

ECDL COMPUTER ESSENTIALS

Syllabus 1.0
Learning Material (Windows 10)



Provided by:
ECDL Malta

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ECDL Computer Essentials

The ECDL Computer Essentials module introduces you to the world of computers, ICT, and software, helping you start your journey into using computers and digital devices for work and leisure. Almost every industry in the world utilises computers and digital devices in some way, and having the core skills to complete common technology tasks is essential for workers.

On completion of this module you will be able to:

- Understand key concepts relating to ICT, computers, devices and software.
- Start up and shut down a computer.
- Work effectively on the computer desktop using icons and windows.
- Adjust the main operating system settings and use built-in help features.
- Create a simple document and print an output.
- Know about the main concepts of file management and be able to efficiently organise files and folders.
- Understand the key storage concepts and use utility software to compress and extract large files.
- Understand network concepts and use utility software to compress and extract large files.
- Understand the importance of protecting data and devices from malware, and the importance of backing up data.
- Recognise considerations relating to green IT, accessibility, and user health.

What are the benefits of this module?

This module covers the key skills and concepts in relation to computers, ICT, devices and software. It will give you the stepping stone to kick start your computer experience and provide a base to build on in the future. Once you have developed the skills and knowledge set out in this book, you will be in a position to become certified in an international standard in this area - ECDL Computer Essentials.

For details of the specific areas of the ECDL Computer Essentials syllabus covered in each section of this book, refer to the ECDL Computer Essentials syllabus map at the end of the book.

ECDL COMPUTER ESSENTIALS

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LESSON 1 – COMPUTERS AND DEVICES

In this section, you will learn how to:

- Define the term ICT
- Identify different types of ICT services/uses
- Identify main types of hardware
- Distinguish between main types of software
- Start up and shut down a computer

1.1 ICT

Definition of ICT

Terms such as IT or ICT are commonly used in relation to the application of technology in the modern world. “ICT” stands for **Information and Communication Technology**. This is a general term for describing the use of digital technology to access, store, and process information into an organised and understandable form. Virtually every device or computer program that creates, stores or uses digital information can be considered a part of an ICT system. This ranges from your laptop or smartphone all the way up to the large networks and infrastructures that support businesses and large organisations.

Types of ICT Services/Uses

ICT has radically transformed people’s lives at home, in education and at work. It has altered how people communicate, how they store and access information, how they work, and how they spend their leisure time.

In short, ICT systems allow people to better explore ideas, manage information, find answers to questions, solve problems, and become more productive.

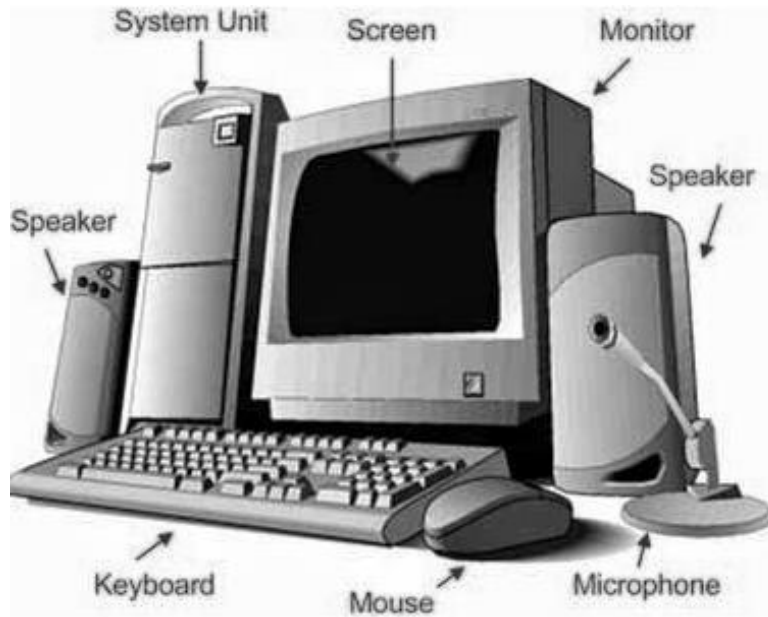
Different types of ICT services and their uses include:

- **Internet services**
Online banking, online shopping, e-mail, and sharing documentation are all facilitated by Internet technology.
- **Mobile technology**
Mobile devices such as smart phones and tablets support Internet access in a range of environments.
- **Office productivity applications**
Software applications such as word processors, spreadsheets, presentations, databases, e-mail systems, and graphics programs are used by many businesses to carry out important tasks efficiently.

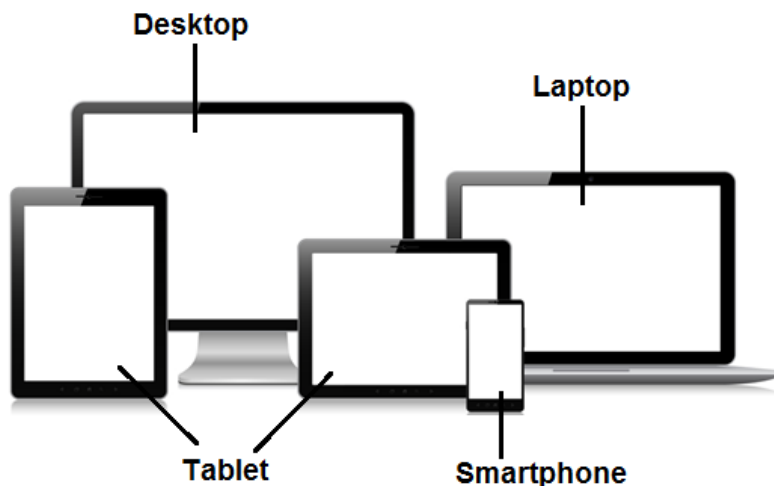
1.2 HARDWARE

Main Types of Computers and Devices

Hardware is the physical parts or components of a computer or device, such as the mouse, monitor, keyboard, system unit and speakers. They are physical, tangible objects.



Two of the most popular types of personal computing device are the desktop computer and the laptop computer. Smaller, cheaper versions of laptops known as netbooks are also quite common, but these simply allow users to connect to the Internet and may suffer from poor performance. Gaining in popularity are tablet computers, which are smaller again and usually feature a touch screen. Of course, one of the most popular ICT devices in the world today is the mobile phone.


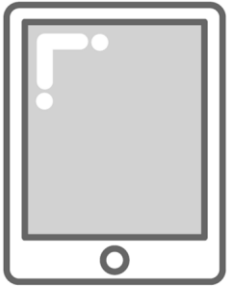


Desktops

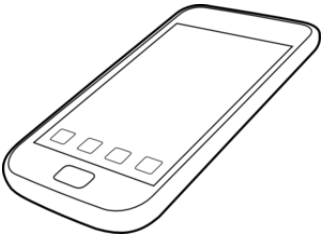



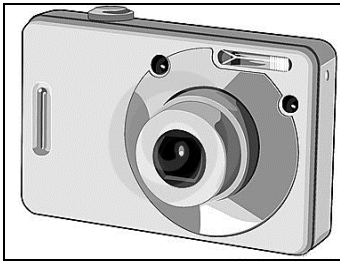
A desktop computer is a computer that is designed to stay in a single location. It may be a tower (also known as a system unit) or an all-in-one machine. Unlike laptops and other portable devices, desktop computers are not powered from an internal battery and therefore must remain connected to a power outlet.

In the early age of computers, desktop computers were the only personal computers (PCs) available. Since laptops and tablets did not exist, all home PCs were desktop computers. The term "desktop computer" was then used to differentiate between personal PCs and larger computers, such as mainframes and supercomputers.

| | |
|--|--|
| <p>Laptops</p>  | <p>Laptop computers, as the name implies, are small portable computers that can run on a battery as well as mains power. They are usually designed for mobile, flexible use. They use special screens, rather than the traditional bulky VDUs (Visual Display Units), which allows for longer battery life as well as portability.</p> <p>While they tend to still be more expensive than an equivalent desktop computer, they can now match the power of a desktop computer.</p> |
| <p>Tablets</p>  | <p>A tablet, or tablet PC, is a portable computer that uses a touch screen as its primary input device. Most tablets are smaller and weigh less than the average laptop.</p> <p>Early tablet touch screens were designed to work with light pens, but most modern tablets support human touch input. Many tablets now support multi-touch input, which allows you to perform gestures with multiple fingers, such as pinching an image to zoom out, or spreading your fingers apart to zoom in. Tablets without physical keyboards allow you to enter text using a pop-up keyboard that appears on the screen.</p> |

The following carry out some, but not all, of the functions of a computer.

| | |
|--|--|
| <p>Smartphones</p>  | <p>A smartphone is a mobile phone offering advanced computer-like features. Capabilities and standards vary from one manufacturer to another. Most smartphone have:</p> <ul style="list-style-type: none"> • An operating system to connect to other devices and also to install applications • Apps to send and receive emails and browse the Web • Personal and contact management organiser • Global positioning system features • Readers to view documents in Microsoft Word or Adobe PDF format. <p>Other features can include a built-in camera and the ability to play music, display photos and video clips. Of course, you can also make a phone call using a smartphone!</p> |
| <p>Media players</p>  | <p>Media players allow you to store digital music and video. A notable example is the iPod from Apple, which lets you store your digital music which you can then listen to at your leisure.</p> <p>Thousands of songs can be stored on these devices. You can also get devices with a built-in screen which will allow you to watch films and video clips that you download to these devices.</p> |
| <p>Digital cameras</p> | <p>A digital camera can be used in the same way a traditional camera can, but instead of storing images on rolls of film which</p> |



require developing, the images are stored digitally in memory housed within the camera, or on memory cards.

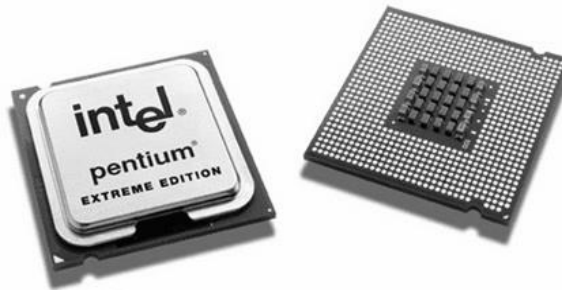
These pictures can easily be transferred to your computer and then manipulated using a graphics program which you may have on your computer.

Processor, RAM, and Storage

Processor

A processor, or "microprocessor," is an essential component of computers and other electronic devices. The main role of this computer chip is to receive input and provide the appropriate output. Modern processors can carry out trillions of calculations per second.

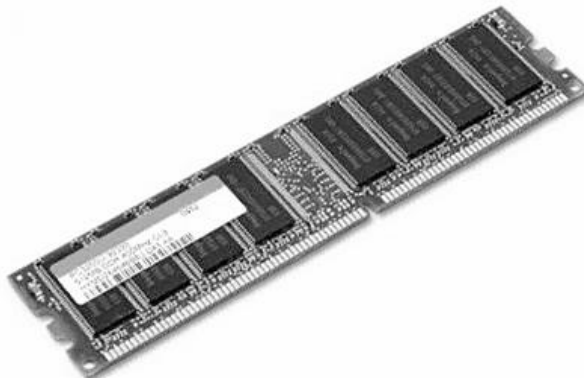
The main processor of a computer is also known as the CPU, or "central processing unit." The CPU handles all the basic system instructions, such as processing inputs from a keyboard and running applications.



Random Access Memory (RAM)

Random Access Memory (RAM) is the place where the computer keeps software and information that it is currently using or working on. RAM is a temporary storage location – when the computer is switched off the data here is lost.

Modern computers are commonly supplied with 4 GB of RAM. (1 GB is equivalent to 1,024 MB.)



Storage

A computer storage device is a type of hardware that stores data. One common type of storage device is a hard drive, which nearly all computers have. The computer's main hard drive stores the operating system, applications, and files and folders associated with users of the computer.

Several other types of storage device are common as well. Flash memory devices, such as USB drives, are popular ways to store data in a small, mobile format. Other types of memory, such as memory cards, are frequently used to store images taken by digital cameras.

External hard drives that connect via cable are also common. These types of drives are frequently used for backing up internal hard drives, for storing videos and photographs, or for simply adding extra storage.



Integrated and External Equipment

Printers

Documents are frequently printed, and there are a vast number of different printers available to accomplish this. Most common are inkjet and laser printers, both of which can produce coloured output.



The laser printer is mostly used in offices where large volumes of printing is necessary. It is more economical and uses the same system as a photocopier; these are more common in black and white, but colour laser printers are also available.



The inkjet printer is the most commonly used printer in the home. It makes use of cartridges filled with ink.

Screens

A screen is a device used to visually display output.



Visual Display Unit, or VDU, is a term commonly used for the screen of a computer. It is used for showing the main output of the computer.



Projection devices can be attached to your computer and are useful for displaying presentations to a group of people.



A touch screen is a VDU that also serves as an input device. They are commonly used on portable devices, such as tablets and smart phones.

Scanners

A scanner is used to scan printed material and convert it into a digital format. Pictures can be scanned and then edited using a graphics application. Printed text can be scanned and converted to a picture of the text or actual text, which can be edited using a word processing application.



Keyboards

A keyboard is used to type information, for example commands or characters, into the computer. A laptop computer comes with a built-in keyboard but is a separate item if used with a desktop computer.



Mouse/trackpad

When using an operating system such as Microsoft Windows, you use the mouse to select options on the ribbon, to point and click on items, to select items and to drag and drop items from one place to another.

A trackpad, or touchpad, is a device that translates the motion and position of a user's finger to a related position on screen. They are often used on laptop computers.



Common Input/Output Ports

Devices are often physically connected to a device through an input/output (I/O) port. The best-known of these ports is the Universal Serial Bus (USB).

USB

USB ports are standard cable connection interfaces used by personal computers and other devices.



You will see one or more USB ports on your computer system unit or laptop, allowing you to plug in devices designed for the USB. These devices may include printers, scanners, digital cameras, and memory sticks.



High-Definition Multimedia Interface (HDMI)

HDMI is another type of input/output port. HDMI is typically used to connect to media devices to transfer video and audio data: for example, to connect a computer to a monitor. HDMI is a digital replacement for existing analogue video standards.



1.3 SOFTWARE AND LICENSING

Software

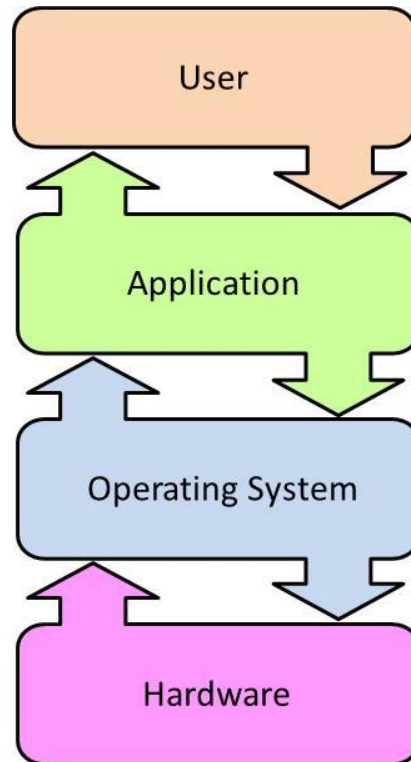
The programs used to operate computers and related devices and to carry out tasks are known generally as software. Software can be considered to be the set of instructions that makes the computer work. For instance, when you type in words via the keyboard, software is responsible for displaying the correct letters, in the correct place on the screen.

Categories of software include:

- **Operating Systems:** These systems, and their related utilities, enable the computer to function. An example of an operating system is Microsoft Windows 7.

- **Applications:** This software carries out specific tasks for users. An example of an application is a word processing tool such as Microsoft Word or a web browser such as Google Chrome.

The diagram below shows how the operating system software and application software are layered on a typical desktop computer. The arrows indicate information flow.



Software Layer on a Typical Desktop Computer

Software is usually held on your computer's hard disk, CD-ROM or DVD and is loaded from the disk into the computer's RAM, when it is needed. In addition, software is increasingly accessed online – this software is commonly referred to as being “cloud-based.”

Operating System

The computer's operating system manages its memory, processes, and all of its software and hardware.

For example, most of the time there are many different programs running at the same time on a computer, and they all need access to the CPU, memory, and storage. The operating system ensures each program gets what it needs by coordinating activities.

Most people use the operating system that comes preloaded with their computer, but it is possible to upgrade or even change operating systems. The three most common operating systems for personal computers are:

1. Microsoft Windows
2. Apple OS X
3. Linux



Modern operating systems use a graphical user interface (GUI), which lets you interact with the computer by, for example, using a mouse to click on icons, buttons, and menus.

Mobile devices such as smartphones or tablets are different from desktop and laptop computers, so they usually run operating systems that are designed specifically for mobile devices.

Examples of mobile operating systems include:

- Apple iOS
- Google Android

In general, operating systems for mobile devices are not as fully featured as those made for desktop and laptop computers, and they are not able to run all of the same software. However, you can still do a lot of things with them, like watch movies, browse the Web, manage your calendar, and play games.

Common Examples of Applications

An application is a type of software that allows you to perform specific tasks. Numerous desktop applications exist, and they fall into many different categories.

- **Office productivity**
These include word processing and spreadsheet applications, such as those contained in Microsoft Office, iWork, or Open Office application suites.
- **Communications**
These include e-mail applications, such as Microsoft Outlook, and messaging / voice applications such as Skype or Viber.
- **Social networking**
These include mobile applications and websites that allow users to connect and exchange status updates and comments. Examples of these are Facebook, Twitter, and LinkedIn.
- **Media**
These include tools that allow media to be viewed or listened to, such as Windows Media Player or iTunes.
- **Design**
These include applications for working with images, such as Adobe Photoshop or GIMP, or publishing, such as Adobe InDesign.

- **Mobile applications**

These include a range of applications that can be used in mobile devices and smartphones. Examples are online storage applications or e-mail.

End-User License Agreement (EULA)

When you acquire software, you are often required to complete an end-user license agreement (EULA). This is a contract between you and, usually, the owner of the software, setting out the conditions of use. The EULA details how you can and cannot use the software – for example, an EULA for proprietary software usually prevents the user from sharing the software with anyone else.

EULAs are often presented electronically, during the installation procedure. The user can choose to accept or reject the agreement, but the installation of the software is conditional to the user clicking "accept".

EULAs are an important mechanism for protecting the ownership of software. You should ensure that you are licensed to use software before you actually use it.

Types of Software Licenses

There are a variety of different types of software licenses, with different characteristics and conditions:

- **Proprietary**

Proprietary software, or closed source software, is computer software licensed by the copyright holder with the intent that the licensee (the user) is given the right to use the software under certain conditions, and restricted from other uses, such as modification and sharing.

- **Open Source**

This type of licence makes the source code and design of the software available to anyone who wants to enhance or develop it. It is important not to confuse open source software with free software.

- **Trial Version**

Trial version refers to a version of the software that is only usable for a certain period of time before it has to be purchased.

- **Shareware**

This is where software is initially made available free of charge to users. Software functionality may be limited, with additional features becoming available only after payment.

- **Freeware**

This is software which can be copied or downloaded for free. It is often fully functional. Examples may include software developed by organisations such as universities, where the aim was not to profit from the software. Freeware and shareware should not be confused.

