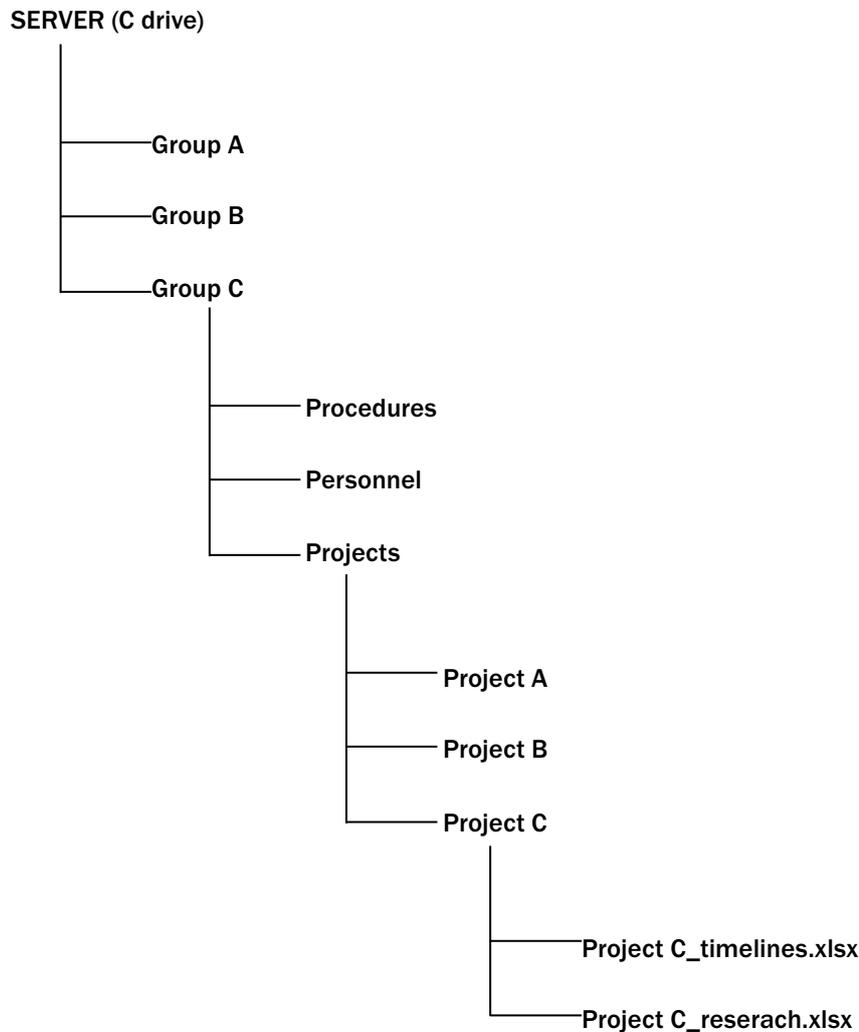
Find out what kind of storage system is used in your organisation.

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
- Group C

Group C has three major folders:

- Procedures
- Personnel
- Projects

The Projects folder includes:

- Project A
- Project B
- Project C

Project C has two spreadsheets:

- ProjectC_time lines.xlsx
- 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.

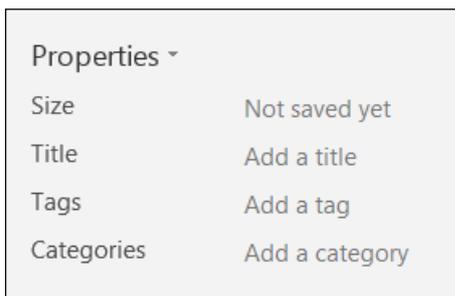
In Microsoft Excel 2016, the spreadsheet extension is .xlsx.

Document properties

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 the title, author name, subject and keywords about the topic of the spreadsheet. 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 ensure the **Info** tab is selected. Titles, tags and categories can be added under the Properties section. Any additional authors of the document can also be added under the Related People section.



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, you simply need to ensure you have saved your files to the appropriate network drives and folders.

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

In smaller organisations, you may need to back up files yourself – this may be done on a daily or weekly basis. Check with your supervisor for back-up procedures, such as requirements to back up files to another disk drive.

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.

Prevent data loss

After creating or modifying an electronic spreadsheet, you need to exit the software application without causing data loss or damage.

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 because it has been accidentally erased or corrupted. The main cause of data loss is human error. Other causes of data loss include virus damage, operating system or application software bugs, and failed upgrades.

Precautions to take to prevent data loss:

- Try to work on only one spreadsheet at a time.
- If you need to work with multiple applications open, 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.
- Lock your computer or exit the application before leaving your workstation unattended to prevent someone else from tampering with your work.
- 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 safely (without losing data), save your work and select the exit button, which is located in the top right corner of the window. If you make any changes after saving your work, you will be prompted to save these changes before exiting.



Practice task 24

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

Case study 1

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 in 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.

Question 1

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

Question 2

What are **two** potential consequences of not backing up data on the server?

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

Case study 2

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.

Question 3

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

Question 4

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

Question 5

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



Summary

- Producing a spreadsheet means creating it and having it ready for viewing by your colleagues or manager.
- Working within a designated time line helps you to plan your work in order to meet deadlines.
- Make sure you have checked all formulas and functions, proofread and formatted your spreadsheet before printing it.
- You can either print a whole workbook, a whole worksheet or part of a worksheet, depending on what is required.
- A chart can be printed on its own or as part of a worksheet.
- You need to understand your organisation's policies and procedures about saving and storing spreadsheets.



Learning checkpoint 4 Finalise spreadsheets

Part A

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

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 all the 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 the balances of five customers that Mario has to enter into the spreadsheet.

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 the details outlined on the previous page, 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 bar chart that displays the customers' original balances and new balances.
 - Name and store your worksheet in a suitable location.
 - Preview the chart before printing and make adjustments to include a chart title. Print the chart out as a separate page.

Part B

1. Look at the table below. In a worksheet, enter the data exactly as it is in the example.

	A	B	C	D	E
1	Sales results				
2	Name	January	February	March	April
3	Andrew	\$2,333	\$5,412	\$3,456	\$5,412
4	Bella	\$2,345	\$6,712	\$1,233	\$5,000
5	Anh	\$5,000	\$6,000	\$1,244	\$3,000
6	Jacqui	\$2,345	\$2,000	\$2,355	\$3,400
7	Dylan	\$6,000	\$1,500	\$1,200	\$3,500
8	Imran	\$8,500	\$2,345	\$4,500	\$12,300
9	Aisla	\$2,456	\$1,200	\$5,000	\$1,200
10	Totals				
11					
12	Overall total				

2. Use a function to calculate the monthly totals and apply this to the 'Totals' row.
3. Use a function to work out the 'Overall total' and apply this to cell B12.
4. Check that all data and calculations you entered are correct. Remember to proofread the spelling of names.
5. Name the worksheet 'Sales results' and store it in an appropriate place.
6. Print out your worksheet.