1.4 START UP, SHUT DOWN

Starting Up a Computer

You will now start to familiarise yourself with the practical operation of a computer, and the first task is to turn it on. In the examples used in the remainder of this book, we will use the Microsoft Windows 10 operating system.

1. Make sure all the cables are plugged in correctly.

Find and press the power button.

Before you can use your computer, it has to run through a process of booting up.

2. Once the computer has booted up, you will need to log in. The screen will appear with an image including the date and time, and this will vanish once you press any button. You identify yourself by entering a user name or selecting your profile, and then entering your password.



Windows 10 lock screen

Logging Off

Logging off a system means that the user who is currently logged on ends their session, but leaves the computer running for someone else to use. This is generally done during the course of the day when a system is shared between multiple users, for example in a school or library.

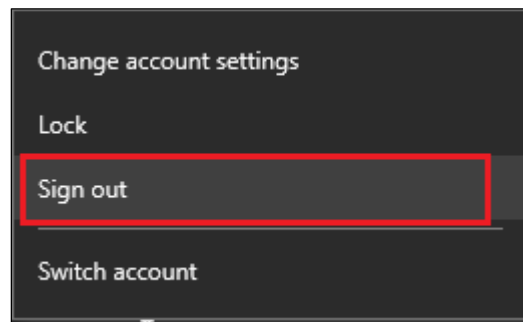
1. Click the **Start button**.



2. Click the profile icon along the left-hand side of the Start menu. .



3. Click **Sign out**.



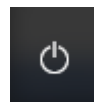
Restarting

Restarting (or rebooting) puts the computer through a process that shuts it down and then starts it back up again. This is frequently required after software installations or during troubleshooting.

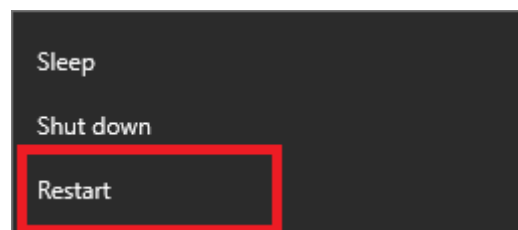
1. Click the **Start button**.



2. Click the **Power** icon.



3. Click **Restart**.



Shutting Down a Computer

Shutting down (or powering down / powering off) puts the computer through a process that shuts down the computer completely. It will not come back up again without someone powering it back on.

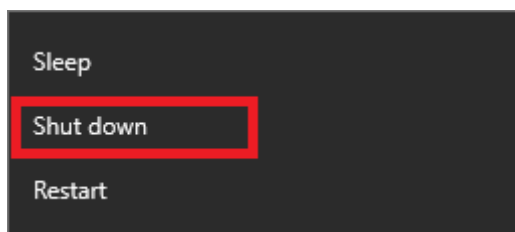
1. Click the **Start button**.



2. Click the **Power icon**.



3. Click **Shut down**.



1.5 REVIEW EXERCISE

1. Label the parts of the computer.



2. What is the full version of the following abbreviations:

a. ICT

b. RAM

c. USB

3. Give an example of a social network website / application.

4. Practice the following tasks.

- a. Switch on the computer
- b. Restart the computer
- c. Shut down the computer

LESSON 2 - DESKTOP, ICONS, AND SETTINGS

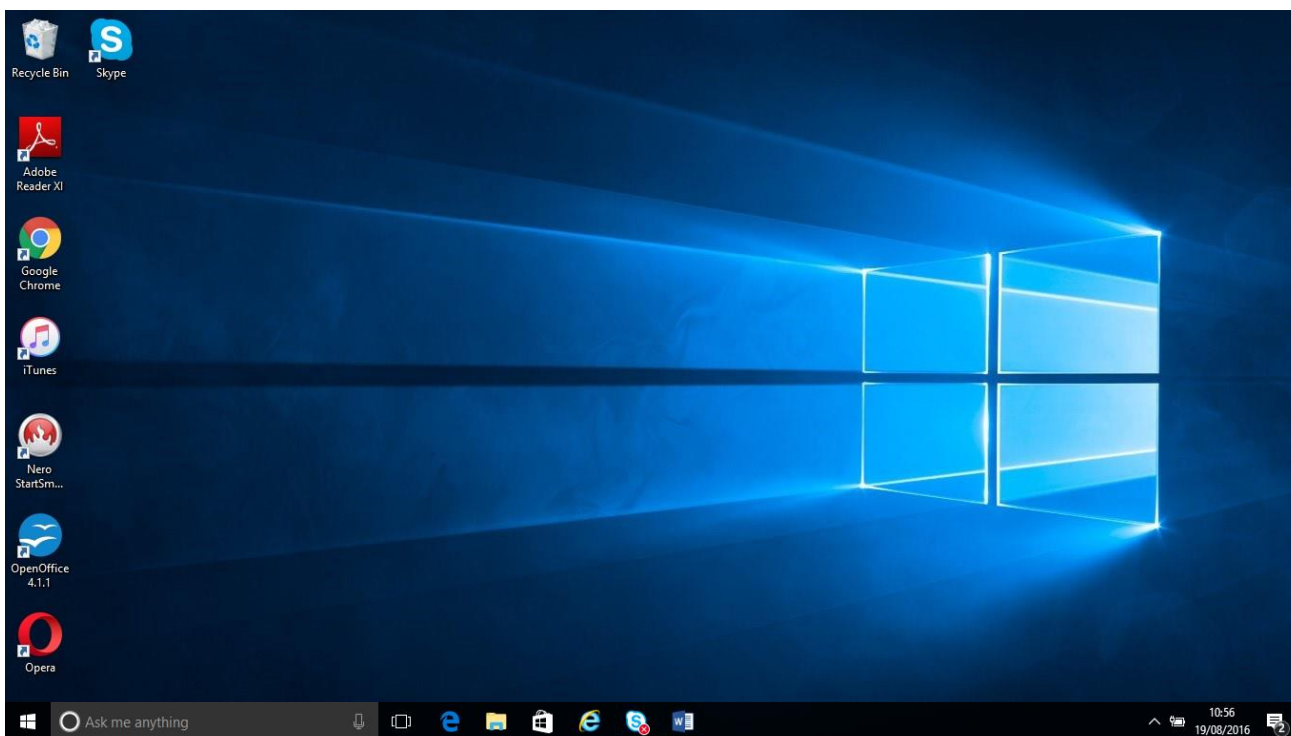
In this section, you will learn how to:

- Identify desktop and icons
- Use windows
- Use tools and change settings

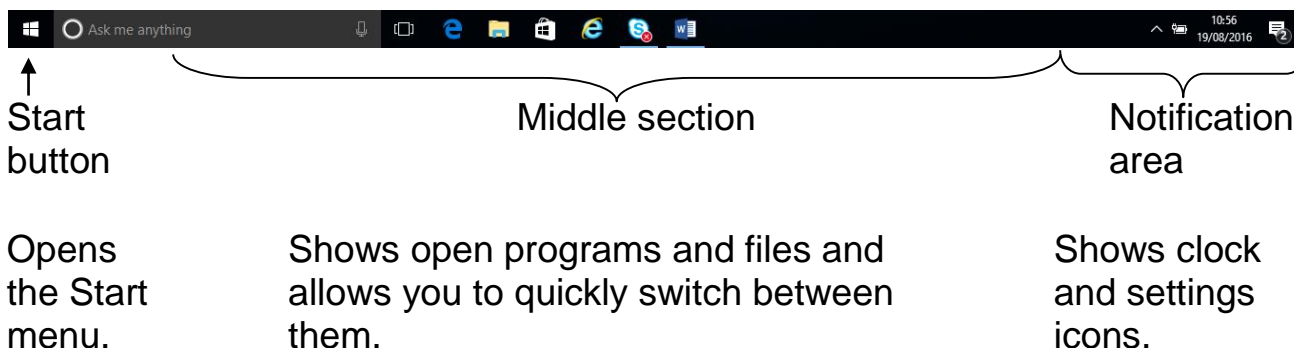
2.1 DESKTOP AND ICONS

Purpose of Desktop and Task Bar

The desktop is what you see when your computer has completed the start-up process. It will look different depending on what type of operating system you are using, but it generally consists of a bar at the bottom, top, and/or sides of the screen, with the rest of the screen containing a desktop background or wallpaper. You can find icons of files, applications, or shortcuts on the desktop background area.


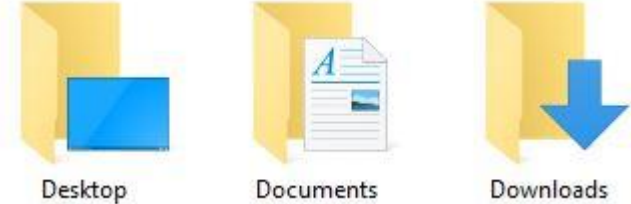
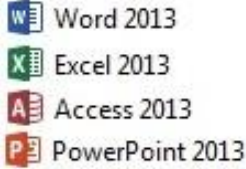






The taskbar is the long horizontal bar at the bottom of your screen. It contains three main sections:



Common Icons

An icon is a symbol or image that represents files, applications, shortcuts, or devices. Your computer desktop displays a range of different icons.

| Common Icons | Examples |
|--------------|--|
| Files |  |
| Folders |  |
| Applications |  |
| Printers |  |
| Drives |  |
| Shortcuts |  |
| Recycle Bin |  |

Selecting and Moving Icons

Click on the icon to select it and then drag it to where you need the icon.

To arrange icons by name, type, date, or size:

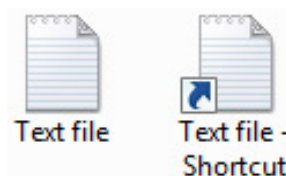
1. Right-click on a blank area on the desktop.

2. Click the **Sort by** command that indicates how you want to arrange the icons (by Name, by Type, and so on).
3. Click **View**.
 - To arrange automatically, click **Auto Arrange**.
 - To arrange manually, click **Auto Arrange** to remove the check mark.

Manipulating Shortcut/Alias

A shortcut is a link to a file, folder, or program on the computer. Shortcuts can, for example, be placed on the desktop for easy access.

A shortcut icon is differentiated from the original file by the arrow that appears at the bottom left of the icon.



To create a new shortcut:

1. Navigate to the location of the item that you want to create a shortcut to.
2. Right-click the item and click **Create shortcut**. The shortcut appears in the same location as the original item.
3. Drag the new shortcut to the desired location, for example the desktop.

You can also right-click the item, select **Send to**, and click **Desktop (create shortcut)**. A shortcut to that file / folder will be created on the desktop.

To rename a shortcut:

1. Right click on the shortcut.
2. Click **Rename**.
3. Type a new name and press **Return**.

To move a shortcut:

1. Right click on the shortcut.
2. Click **Cut**.

3. Go to the location where you want to move the shortcut to.
4. Right-click on a blank area.
5. Click **Paste**.

To delete a shortcut:

1. Right click on the shortcut.
2. Click **Delete**. The shortcut is moved to the **Recycle Bin**.

2.2 USING WINDOWS

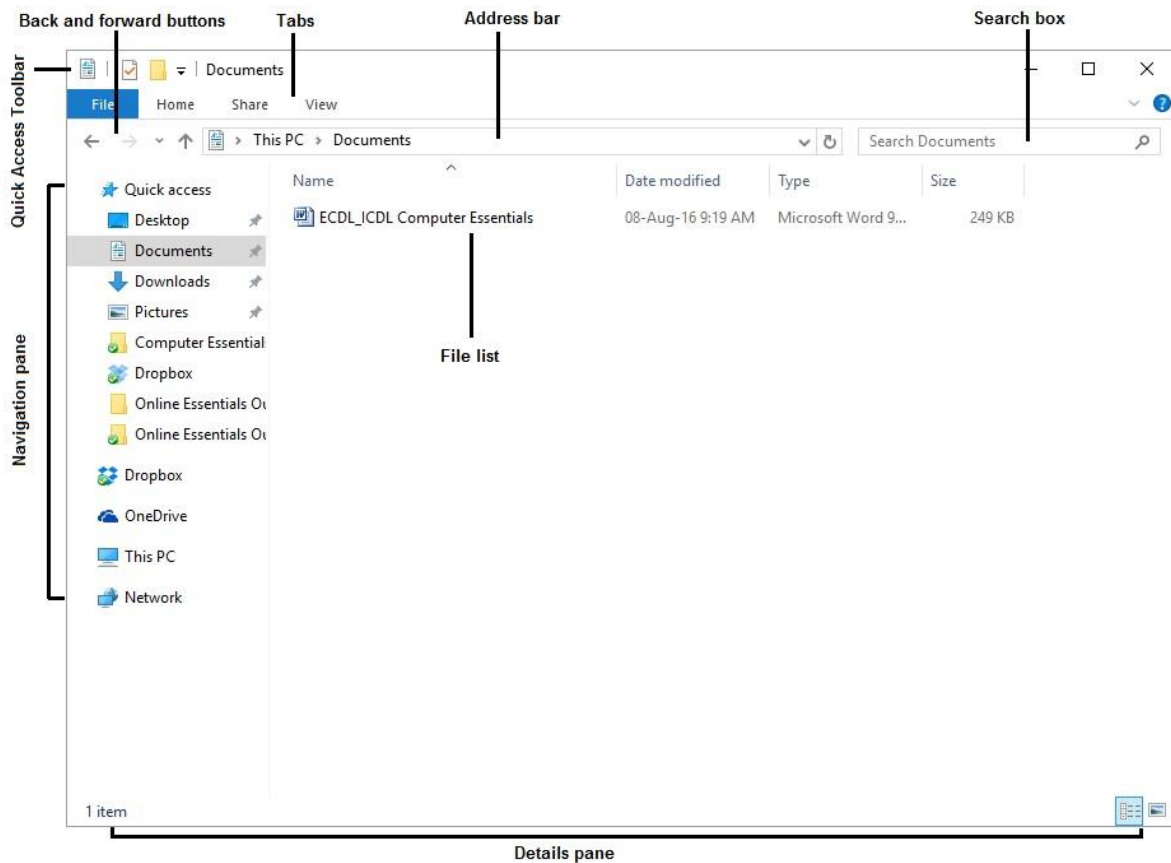
You will now learn about the basics of using a Windows computer, including how to use the desktop, how to open different files and applications, and how to move and resize windows. The information in this lesson applies specifically to Microsoft Windows 10.

Different Parts of a Window

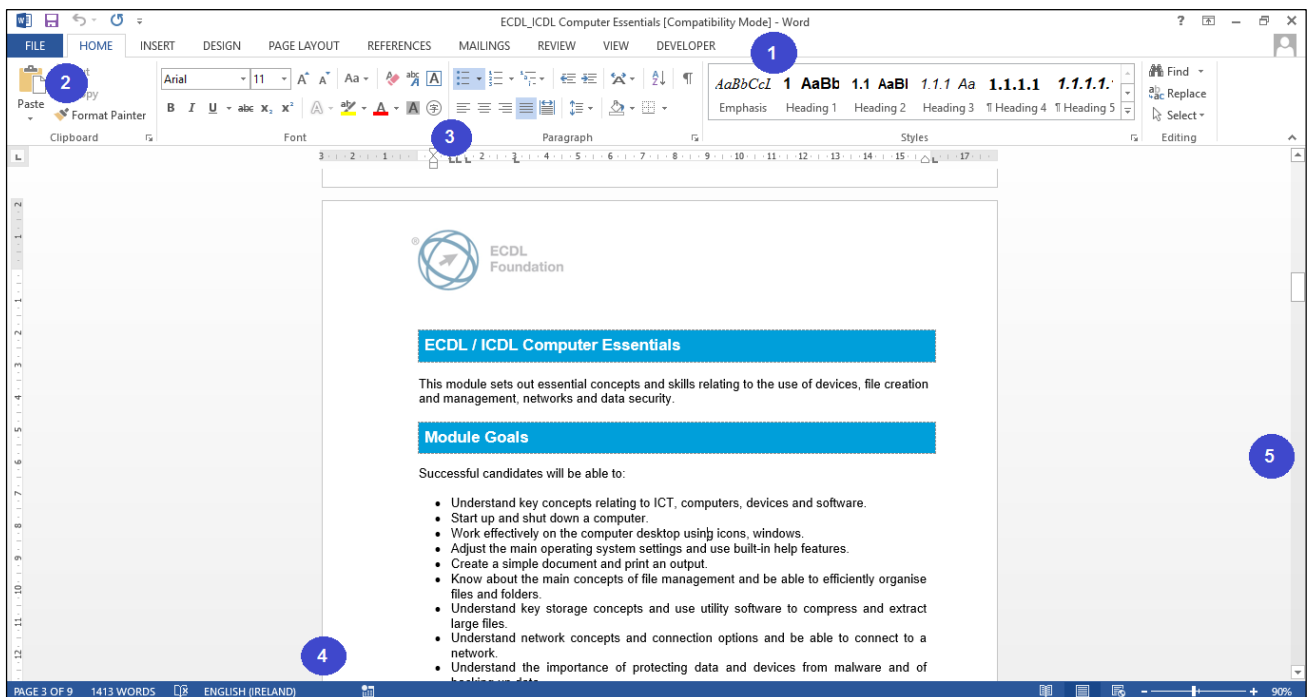
A program, file, or folder, when opened, appears on the screen in a box or frame called a window.

For example, when you open a folder or library, you see it in a window. Different parts of the window contain tools that you can use to move around Windows or work with files and folders.

Here is a typical folder window and each of its parts:



When you open a file, it is also displayed in a window.



1. **Title bar:** Shows document/folder/program name.
2. **Tab:** Displays different, but related, commands, such as those relating to inserting or viewing.
3. **Toolbar / Ribbon:** Displays the commands available in the selected tab. The ribbon contains common commands for each section relating to an

activity. In some applications, these groups of commands are presented as options on drop-down menus.

4. **Status bar:** The status bar displays information about the window / document you are viewing.
5. **Scroll bar:** Scroll through the contents of the window that are hidden.

Other windows might have additional buttons, boxes, or bars, but they will usually have the basic parts.

Manipulating Windows


To open a window: Simply double-click on the icon. For example, to open a word processing file, double-click the Word icon.

To collapse/expand/restore/close window: You will see the same three buttons in the upper-right corner of almost every window. These buttons allow you to:



Minimize: Click here to hide the window. The window will be minimised to the taskbar. You can then click the icon for that window on the taskbar to make it reappear.



Maximize: Click here to make the window fill the entire screen. The **Maximize** button will be temporarily replaced by the  **Restore** button. Just click it to return the window to its original size.



Close: Click here to close the window.

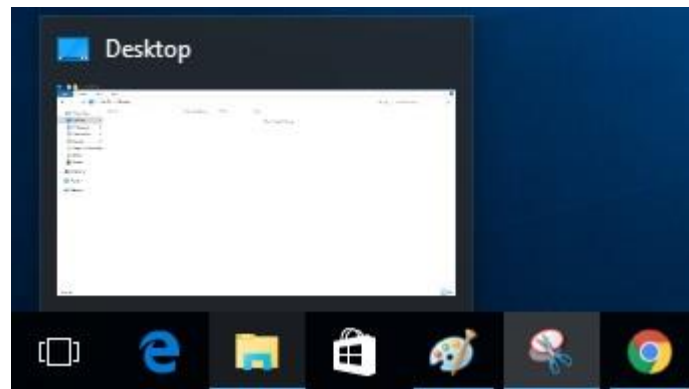
To move a window: To move a window, point to its title bar with the mouse pointer. While holding the left mouse button, drag the window to the location that you want.

Switching between Open Windows

If you have more than one program or document open at a time, you can easily switch between the open windows using either of these two methods:

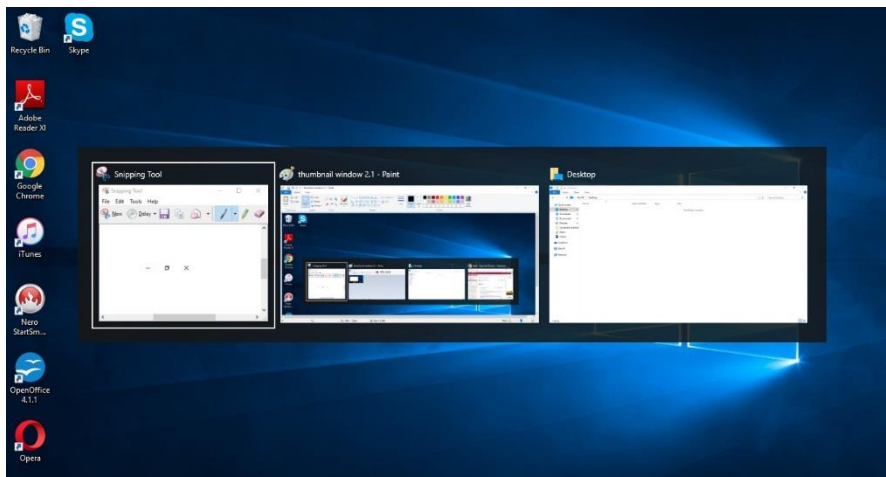
- **Using the taskbar**
Each open window will have corresponding button on the taskbar. Click on the appropriate taskbar button to switch to the open window. The window becomes the active window.

You can point to window's taskbar button to identify the window. A thumbnail-sized preview of the window will appear.



- **Using Alt+Tab**

Press the **Alt** and the **Tab** keys at the same time to switch to the previous window. You can also cycle through open windows and the desktop by holding down **Alt** and pressing **Tab** repeatedly. Release the **Alt** key to show the selected window.



2.3 TOOLS AND SETTINGS

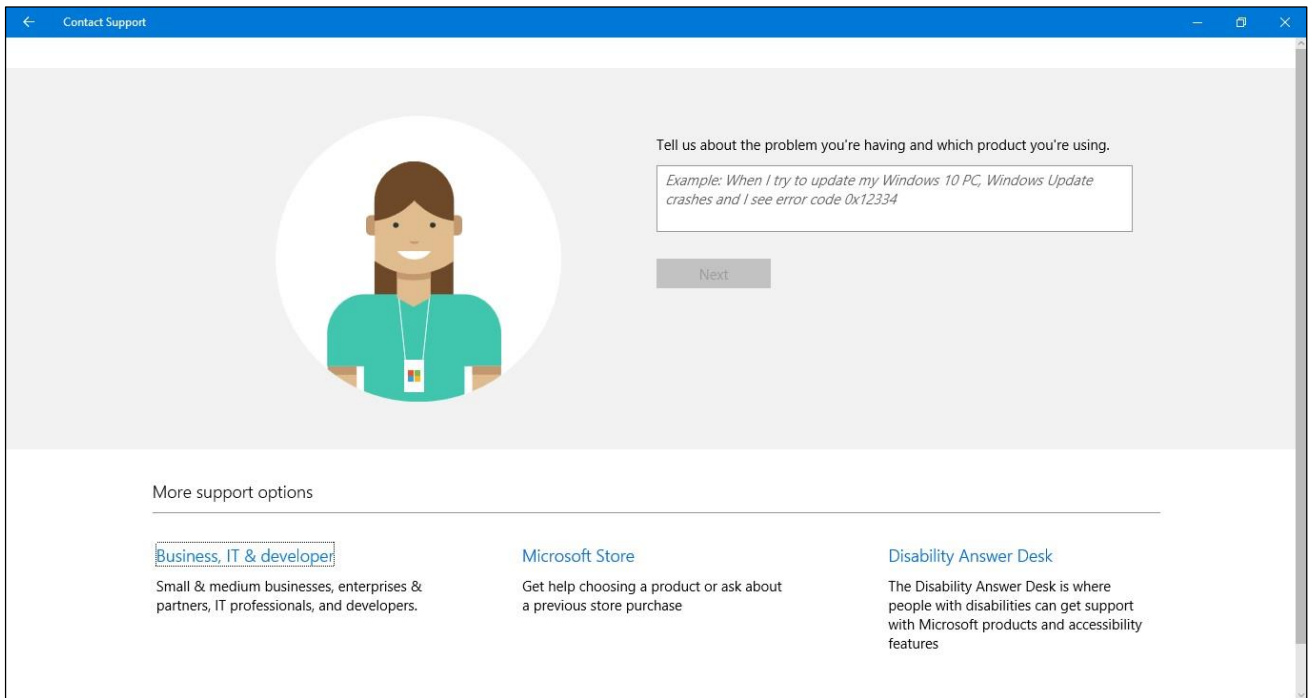
Using Help Functions

The built-in help system for Windows is called **Contact Support**. You can use the help system to get the following:

- Answers to common questions
- Suggestions for troubleshooting
- Instructions for carrying out tasks.

To open **Contact Support**:

1. Click the **Start** button.
2. Click **Contact Support**, found under **C** in the Start menu.



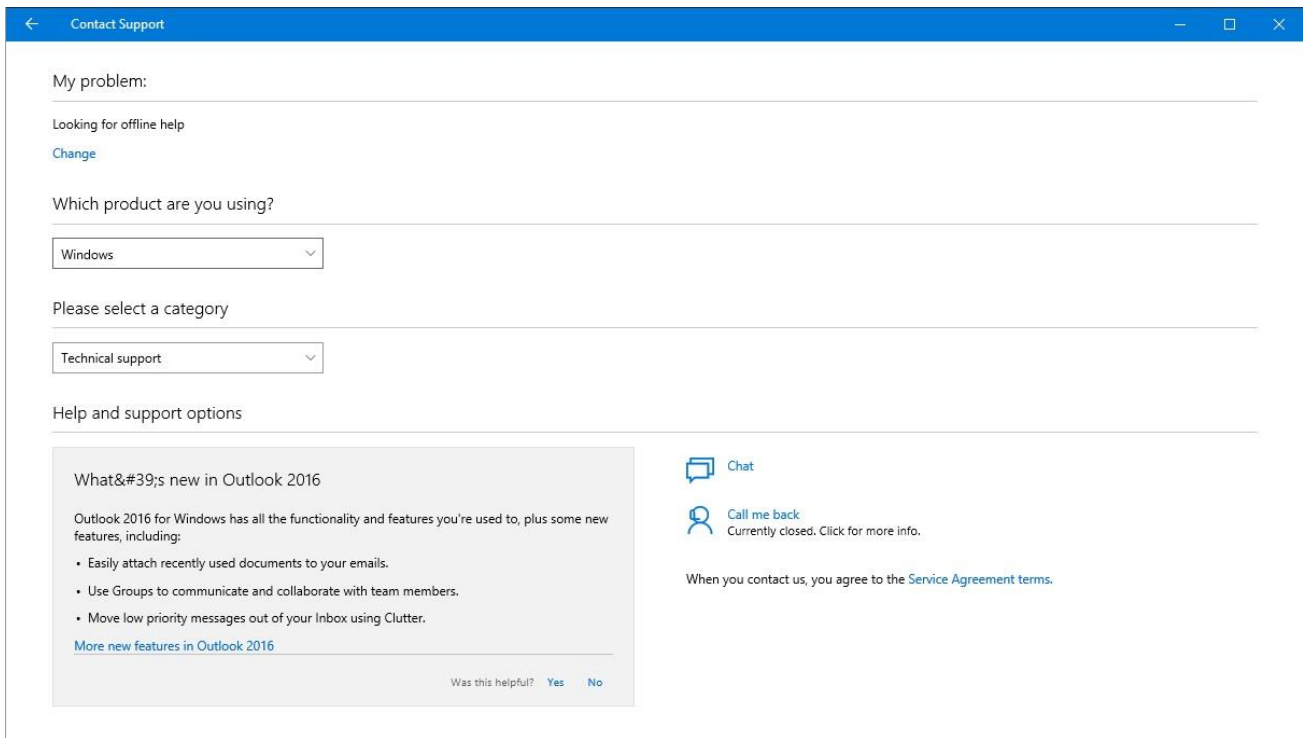
Tip: Hitting the **F1** button will open Microsoft Edge with Bing search results to get support in Windows 10. Microsoft have now replaced Windows Help and Support with this feature, along with **Contact Support**.

To search Help:

1. Click on the **Get started** button.



2. Type the problem you are experiencing with the product.
3. Press **Next**. A list of products appear allowing you to choose which one you are experiencing problems with.
4. Click the appropriate product. Then select the category for which the issue belongs.

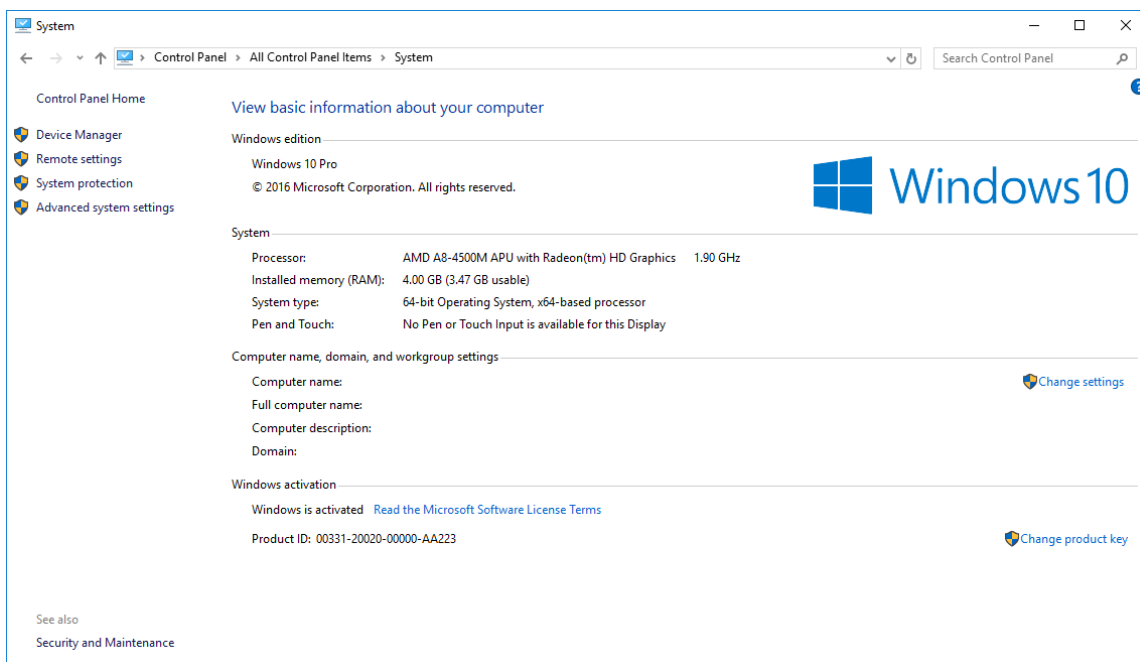


Example of final stage of Contact Support

Viewing Computer System Information

You can see important information about your computer by opening **System** in **Control Panel**. This shows basic hardware information, such as your computer's name.

1. Click the **Start** button.
2. Click **Windows System** and select **Control Panel**.
3. Click **System**.



System presents a summary view of basic details about your computer, including:

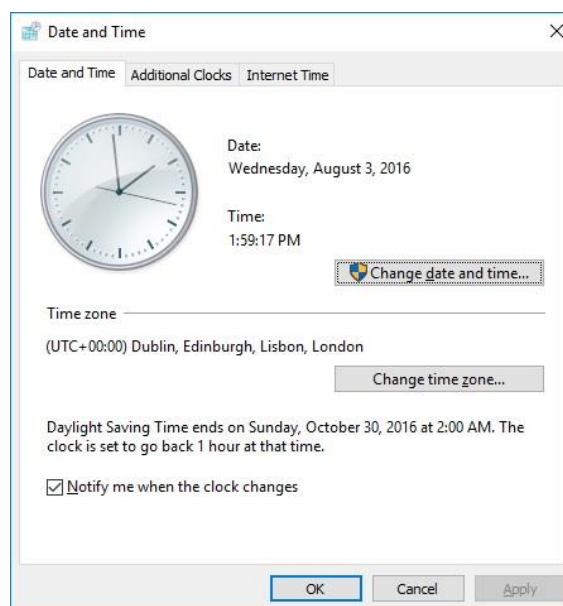
- **Windows edition:** Lists information about the version of **Windows** running on your computer.
- **System:** Your computer's processor type, speed, and quantity are listed. Also displayed is how much random access memory (RAM) is installed and, in some cases, how much of the memory is usable by Windows.
- **Computer name, domain, and workgroup settings:** Displays your computer's name and workgroup or domain information. You can change this information and add user accounts by clicking **Change settings**.
- **Windows activation:** Activation verifies that your copy of Windows is genuine, which helps prevent software piracy.

Changing Desktop Configuration Settings

You can change a range of different settings associated with Windows, including the date and time, volume, desktop background, and screen resolution.

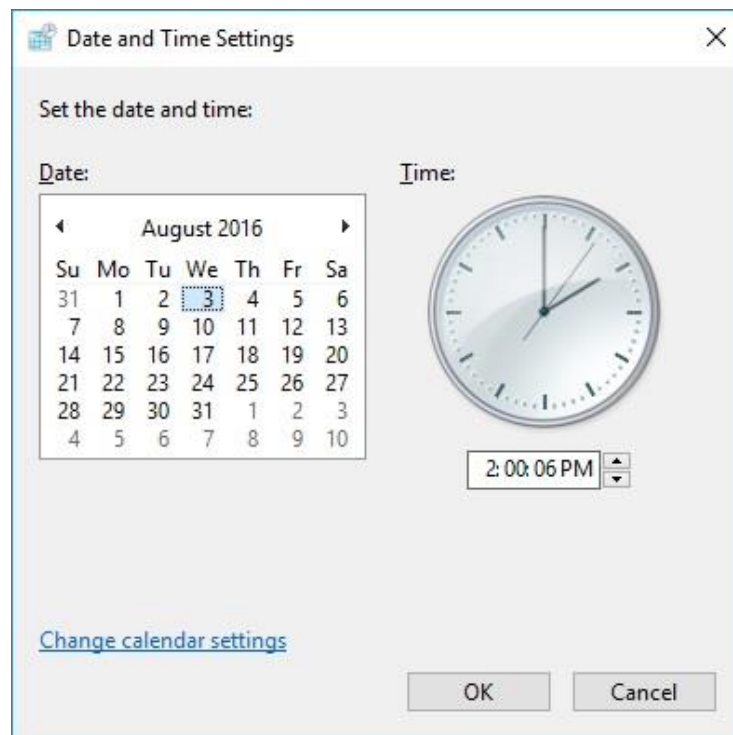
To set the date and time:

1. Click the **Start** button.
2. Click **Windows System** and select **Control Panel**.
3. Click **Date and Time**.
4. Click the **Date and Time** tab, and then click **Change date and time**.




If you are prompted for an administrator password or confirmation, type the password or provide confirmation.

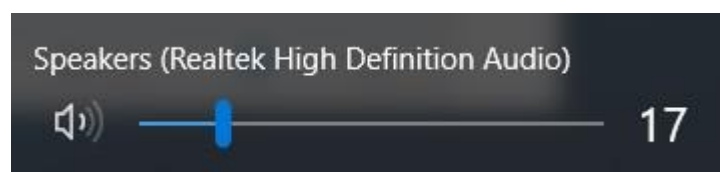
5. In the **Date and Time Settings**, change the values as required and click **OK**.



To adjust volume settings:

Most speakers come with built-in volume control. You can also control the overall sound level of your computer using **Windows**.

1. Click the **Speakers** button  in the notification area of the taskbar.
2. Click and drag the slider left or right to adjust the speaker volume.

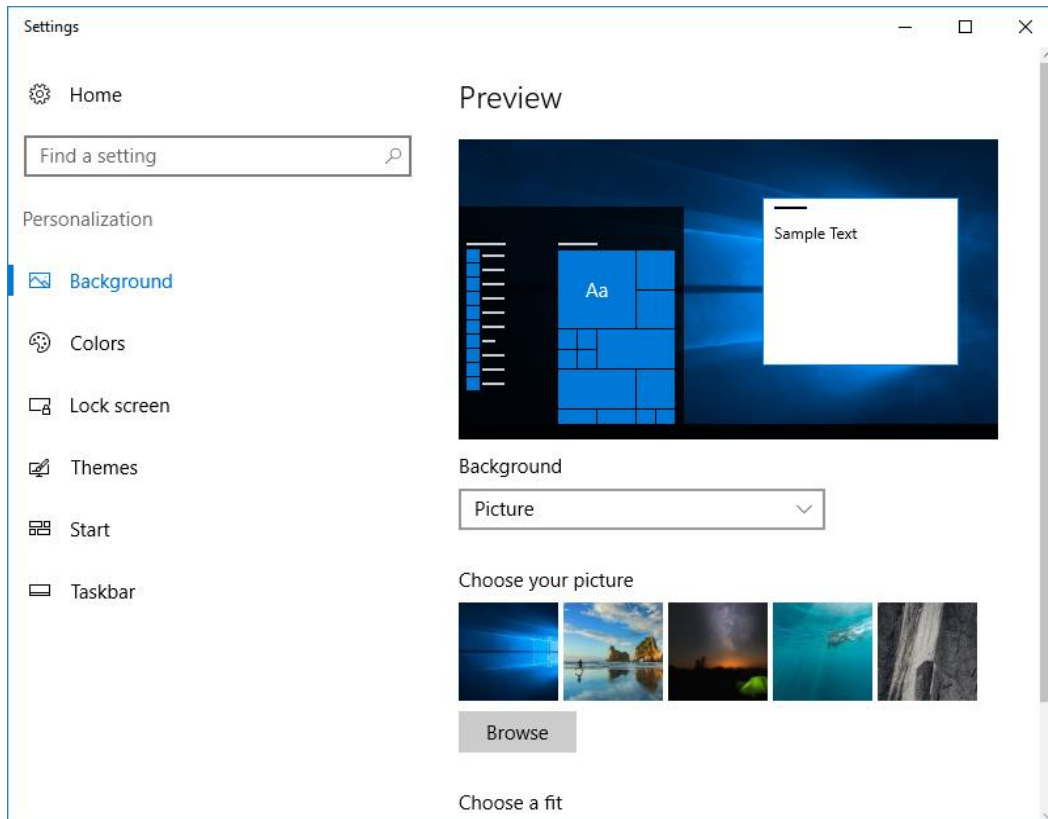


To change background:

Your desktop background, or wallpaper, can be an image from your personal collection, an image that comes with Windows, a solid colour, or a picture framed with a colour.

1. Click the **Start** button.
2. Click **Windows System** and select **Control Panel**.

3. Click **Personalization**.
4. Click **Desktop Background**.
5. A new window appears with options to edit the background. Select whether you want to use a **Picture**, **Solid color** or a **Slideshow** for your background from the drop-down and then choose a background of choice.

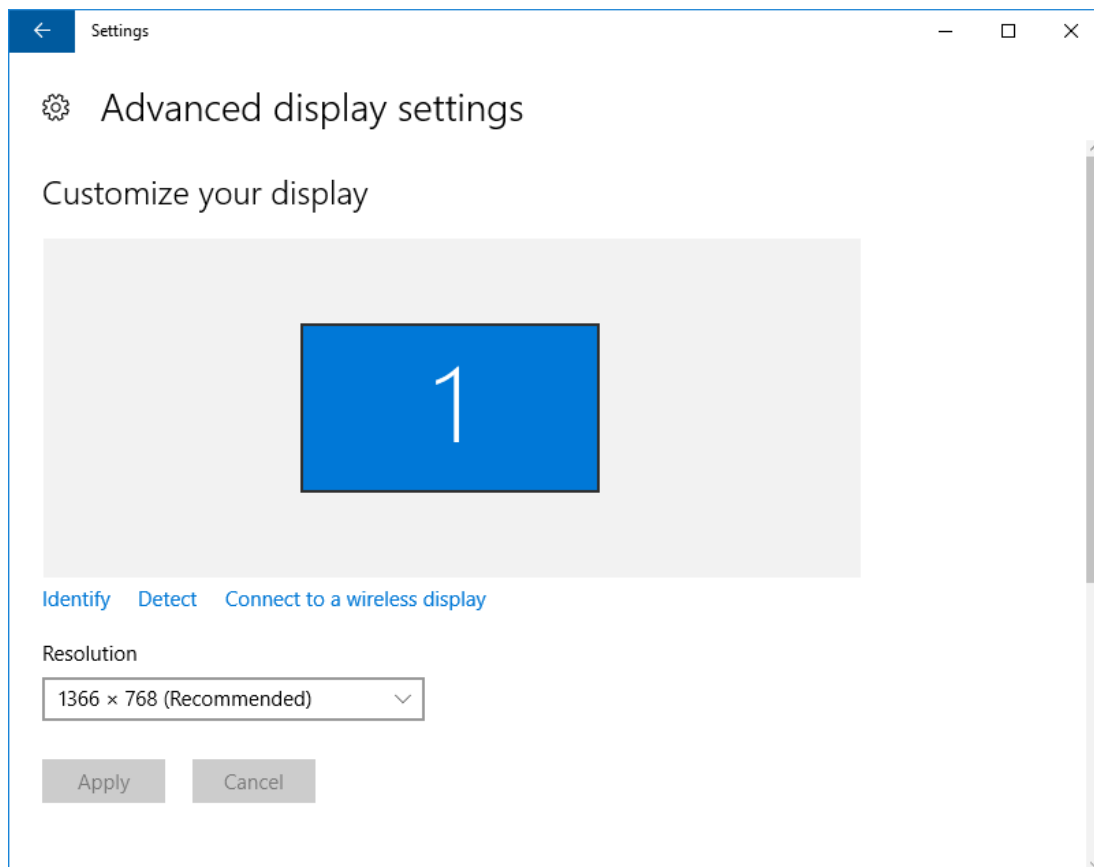


6. Close the window to save changes.

To set screen resolution:

Screen resolution is related to the number of pixels (these are tiny display “units”) shown on a screen. Resolution is defined as width x height in pixels, such as 1024 x 768. At higher resolutions, images and text appear sharper and smaller, and more items fit on the screen. At lower resolutions, items appear larger; however, fewer fit on the screen.

1. Click the **Start** button.
2. Click the **Settings** icon.
3. Click **System**.
4. Under **Display**, click **Advanced display settings**.
5. Choose a resolution from the dropdown menu.

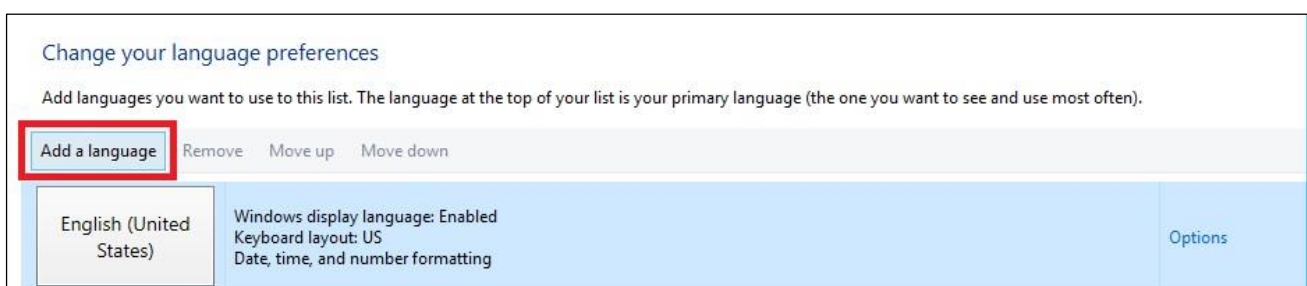


Setting Keyboard Language

If you need to enter or edit documents in multiple languages, you can change the input language to make the process easier. Input languages are included with Windows. You will need to add them to the list of available languages first.

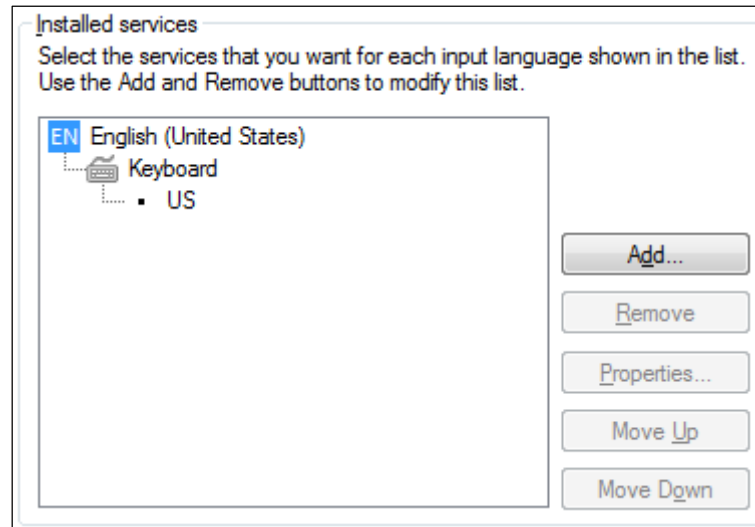
To add or remove a keyboard language:

1. Click the **Start** button.
2. Click **Windows System** and select **Control Panel**.
3. Click **Language**.
4. Click **Add a language**.



5. Scroll and select the language of choice. Click **Add**. The language is now included below the default language.

6. To remove keyboard language:
 - a. Select the language from the list of languages, click **Remove**.



You can also set the keyboard language that is used by default.

To change the default language:

1. Click the **Start** button.
2. Click the **Settings** button in the **Start menu**.
3. Click **Region & language**.
4. **Add a language** if necessary. Select the language you want to make the default and click **Set as default**.

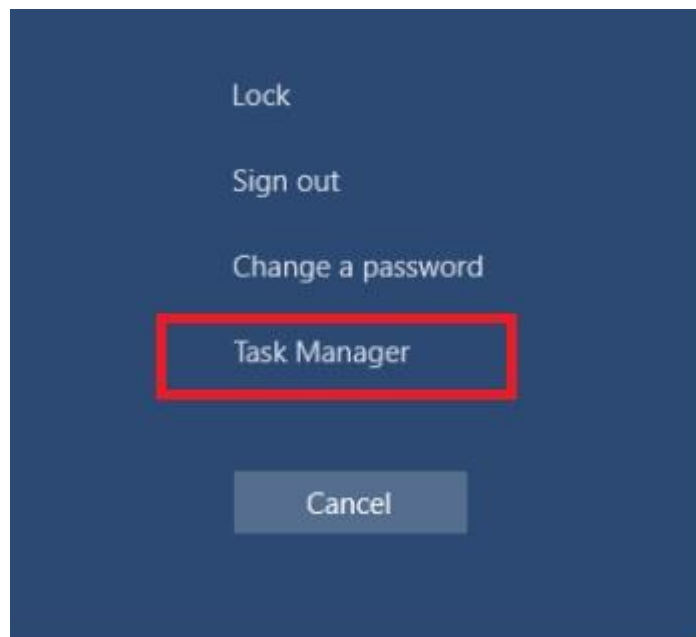
A rectangular button with the text "Set as default" in a light gray font.

5. Close the window to apply the new settings.

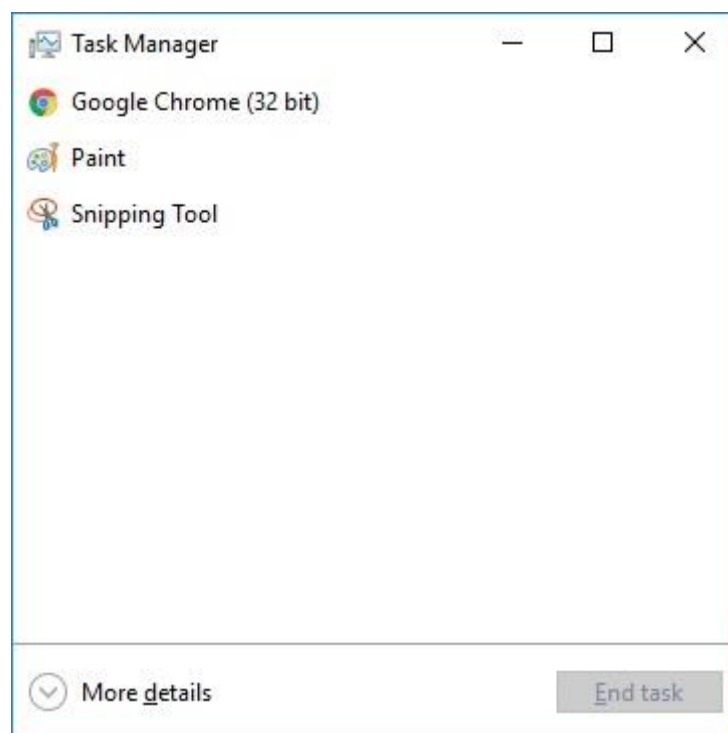
Shutting Down a Non-Responding Application

Sometimes an application fails to respond, or it 'hangs'. Usually, non-responsive applications cannot be closed in the normal way. When this happens, you need to follow these steps in order to shut down (close) the program:

1. Press **Ctrl, Alt** and **Delete** at the same time on your keyboard. A window appears, and you will see a list of options you can choose from.



2. Click on **Task Manager**. You will see a list of programs in the **Task Manager** dialog box.



3. Click on the program that is not responding, and click on **End Task**. The task will be closed.

Installing and Uninstalling an Application

Applications are typically installed from a CD or DVD, or from the Internet. The installation method varies slightly depending on where the application is installed from.

To install an application from a CD or DVD:

1. Insert the disc into your computer.
2. Follow the steps displayed on the screen.
3. Type the administrator password or provide confirmation if prompted.
4. Many installation CDs or DVDs open an installation wizard for the program automatically. In these cases, the **AutoPlay** dialog box appears and you can choose to run the wizard.

To install an application from the Internet:

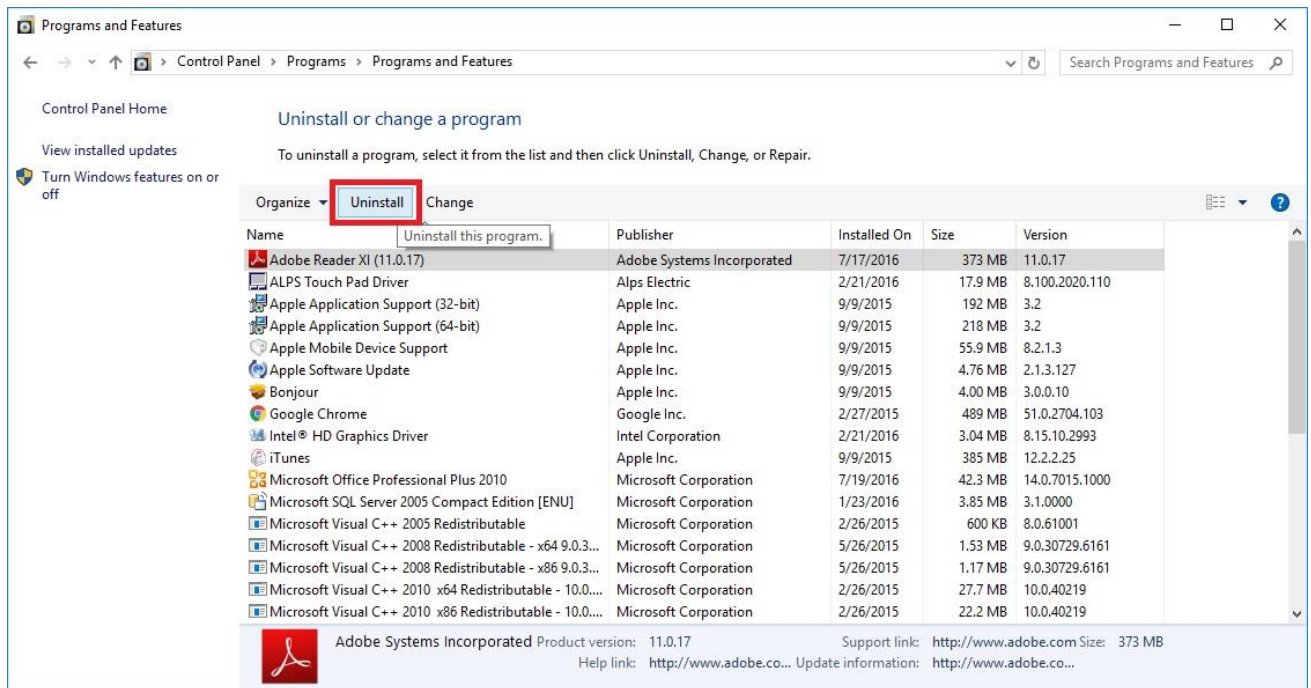
1. Click the provided link on the web page to install or download the application.
2. Do one of the following:
 - To install the application immediately:
 - i. Click **Open** or **Run**.
 - ii. Follow the steps displayed on the screen.
 - iii. Type the administrator password or provide confirmation if prompted.
 - To install the application later:
 - i. Click **Save**.
 - ii. Download the installation file to the computer.
 - iii. Double-click the installation file to install.
 - iv. Follow the steps displayed on the screen.
This option is safer because you can scan the installation file for viruses before installing.

It is important that you trust the application publisher and the website when downloading and installing programs from the Internet.

You may want to remove an application from your computer if, for example, you do not use it anymore or if you experience problems when it runs.

To uninstall an application:

1. Click the **Start** button.
2. Click **Windows System** and select **Control Panel**.
3. Click **Programs and Features**.
4. Select the application that you want to uninstall.
5. Click **Uninstall** and then click **Yes**.

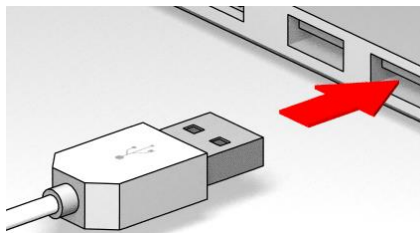


Connecting and Disconnecting a Device

When you connect a device, such as a digital camera, to your computer, a driver – a small programme – may be needed to allow the device to interact with the computer.

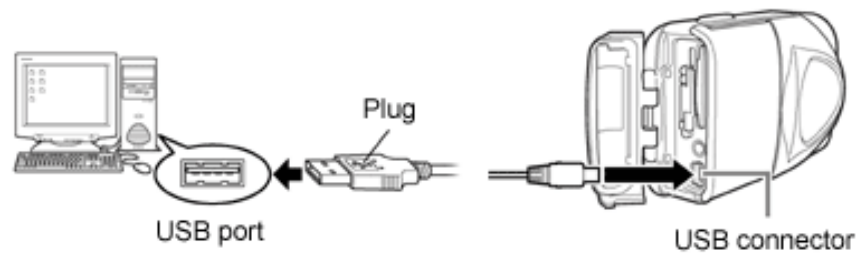
Windows usually does this automatically when you connect a new device, but some devices require that you install the drivers manually. In such cases, the device manufacturer usually includes a software disc and instructions on installing the driver before plugging in the device.

- **Connect a USB flash drive**
Plug in the USB flash drive into the USB port.



If Windows can find and install the device driver automatically, you will be notified that the device is ready to use.

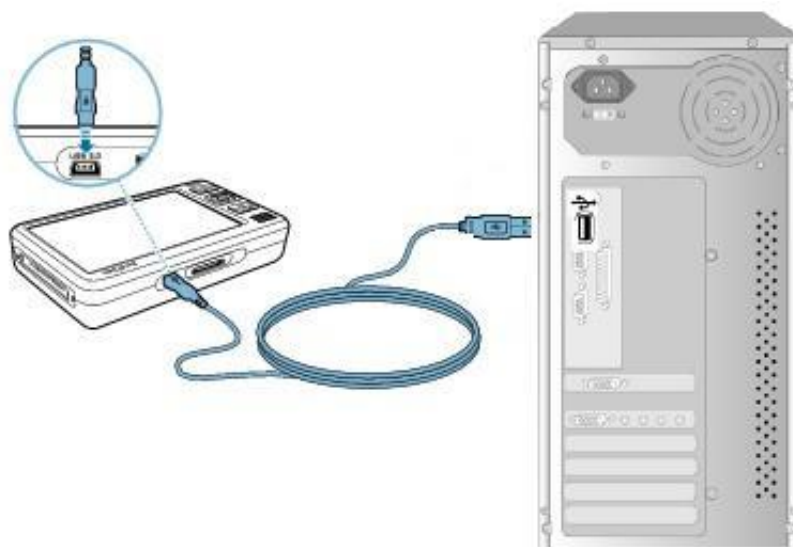
- **Connect to a digital camera**
Attach appropriate end of cable to the camera and the other end to the USB port.



Most cameras, once plugged in, will automatically be recognised by your computer. If this does not occur, you will need to install the software included with the camera.

- **Connect to a media player**


Attach appropriate end of cable to the media player and the other end to the USB port.



If the USB device is not recognised by Windows and you do not have the driver disc, you may be able to find the device driver online. The best place to look is the website of the manufacturer of the device.

- **Disconnecting a device**

Before unplugging storage devices, such as USB flash drives, you need to ensure that the computer has finished saving any information to the device.

1. Click the **Safely Remove Hardware and Eject Media** icon  in the notification area on the right side of the taskbar. A list of devices will appear.
2. Click the device that you want to remove.

Only remove the device if a notification appears, telling you that it is safe to do so.

Screen Capture

If you need to take a picture of what is shown on your computer, you can use the print screen key (often designated **PrtScn** or **PrtScr**). Pressing the key will copy an image of your screen to the Clipboard. This is called a screen capture, or screen shot.

Taking a screen capture allows you to, for example, print out the screen capture or e-mail it. First, however, you have to paste it into an application such as Microsoft Word or Paint to save it.

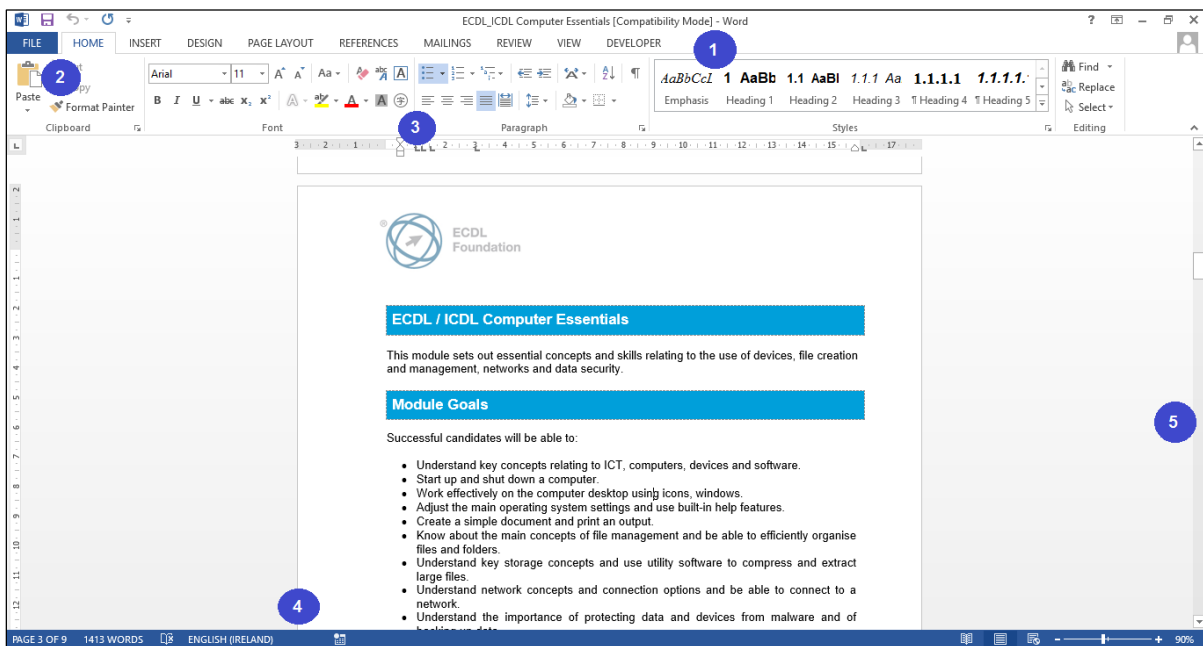
If you only want to capture what is in your current active window instead of the whole screen, press **Alt+PrtScn**.

2.4 REVIEW EXERCISE

1. Identify the following icons:

| | |
|---|--|
|  | |
|  | |
|  | |

2. Name the numbered parts of the window below.



1. _____
2. _____
3. _____
4. _____
5. _____

3. View your computer's system information and fill in the following details:

- a. RAM _____
- b. Computer name _____

4. Change the desktop background colour to a shade of your choice.

5. Launch the **Task Manager** to view applications that are currently running.

LESSON 3 - OUTPUTS

In this section you will learn how to:

- Work with text
- Print

3.1 WORKING WITH TEXT

Microsoft Windows offers a variety of ways to work with text, including **Notepad** and **WordPad**, but for this example we will look at the most commonly used: **Microsoft Word**. Microsoft Word is a sophisticated application that allows you to create and edit documents with rich formatting and graphics, as well as standard text input. You can also link or embed pictures and other documents into a document.

Opening and Closing a Word Processing Application and Files

To open a word processing application:

1. Open **Microsoft Word** by clicking the **Start** button.
2. Click **Microsoft Office 2013**.
3. Click **Word 2013**.

To close a word processing application:

1. Click the **Word** icon in the top left-hand corner of the application.
2. Click **Close**.

To open an existing file:

1. Click the **FILE** tab.
2. Click **Open**.
3. A list of recently opened files and their file location is displayed. To access local files, click **Computer**.
4. Select the file.
5. Click the **Open** button.

To close a file:

1. Click the **FILE** tab.
2. Click **Close**. You might get a prompt to save file.

Entering Text into a Document

A flashing insertion point shows where the next character you type will appear. Simply start typing to enter text. If you make any mistakes, use the **Backspace** key to delete unwanted characters. Hold down the **Shift** key when pressing a letter key to make capital letters. Press the **Space bar** to insert spaces between words.

Copying and Moving Text

To copy text:

1. Select the text.
2. On the **HOME** tab, click **Copy** in the **Clipboard** group. Or press **Ctrl+C**.
3. Place the insertion point at the desired location. If the location is another open file, press **Alt+Tab** to switch to the file.
4. On the **HOME** tab, click **Paste** in the **Clipboard** group. Or press **Ctrl+V**.

To move text:

1. Select the text.
2. On the **HOME** tab, click **Cut** in the **Clipboard** group. Or press **Ctrl+X**.
3. Place the insertion point at the desired location. If the location is another open file, press **Alt+Tab** to switch to the file.
4. On the **HOME** tab, click **Paste** in the **Clipboard** group. Or press **Ctrl+V**.

Pasting Screen Capture

1. Capture the required screen using **PrtScn** or the current window using **Alt PrtScn**.
2. Click in the required location in the document.
3. Click **Paste**. Or press **Ctrl+V**.

Saving and Naming Document

It is very important to save your document so that you do not lose the text you have entered. When saving a file, you can choose to send it to a particular location such as My Documents or Desktop, but there is a default location for files to be saved to that can be changed.

To save a document:

1. Click the **FILE** tab.
2. Click **Save**. This will open the **Save As** tab.
3. Click the location link to save the file to.
4. The **Save As** dialog box is opened.
5. Enter a file name.
6. Click the **Save** button.

If you are working on a document that already has a save location, you will not need to select a location or name the file every time you save it.

To save a document with a new name or format:

1. Click the **FILE** tab.
2. Click **Save As**. Click the location link to save the file to.
3. Click on the required format.
4. Select the location to save.
5. Enter a file name.
6. Click the **Save** button.

The following file formats can be opened and saved in Microsoft Word:

- Text documents (.txt)
- Rich text files (.rtf)
- Word documents (.docx)
- OpenDocument Text (.odt).

Documents in other formats will open as plain text documents and might not display as expected.

3.2 PRINTING

Installing and Uninstalling a Printer

You can connect a printer to your computer using a few methods. It all depends on the printer and your location; for example, whether you are at home connecting a printer directly to your computer, or whether you are at work connecting to a printer on a network. It is important to check the information that comes with the printer for any specific instructions.

Connecting the printer directly to the computer is the most common way to install a printer. This is known as connecting a local printer. Installation should begin automatically when you plug in a printer using a USB connection.

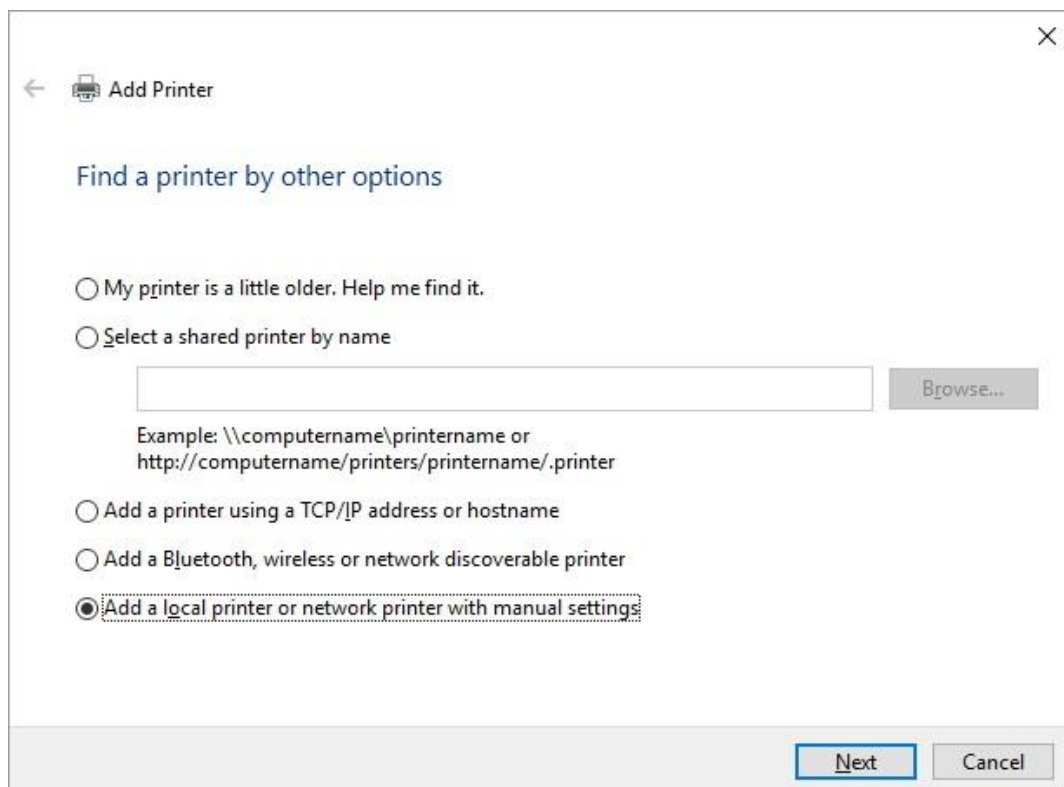
If the printer does not install automatically, you will need to install it yourself.

To install a printer:

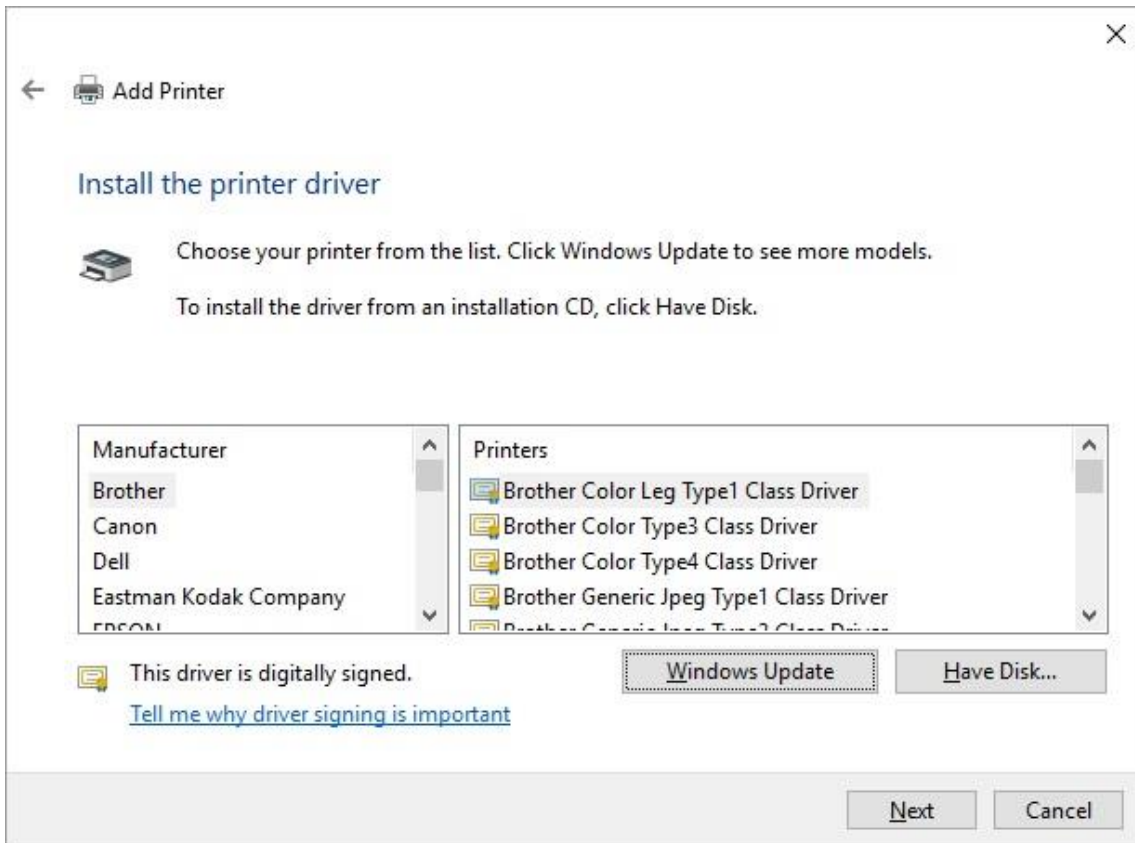
1. Click the **Start** button, and click the **Settings** icon.
2. Click **Devices**.
3. Under **Add printers & scanners** click **Add a printer or scanner**.

Your computer will scan for printers to add, and if it finds the one you are looking for select the printer and click **Add device**.

4. If the device you are looking for does not appear in the list of printers and scanners, click **The printer that I want isn't listed**. You can now begin to add the printer manually.
5. Select the **Add a local printer or network printer with manual settings** option and click **Next**.
6. Select the **Use an existing port** option with **LPT1: (Printer Port)** chosen and click **Next**.



- Under **Install the printer driver**, select the printer manufacturer and model, and then click **Next**.
 - If your printer is not listed, click **Windows Update**, and then wait while **Windows** checks for additional drivers.
 - If none are available and you have the installation CD, click **Have Disk...**, and then browse to the folder where the printer driver is located. (For additional help, consult the printer manual.)



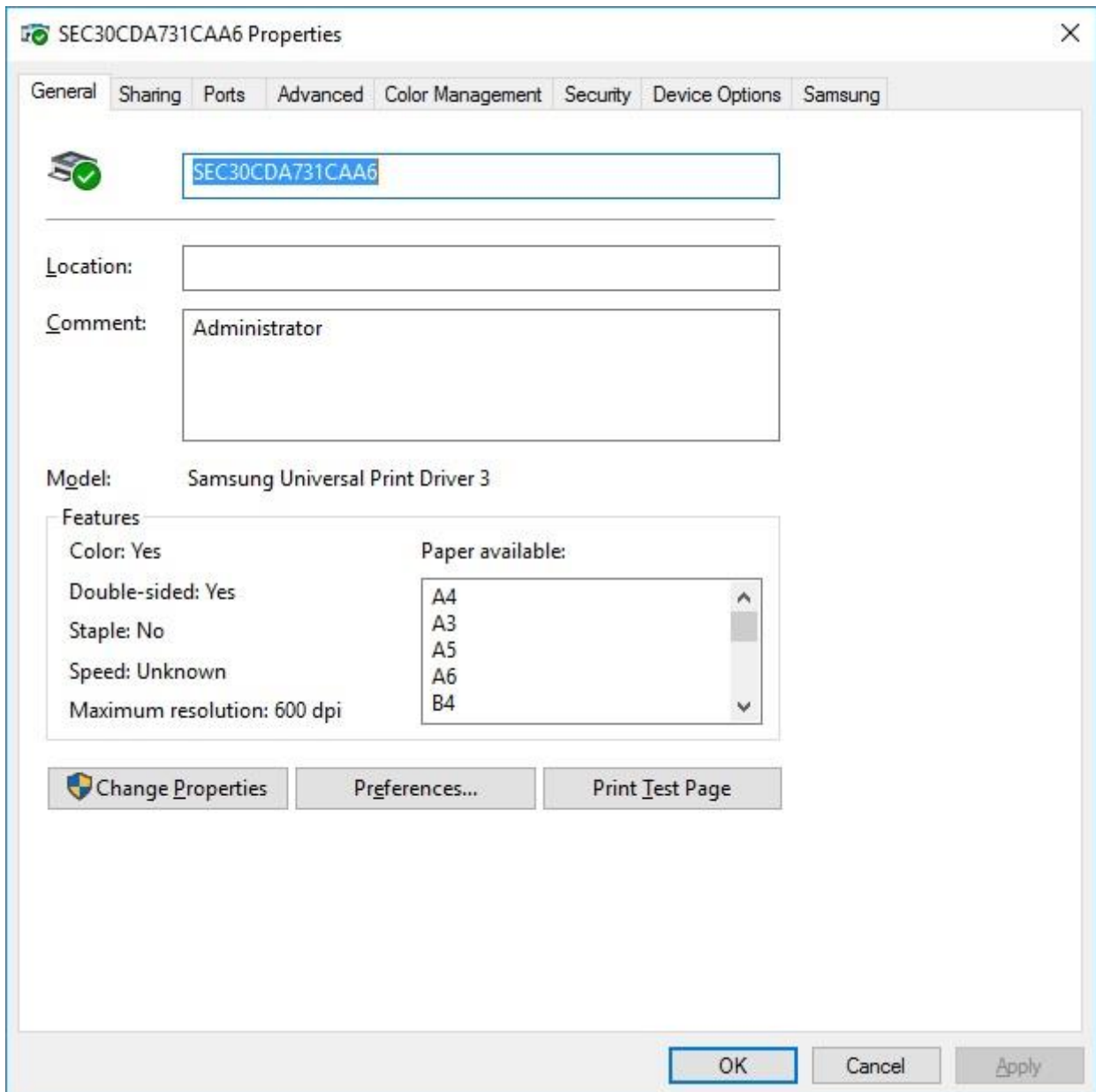
- Complete the additional steps in the wizard, and then click **Finish**.

After installing a printer, check if the printer is working by printing a test page. The test page is a print-out that confirms the printer is functioning.

If you cannot print the test page, you should consult the printer manufacturer's instruction booklet or official website for detailed troubleshooting steps. The solution will vary based on the manufacturer and printer model.

To print a test page:

- Click the **Start** button.
- Click **Windows System** and then choose **Control Panel**.
- Click **Devices and Printers**.
- Right-click a printer and then choose **Printer properties**.
- Under the **General** tab, click **Print Test Page**.



If you no longer use a printer, you can uninstall it from **Devices and Printers**.

To uninstall a printer:

1. Click the **Start** button.
2. Click **Windows System** and choose **Control Panel**.
3. Click **Devices and Printers**.
4. Right-click the printer that you want to remove, click **Remove device**, and then click **Yes**.
5. If you cannot delete the printer, right-click it again, click **Run as administrator**, click **Remove device**, and then click **Yes**. If you are prompted for an administrator password or confirmation, type the password or provide confirmation.

Setting Default Printer

If you often use multiple printers, you can choose one as your default printer. Windows and other programs then automatically use that device when you print.

To set a printer as default printer:

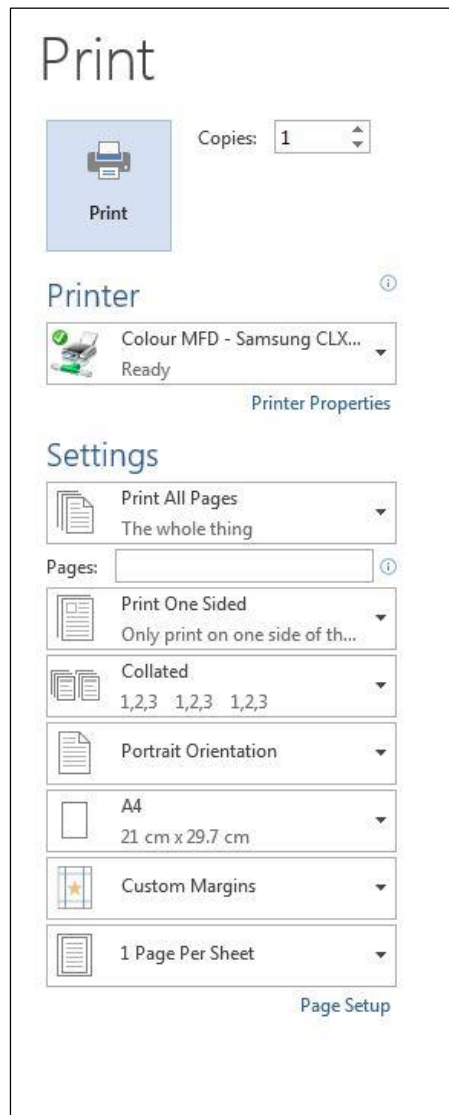
1. Click the **Start** button.
2. Click **Windows System** and choose **Control Panel**.
3. Click **Devices and Printers**.
4. Right-click the printer that you want to set as your default, and click **Set as default printer**.

A check mark appears on the printer's icon showing that it is now your default printer.



Printing a Document from a Word Processing Application

1. Open the file to print in **Microsoft Word**.
2. Click the **FILE** button and click **Print**. This will also give you a preview of the document on the right hand side of the window.
3. Select the options you want and click the **Print** button.

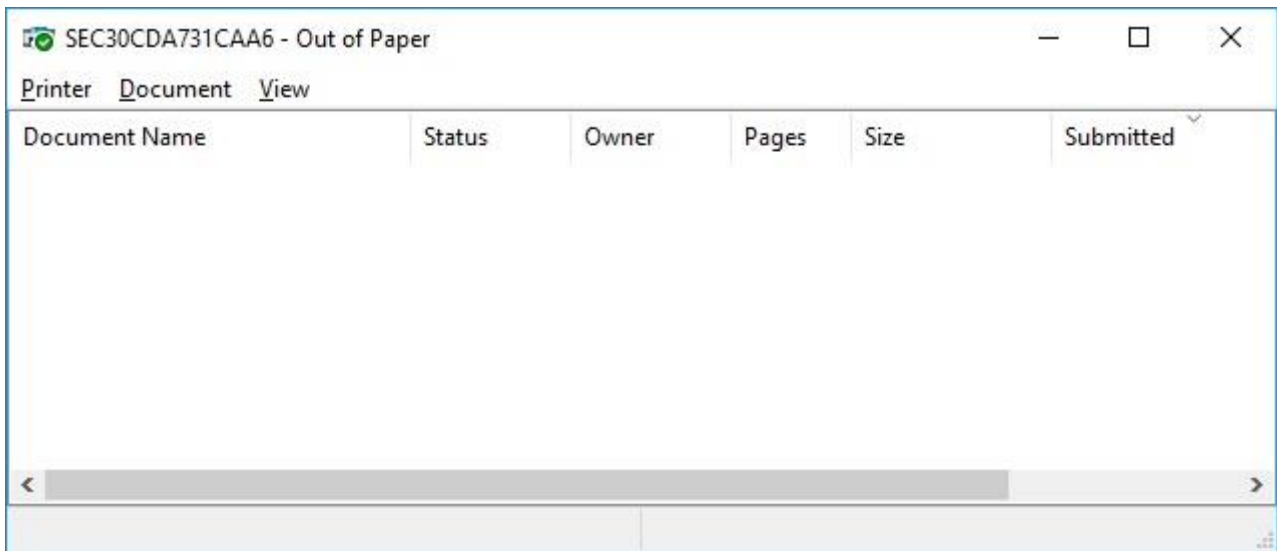



Managing Print Jobs

Print jobs can be paused or cancelled even after they have started to print. You can do this using the print queue. The print queue shows what is printing or jobs waiting to print. It also displays other details such as number of pages that are left to be printed.

To view current print jobs:

1. Click the **Start** button.
2. Click **Windows System** and choose **Control Panel**.
3. Click **Devices and Printers**.
4. Right-click your printer's icon, and then click **See what's printing** on the command bar.



Alternatively, to quickly see the print queue, double-click the printer icon  in the notification area of the taskbar in the bottom right-hand corner of your screen.

From this dialog box, you can pause and resume printing a single document, or multiple documents in the queue. You can also restart a print job from the beginning, or cancel a print job.

To pause or resume printing:

1. Right-click the document waiting to be printed.
2. Click **Pause** or **Resume**.

To restart printing a document:

1. Right-click the document waiting to print.
2. Click **Restart**.

If you have printed something by mistake, you can cancel it, even if printing has already started.

To cancel printing:

1. Right-click the document waiting to be printed.
2. Click **Cancel**, and then click **Yes** to confirm.

In order to cancel all printing, click the **Printer** menu, click **Cancel All Documents**, and then click **Yes** to confirm. The item currently printing might finish, but the remaining items will be cancelled.

3.3 REVIEW EXERCISE

1. Open **Microsoft Word**.
2. Type a list of activities you would like to do this weekend. You might include movies you would watch or places to visit.
3. Save the document as **Weekend Plans** on the computer desktop.
4. Capture a screen shot of the desktop.
5. Paste the screen shot in the document.
6. Save the document as **Weekend Plans 2** on the computer desktop.

LESSON 4 - FILE MANAGEMENT

In this section, you will learn about:

- Files and folders
- Organising files and folders
- Storage and compression

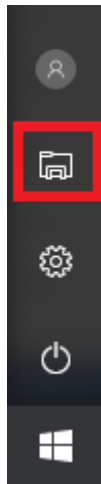
4.1 INTRODUCING FILES AND FOLDERS

Understanding Files and Folder Structure

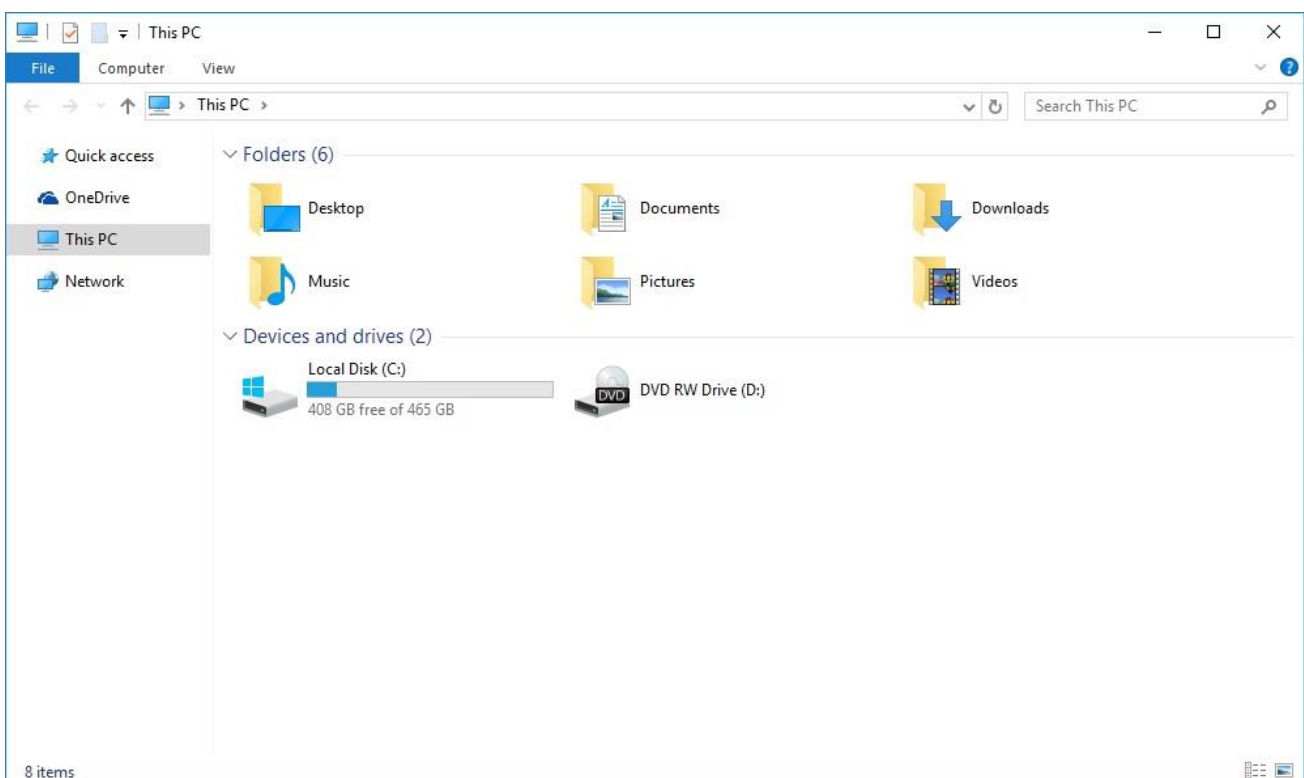
You can think of the information on your computer as being stored hierarchically: In other words, your computer has one or more drives which contain folders; these folders contain files, such as documents or pictures, or other folders.

To view drives, folders, and files:

1. Click the **Start** button.
2. Click the **File Explorer** icon.



3. Choose **This PC** along the left-hand side of the explorer window.



Windows identifies the different drives on your computer with a series of letters.

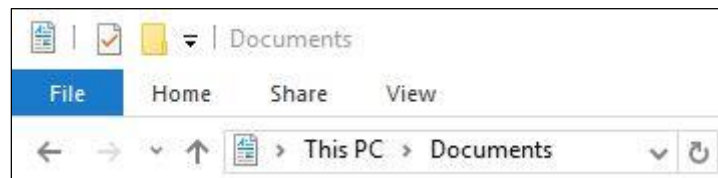
For instance, the letter 'C' is usually given to the main hard drive on the computer. Some computers may have two hard disks, one of which will be the C drive and the other may be the D drive. USB drives are called Removable Disks and may be assigned different letters, depending on the number of disks installed on your computer.



You can use these drives to find or save files. A file is an item that is used to store information, such as text or images. On your computer, files are displayed as icons; this makes it easy to recognise the file type by looking at its icon.

Folders are used to organise your files just like a filing cabinet. Grouping files into folders will help you manage your files in a logical, structured way on the computer. Folders may contain other folders. These are known as subfolders.



When you double click on a folder, its contents are displayed. The address bar at the top of the folder window displays your current location as a series of links separated by arrows.



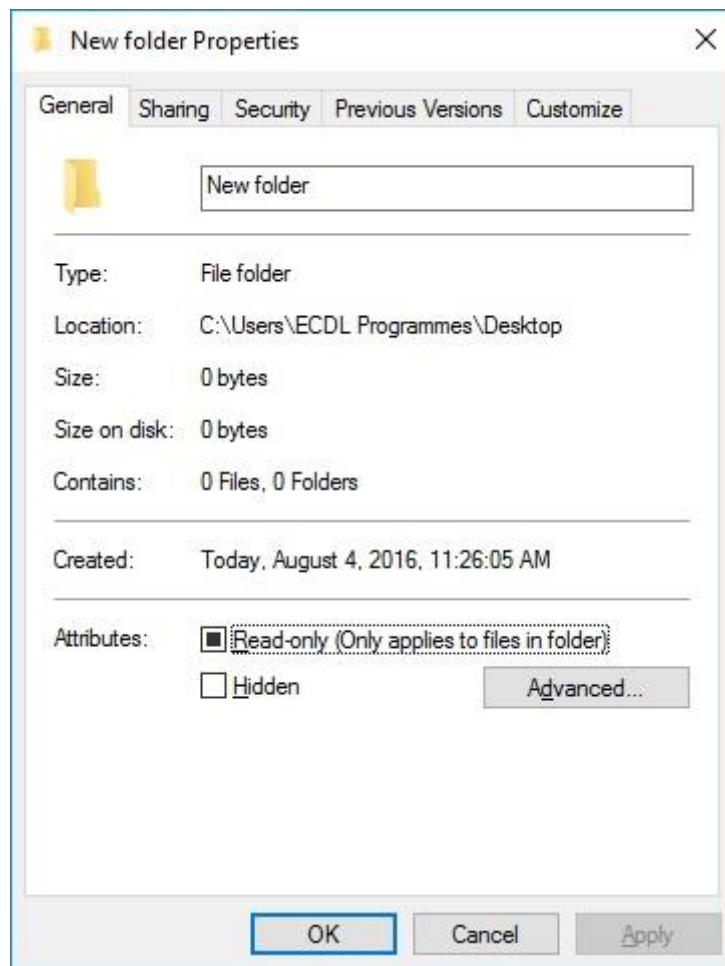
You can click the **Back** button  and the **Forward** button  to navigate through locations you have already visited.

Displaying File or Folder Properties

You can learn more about a file or folder by viewing its properties. Properties are not part of the actual file content, but are pieces of information about the file. Properties of a file or folder may include name, size, date modified, and location.

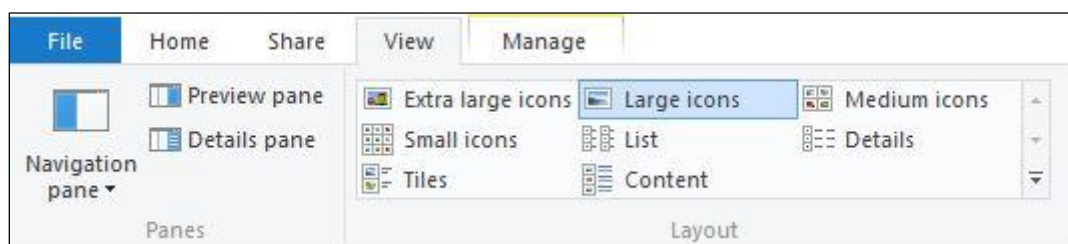
To display file or folder properties:

1. Right-click the file or folder.
2. Click **Properties**.
3. Common properties such as name, size and location display.



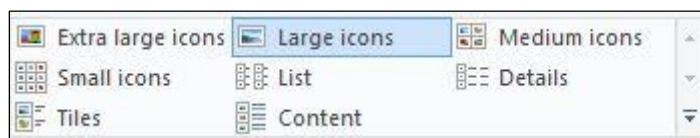
Viewing Files and Folders

When you open a folder, you can change how the files appear in the window. For example, you might prefer to view the files as larger (or smaller) icons, or you may want to see different kinds of information about each file. To make these kinds of changes, use the **View** tab and select from the layout options.



To change file and folder view:

1. Under the **View** tab, choose the appropriate view from the **Layout** section.
2. Select the appropriate view.



Identifying Common File Types

In Windows, each file is represented by a small icon. Windows file names have two parts: the name and the extension (suffix), separated by a period. The extension is a three- or four-letter abbreviation that comes after the period.

| Common File Type | File Extension | File Icon |
|--------------------------|------------------|--|
| Word Processing | .docx |  |
| Spreadsheet | .xlsx |  |
| Presentation | .pptx |  |
| Portable Document Format | .pdf |  |
| Image | .gif, .jpg, .bmp |  |
| Audio | .mp3 |  |
| Video | .avi |  |
| Compressed | .zip |  |
| Executable | .exe |  |

Opening a File, Folder or Drive

To open a file, folder or drive, double click on it.

A file typically opens in the program that was used to create or edit it. For example, a text file will open in your word processing program. You can change the default program that you want to open your files by right-clicking the file, click **Open with**, and then click the name of the program that you want to use.

Good Practice in Folder or File Naming

How you organise and name your folders and files will have a big impact on your ability to find those files later and to understand what they contain. You should be consistent and descriptive in naming and organising files so that it is obvious where to find specific data and what the files contain.

These are some basic guidelines for structuring folders and naming files:

1. Keep file and folder names short, but meaningful.
2. Avoid unnecessary repetition and redundant words in file names and file paths.
3. Use capital letters or underscore to delimit words, not spaces.
4. Avoid special characters such as
~ ! @ # \$ % ^ & * () ` ; < > ? , [] { } ' " and |.

Creating a Folder

To create a folder:

1. Navigate to where the folder is to be created, for example in another folder or on the desktop.
2. Right-click a blank area on the desktop or in the folder window and click **New**.
3. Enter a folder name, and then press **Return**.

The new folder will appear in the location you specified.

Renaming a File or Folder

1. Right-click the file or folder that you want to rename.
2. Click **Rename**.
3. Enter the new name, and then press **Return**.

Searching for Files by Properties

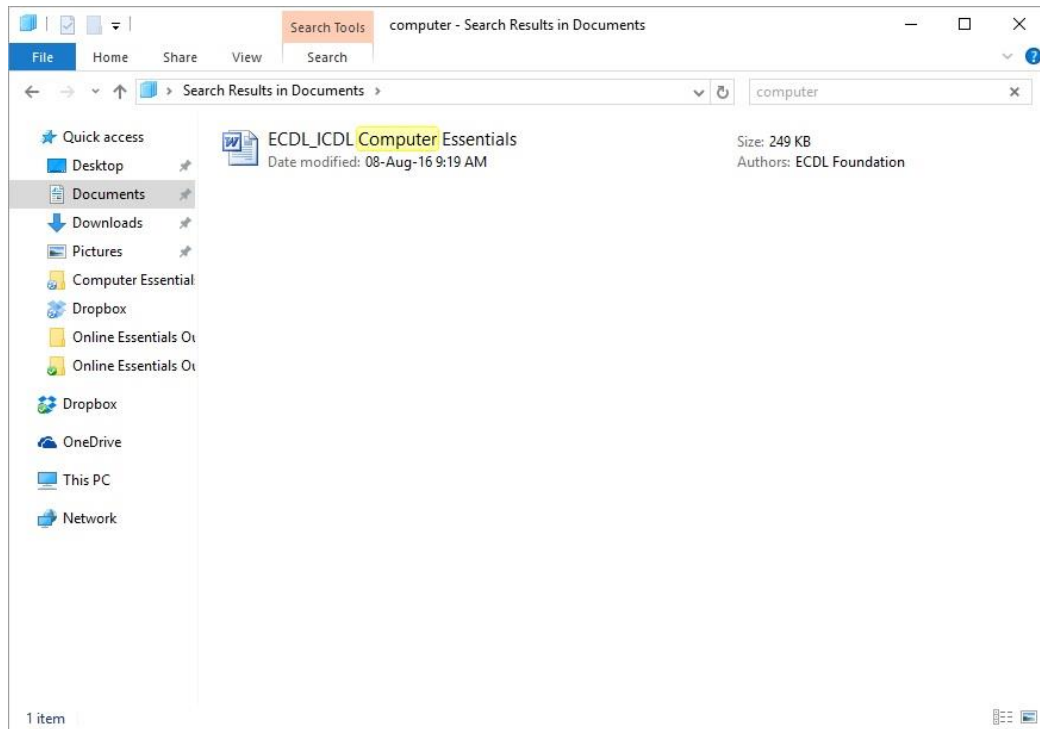
If you have many files and folders, it may be difficult to find the one that you need. You can use the search box to help you find a file or folder.



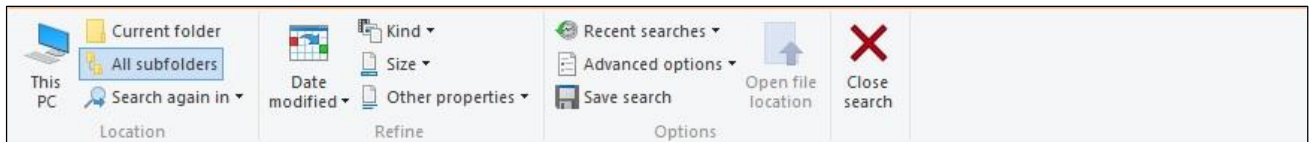
The search function tries to match the text you enter against text in the file name and contents, as well as in file properties. The search includes all folders and subfolders in the location where you are searching. The location searched is determined by what is displayed in the address bar.

To search for a file or folder by using the search box:

1. Type a word or part of a word in the search box.
2. When the file that you want is displayed, stop typing and select the file.



There are other ways to use the search box to quickly narrow down a search. For example, you can search for a file based on one or more of its properties, such as the date the file was last modified. You can do this by selecting the **Search Tools** tab that appears when performing a search.



You can also use special characters called wild cards - use a question mark (?) instead of a single character and an asterisk (*) instead of any number of characters.

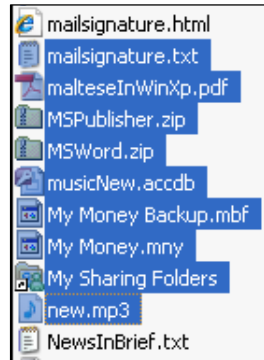
For example:

- To search for all files whose names start with za
Type: **za***
- To search for all files whose names start with za and contain 5 characters
Type: **za????**
- To search for all Microsoft Excel files whose names start with za and contain 5 characters
Type: **za????.xlsx**

4.2 ORGANISING FILES AND FOLDERS

Selecting Files and Folders

- To select a single file or folder, simply click on it.
- To select a consecutive group of files or folders, click the first item, press and hold down the **Shift** key, and then click the last item.



- To select non-consecutive files or folders, press and hold down the **Ctrl** key, and then click each item that you want to select.



- To select all of the files or folders in a window, on the toolbar, click **Organize**, and then click **Select all**. If you do not want to include one or more items from your selection, press and hold down the **Ctrl** key, and then click the items.
- To clear a selection, click a blank area of the window.

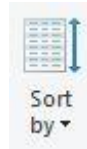
Sorting Files

Generally, files are listed in alphabetical order by name.

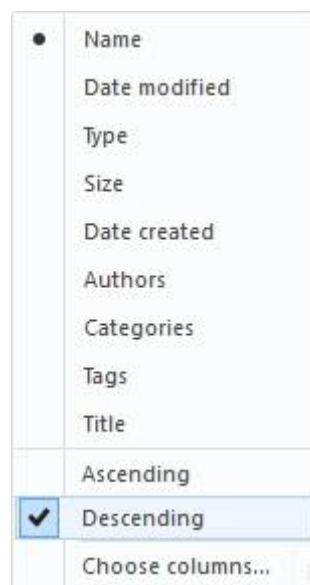
To sort files:

1. In a folder window, click the **View** tab.

2. Select the **Sort By** button.



3. Click **Name** to sort files by name in ascending order.
4. Click the **View** tab.
5. Select **Sort by** button.
6. Click **Descending** to sort in descending order.



You can sort files by the Date modified, Type and Size by following the same steps as above.



Copying and Moving Files and Folders

To move or copy files or folders using the drag and drop method:

1. Open the folder containing the file or folder that you want move or copy (source).
2. Open the folder where you want to move or copy to in a different window (destination).
3. Arrange the two windows side by side on the desktop.

4. To move, drag the file or folder from the first folder (source) to the second folder (destination). To copy, press **Ctrl** while dragging.

When using the drag-and-drop method across two folders on the same hard disk, the item is moved; however, if the destination is a different location such as a USB drive, the item is copied.

You can also copy / move files and folders by using the copy and cut functions. To use the copy and cut functions:

1. Right-click on the file or folder you wish to copy or cut.
2. Click **Copy** or click **Cut**.
3. Click on the new location you wish to paste the new item to.
4. Right-click a blank space and click **Paste**.

Deleting and Restoring Files and Folders

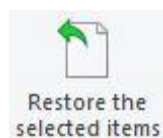
To delete files and folders:

1. Select the items to delete.
2. Press **Delete**.

You can also delete a file or folder by dragging it to the **Recycle Bin**. When you delete a file or folder, it is not deleted right away. Instead, it is stored in the **Recycle Bin** until the **Recycle Bin** is emptied.

To restore a deleted file or folder:

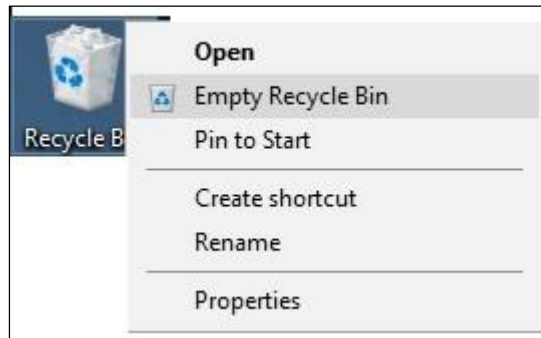
1. Open the **Recycle Bin** by double-clicking the **Recycle Bin** on the desktop.
2. Select the deleted item.
3. Click **Restore this item** on the toolbar.



Emptying the Recycle Bin

To permanently remove files from your computer and reclaim any hard disk space they were using, you need to delete the files from the **Recycle Bin**.




You can empty the **Recycle Bin** by right-clicking the **Recycle Bin** and then clicking **Empty Recycle Bin**.

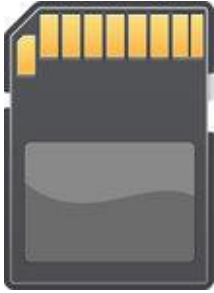



4.3 STORAGE AND COMPRESSION

Main Types of Storage Media

| | |
|---|--|
| <p>Internal hard disk</p> <p>A computer’s internal hard disk is its primary storage device for digital data. This is where the operating system, such as Windows 7, as well as your own files are stored. When you install new applications, they are copied to your internal hard disk.</p> |  |
| <p>External hard disk</p> <p>An external hard disk is one that you can plug into your computer, usually using a USB cable. They are available in a range of speeds and storage capacities and are a good way to back up files, including photos or movies.</p> |  |
| <p>Network drive</p> <p>In an office, it is normal that the computers are connected together on a network. This allows network users to store your data centrally, on a network drive or server. This network drive should be backed up by IT support staff regularly.</p> |  |

| | |
|---|--|
| <p>CD</p> <p>Many computers have a CD-ROM (Compact Disc - Read Only Memory) drive. CD-ROM discs look exactly like music CDs but contain computer data instead of music. A CD-ROM can usually hold between 650 – 700 MB of data.</p> |  |
| <p>DVD</p> <p>A DVD, or Digital Versatile Disc, is similar to a CD but can store more data. A DVD also transfers data to the computer far faster. A single-layer, single-sided DVD can typically store up to 4.37 GB of data.</p> |  |
| <p>Blu-ray</p> <p>Blu-ray is an optical disc format similar to CD and DVD. It is used for recording and playing back high-definition video and for storing large amounts of data. A standard, single-layer Blu-ray disc can store up to 25 GB of data.</p> |  |
| <p>USB flash drive</p> <p>USB flash drives are small external memory devices that plug into a USB port. In Windows Explorer, they appear just like any other drive. They are supplied in a range of sizes and are a cheap and portable storage device.</p> |  |

| | |
|--|---|
| <p>Memory card</p> <p>A memory card, or a flash memory card, is a form of storage often used in devices such as digital cameras, mobile phones, music players, video game consoles.</p> <p>There are different types of memory cards – for example, Secure Digital (SD) cards or Memory Sticks - with different storage capacities. Many PCs, laptops, and devices have built-in slots for different types of memory cards.</p> |  |
| <p>Online file storage</p> <p>Otherwise known as cloud storage, this hosts user files on the Internet. Users can upload files and can then access them over the Internet from a different computer, tablet, smart phone or other Internet-connected device.</p> |  |

File and Folder Size, Storage Capacity Measurement

You can view file and folder size by right-clicking on the item and clicking on **Properties**.

Storage capacities and file sizes are measured from lowest to highest in: bits, bytes, kilobytes (KB), megabytes (MB), gigabytes (GB), terabytes (TB).

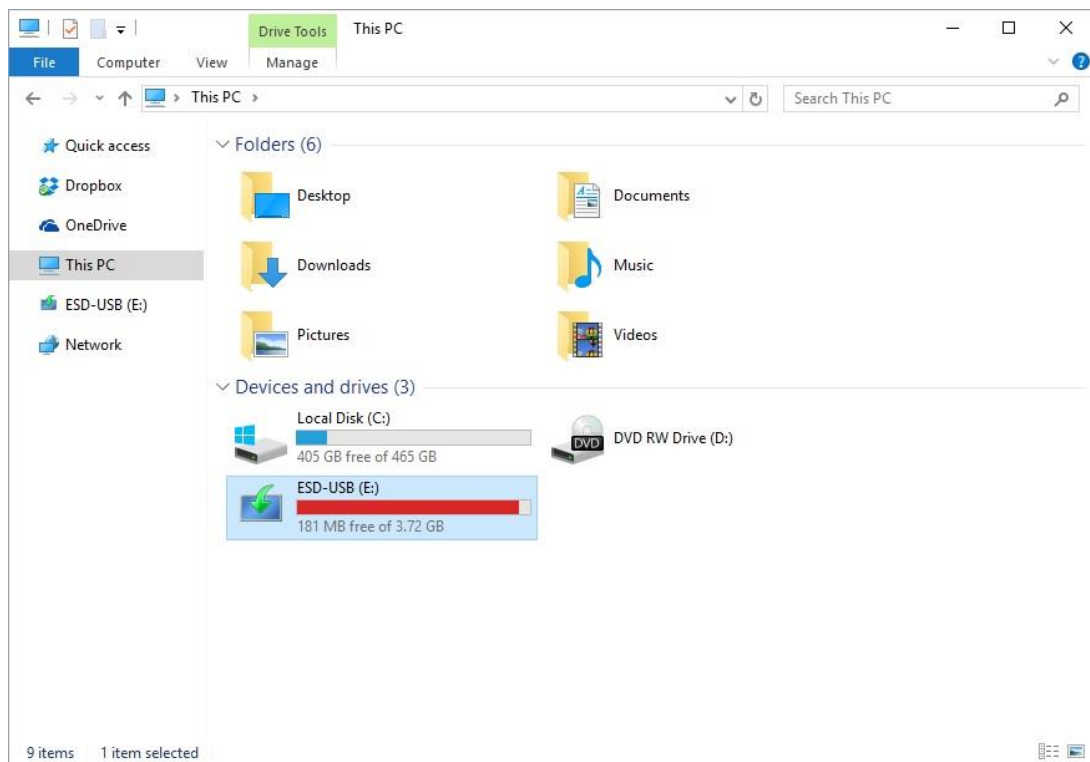
Relationship between storage capacity measurements:

| Unit | Size | Comparable To |
|---------------|-------------|--|
| Kilobyte (KB) | 1,024 Bytes | ½ page of plain text |
| Megabyte (MB) | 1,024 KB | 700 pages of plain text or one picture/graphic |
| Gigabyte (GB) | 1,024 MB | A set of encyclopaedias |
| Terabyte (TB) | 1,024 GB | A bookstore full of books |

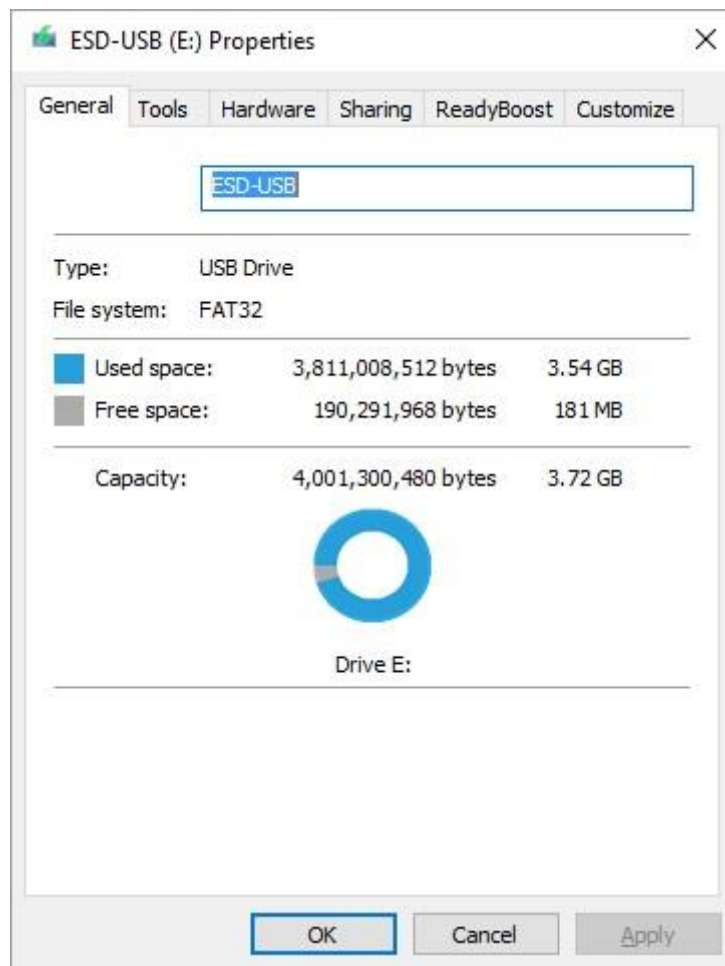
A file’s size can be influenced by a number of factors but ultimately the more information a file stores, the larger it will be.

Viewing Available Space on a Storage Device

1. Click the **Start** button.
2. Click **Computer**.
3. Click the hard disk or storage device you want to check.
The total size and available free space appear below the name of the storage device.



To see additional information about a storage device or disk, including how much free space it has available, right-click it, and then click **Properties**.



Understanding the Purpose of File and Folder Compression

File compression is a process that reduces file size by minimising redundant information in a file. Multiple files and folders can be compressed into one folder using compression software.

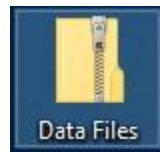
There are several advantages to using compressed files:

- Takes up less storage space
- Speeds up file transfer
- Allows sharing of multiple files as one file.

Compressing Files and Folders

To compress a file or folder:

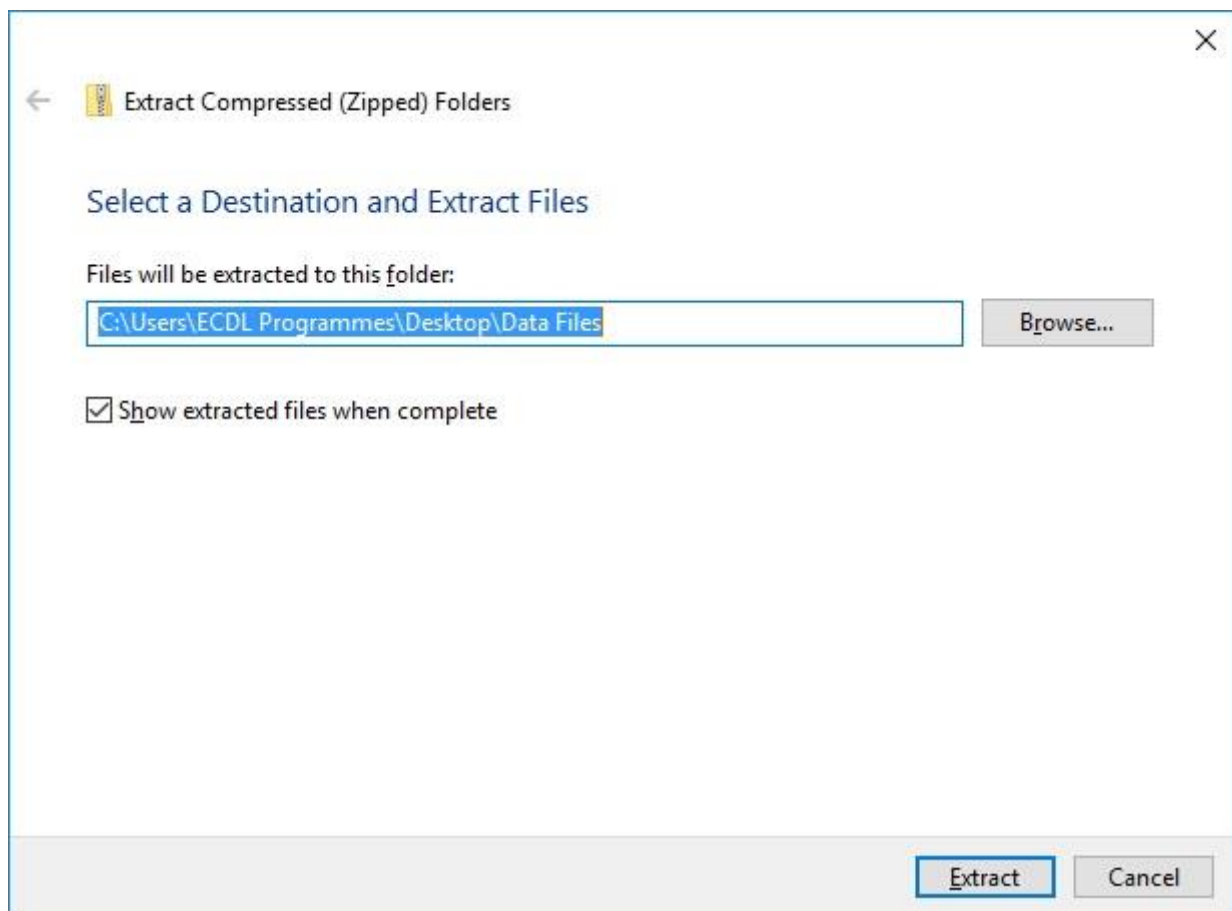
1. Find the file or folder that you want to compress.
2. Right-click the file or folder, select **Send to**, and click **Compressed (zipped) folder**.
3. A new compressed folder is created in the same location. To rename it, right-click the folder, click **Rename**, and enter the new name.



Extracting Compressed Files and Folders

To extract compressed files or folders:

1. Find the compressed folder from which you want to extract files or folders.
2. Do one of the following:
 - a. To extract a single file or folder, double-click the compressed folder to open it. Then, drag the file or folder you want from the compressed folder to a new location.
 - b. To extract the entire contents of the compressed folder, right-click the folder, and click **Extract All**. Click the **Browse** button to choose a specific location.



4.4 REVIEW EXERCISE

1. Where do you store your files on the computer to keep them organised?
 - a. Box
 - b. Folder
 - c. Desk
2. After right-clicking in the Explorer window, what option do you select when creating a folder?
 - a. New
 - b. View
 - c. Organize
3. What key do you press on the keyboard when selecting several files that are listed next to each other?
 - a. Shift
 - b. Ctrl
 - c. Spacebar
4. Where do deleted files go?
 - a. Dump
 - b. Recycle bin
 - c. Clipboard
5. Which button do you click to change the way your files are listed on the screen, e.g. to change from a detailed list to large icons?
 - a. Views
 - b. Print
 - c. Organize
6. Create a folder on the desktop and name it **Testing**.
7. Create 3 subfolders with the following names:
 - a. **Reports**
 - b. **Photos**
 - c. **Emails**
8. Change the view of the **Testing** folder to display as large icons.
9. Set the sort order of the **Testing** folder in descending order by name.

LESSON 5 - NETWORKS

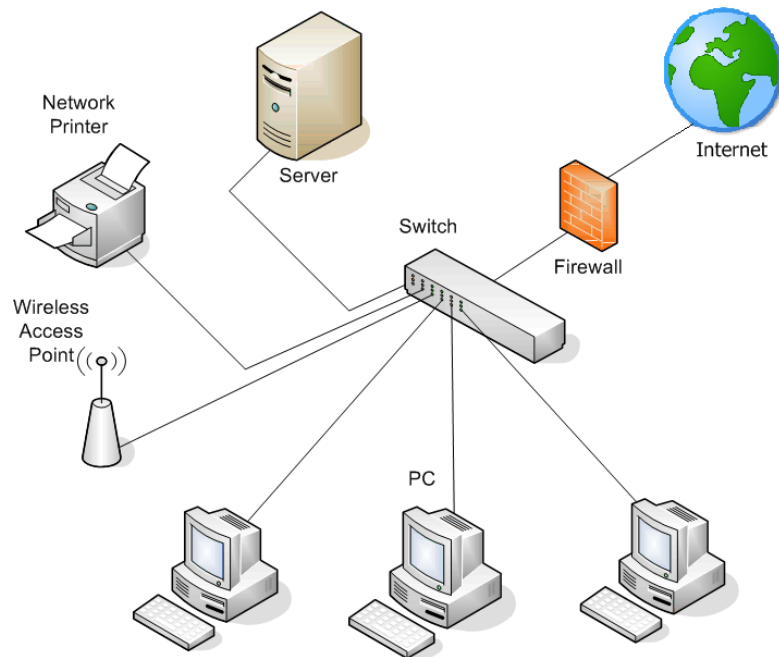
In this section, you will learn how to:

- Understand network concepts
- Connect to and access a network

5.1 NETWORK CONCEPTS

Defining the Term Network and Outlining Its Purpose

A group of computers that are connected together for sharing resources is known as a computer network. One commonly shared resource is an Internet connection. Other shared resources may include a printer or a file server. The Internet is itself an example of an extremely large and extremely complex network.



Defining the Term Internet and Identifying Its Main Uses

The Internet is a world-wide system of interconnected computer networks linking billions of devices. It consists of millions of private, public, academic, business, and government networks, connected by a wide range of electronic, wireless, and optical networking technologies.

The terms Internet and the World Wide Web (or just Web) are often used interchangeably. However, the Internet provides many other services, including not only the inter-linked hypertext documents and applications of the Web, but also electronic mail, instant messaging, and telephony.

Main uses:

- **World Wide Web (Web)**

The most widely used part of the Internet is the Web, which is a set of interlinked documents and other resources. The Web uses hypertext, a method of instant cross-referencing, to link these documents and resources. On most Web sites, certain words or phrases appear in text of a different colour than the rest; often this text is also underlined. When you select one of these words or phrases, you will be transferred to the site or page that is relevant to this word or phrase.

Sometimes there are buttons, images, or portions of images that are "clickable." If you move the pointer over a spot on a Web site and the pointer changes into a hand, this indicates that you can click and be transferred to another site.



- **Voice over Internet Protocol (VoIP)**

VoIP is a technology that allows you to talk with other people using the Internet. You can talk at no extra cost to other people using VoIP on their computers or Internet connected devices. You can even make calls to "real" telephones at a much cheaper rate than normal.



This system is ideal when you need to make a lot international calls. You can use a VoIP application on your computer together with a microphone and headset, or you can make use of a VoIP app on your smart phone.

- **Electronic mail (Email)**

Email allows you to send a message to another person almost instantly, anywhere in the world. It requires both computers to be connected to the Internet. As well as sending text messages, files can be sent as email attachments.



- **Instant Messaging (IM)**

Instant messaging (IM) is a tool for real-time communication between two or more people sending text messages to their computers or other devices. This is different from sending an email, which may be read sometime later by the recipient.



Defining the Term Intranet and Virtual Private Network

An Intranet is a private, closed version of the Internet, which can only be accessed by authorised individuals in an organisation. Intranets are an increasingly common method of sharing information within a company or other organisation.

An Intranet uses Internet technologies to carry out tasks including accessing company documents and scheduling meetings.

A VPN (Virtual Private Network) is a network that uses the Internet to connect offices or individual users to their organisation's network so that they can access data and communicate. The VPN gives the organisation the same capabilities as that of an expensive system of directly owned or leased lines, but at a much lower cost.

Understanding Transfer Rate

The speed at which data transfers from one device to another is known as the transfer rate. It is often measured in megabits (million bits, Mbps) or megabytes (million bytes, MBps) per second.

For example, a hard drive may have a maximum data transfer rate of 480 Mbps, while your ISP may offer an Internet connection with a maximum data transfer rate of only 3 Mbps. In general, the greater the bandwidth of a given path, the higher the data transfer rate.

Common transfer rate units are:

- **Bits per second (bps)**
Very slow connections will be quoted in bits per second.
- **Kilobits per second (kbps)**
- **Megabits per second (mbps)**
High speed data transfer is measured in megabits bits per second.

- **Gigabits per second (gbps)**

Understanding Concept of Downloading and Uploading

Downloading means receiving data or a file from the Internet or network onto your computer or device. A common example of this is downloading a file from a web site. Another example of downloading would be copying a file from another computer on your Local Area Network to the hard disk on your computer.

Uploading refers to copying data from your computer to another computer, either on your local area network or on the web.

5.2 NETWORK ACCESS

Connecting to the Internet

There are a range of different ways to connect to the Internet:

- **Phone line**
This is one of the most common types of Internet connection in the home. Your computer is connected to a modem, which connects to the phone line.
- **Cable**
The same cable that supplies TV channels can also supply your Internet connection. Cable can often provide high-speed Internet access.
- **Mobile phone**
The connection is established using Internet compatible mobile devices, such as smart phones and tablets, through the mobile phone network. This is generally used when there is no Wi-Fi connection. This method of connection may be relatively expensive.
- **Wi-Fi**
Some public places, such as airports and local councils, now offer wireless access to the Internet using Wi-Fi. Sometimes this service is provided free of charge. It may also be provided with a charge, or else you may need a username and password in order to use the service (e.g. in universities). Also, wireless networks are also now common in homes as well as workplaces.
- **Wi-Max**
WiMAX is a wireless communication standard. It is an alternative to wired technology and operates similar to Wi-Fi but can support larger geographical areas and more users.

- **Satellite**

If you live in a very remote area, your only way to connect to the Internet may be via a satellite link. A satellite connection does not require cable or phone lines; it connects to the Internet through satellites orbiting the Earth. This may require large satellite dishes and expensive specialised equipment. The cost of the Internet connection may also be high.

Internet Service Provider (ISP)

If you want to set up an Internet connection in your home or office, you need to subscribe via an Internet Service Provider, also referred to as an ISP.

It's important to consider the following options when selecting an ISP:

- **Upload speed**

This determines how quickly your computer or local network can transmit data to other locations. In media streaming, its function is to send the initial request for web pages and files to the server.

- **Download speed**

This reflects the speed at which data can be transmitted to your computer or local network. This impacts on, for example, how quickly web pages load, files download, and videos stream.

- **Download Quota**

This is the allowance of data that is included in your subscription. You need to think about your online activities and what sort of data quota is appropriate. For example, if you regularly download or stream movies, you may need quite a large quota.


- **Cost**

The relative cost of the service is of course important. In most markets, it is sensible to compare different ISPs to find the one that provides best value for money.

Recognising Status of a Wireless Network

Particularly if you use mobile devices such as tablets and smart phones, your network connections are wireless. Wireless networks are either secured or open. When you join a secured / protected network you are asked to enter a password – if you do not have this, you will not be able to join. Open (also known as public) wireless networks allow anyone to join.

If you are connected to a wireless network, you can review the network status:

1. Open **Connect to a Network** by clicking the network icon () in the notification area. Available wireless networks are displayed.
2. In **Wireless Network Connection**, hover your cursor over a network name to view a pop-up that lists the security type.

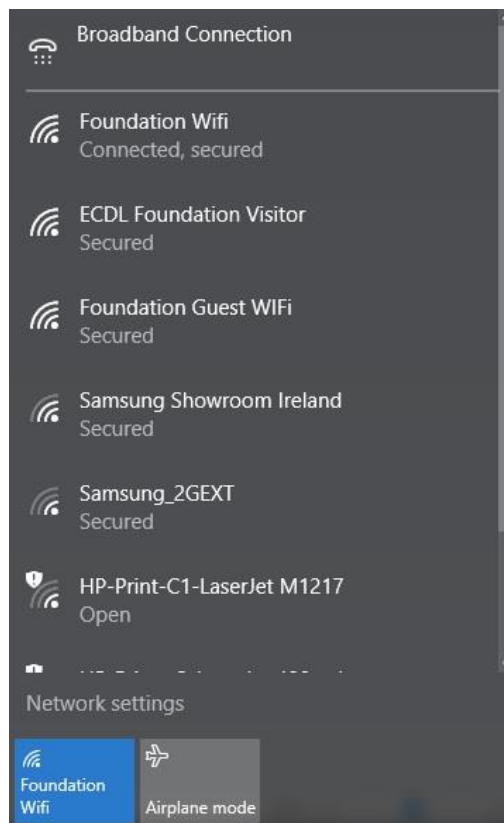
- a. If the security type is something such as WEP or WPA2, the network is secured.
- b. If the security type is something such as Unsecured or No authentication (open), the network is not secured.
- c. If you notice an exclamation on the network icon that also means that it is not secured.

Connecting to a Wireless Network

Whenever possible, you should connect to security-enabled wireless networks. If you do connect to a network that is not secure, be aware that an eavesdropper may be able to monitor everything that you do, including the websites you visit and the user names and passwords that you use.

To connect to a wireless network:

1. Open **Connect to a Network** by clicking the network icon (📶 or 📶) in the notification area.
2. In the list of available wireless networks, click a network, and then click **Connect**.



Some networks require a password, which can be obtained from a network administrator or ISP.

5.3 REVIEW EXERCISE

1. The network that links computers around the world is the _____.
 - a. Internet
 - b. Browser
 - c. Webpage
 - d. Homepage

2. To use the WWW, you must have a one of these companies, which provide a connection to the Internet.
 - a. URL
 - b. HTML
 - c. Homepage
 - d. ISP

3. What is the name given to copying files from a website on the Internet?
 - a. Making an attachment
 - b. Downloading
 - c. Browsing
 - d. Uploading

4. Which of the following can't be used to connect to the Internet?
 - a. Satellite
 - b. Bluetooth
 - c. Mobile phone
 - d. Cable

5. Apart from using a computer, with what other device could you browse the Internet?
 - a. Digital Camera
 - b. Smart Phone
 - c. Scanner
 - d. Printer

6. Which technology enables you to make voice calls over your computer network?
 - a. Internet Voice Protocol
 - b. Voice over IP
 - c. Digital Telephony Subscriber
 - d. Universal Asynchronous Receiver Transmitter

LESSON 6 - SECURITY AND WELL-BEING

In this section, you will learn about:

- Protecting data and devices
- Malware
- Health and green IT

6.1 PROTECTING DATA AND DEVICES

Recognising Good Password Policies

Password policies are guidelines or requirements on the creation and use of passwords. These passwords can be required for access to a computer system, a group of files, or a single file.

The following are some guidelines for password policies:

- 1. Create passwords with adequate length:** While the word adequate may seem quite vague in this context, it is important to generate a password that is usually over 8 characters to reduce the chances of someone figuring it out. Many websites have minimum password length requirements.
- 2. Create passwords with adequate character mix:** Passwords that use a mix of caps characters and numbers are stronger than passwords that only use lowercase letters. Like password length, having a password that has character mix, like starting with a capital letter and including numbers, can be a requirement put in place by certain websites. For example, a password such as “fireworks” can be made stronger by varying the character style. If you capitalise the first letter, and swap the i and o with the numbers 1 and 0 you get “F1rew0rks” which is less likely to be solved.
- 3. Do not share passwords:** This may seem an obvious point, but disclosing your password to other people, even if they are trusted friends or family, is not recommended. In the event that you need to share a password make sure it is with someone who will not take advantage of your trust, or end up revealing it to a third party.
- 4. Change regularly:** It is recommended that you change your passwords from time-to-time. This can help prevent someone who has gained knowledge of your password from monitoring your activities over an extended period of time.

Firewall

A firewall is a software program or piece of hardware that helps block hackers, viruses, and worms from entering your computer via the Internet.

Firewalls are frequently used to prevent unauthorised Internet users from accessing private networks connected to the Internet. All messages entering or leaving the private network go through the firewall, which examines each message and blocks those that do not meet the specified security criteria.

Purpose of Backing Up Data to Remote Location

It is important to make regular backups as your files can be lost or destroyed accidentally; the hard disk may also develop problems. Thus, backups have to be made to an external device such as CDs, DVDs, external hard disks or USB drives.

Another option is to back up data on the Internet, using a “cloud” storage solution. By frequently backing up to a Web-based location, the risk of data loss as a result of fire, theft, file corruption, or other disaster is virtually eliminated. Viewed through a Web browser, remote files and folders appear as if they are saved on an external local hard drive.

Importance of Regularly Updating Software

Software developers often release software updates to address problems or fix security vulnerabilities in their products.

These updates help prevent or fix problems, or enhance and improve how your computer works. Therefore, it is important to regularly check for updates to your software, especially your operating system.

Issues associated with failing to keep your software up to date may include:

- Vulnerability to viruses, spyware and other malware.
- Software crashing, freezing, or performing poorly.

As well as resolving security issues, software updates not only improve security but may also contain improvements and new features.

6.2 MALWARE

Understanding Malware

Malware, or malicious software, is an umbrella term used to refer to viruses, worms, Trojans, spyware, adware, and other forms of malicious code. Installed without the user’s consent, malware is designed to disrupt computer operation, collect sensitive information, or gain unauthorised access to a computer, device, or network.

The main types of malware include:

- **Virus:** An intrusive program that infects computer files and may cause damage.
- **Worm:** Self-replicating malware that uses a computer network to send copies of itself to other computers.

- **Trojan:** Destructive program that masquerades as an application.
- **Spyware:** Malware that collects information on user browser habits without their consent.

How Malware Can Infect a Computer or Device

There are many ways in which a computer or device can become infected with malware.

Common methods of how your computer or device can become infected include:

- **Downloading infected software**
If you download software from the Internet, make sure it is from a reliable source. Scan downloads with antivirus software upon completion. During the installation process, read all prompts about what the program is putting on your computer.
- **Opening e-mail attachments**
Your computer can become infected if you open an e-mail attachments that contains malicious code. Even if the message is from someone you know, always use caution before opening a link or downloading an attachment. In general, do not open e-mail attachments you were not expecting to receive.
- **Using an infected disc, or drive**
USB drives, or other drives, may be infected with a virus. You can use antivirus software to scan external drives.

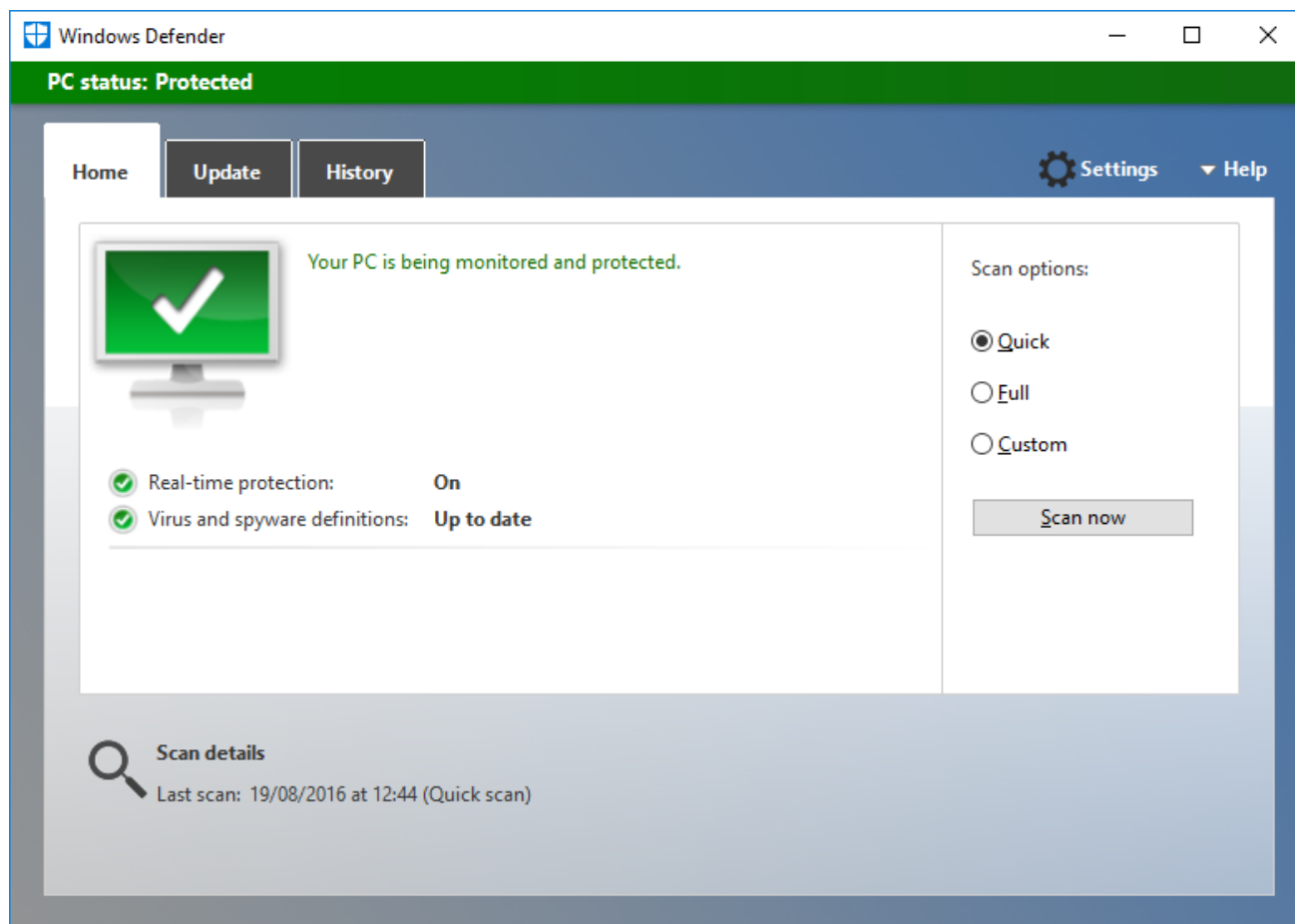
Using Anti-Virus Software to Scan a Computer

Anti-virus software is used to scan files to identify and eliminate malware. Anti-virus software usually does this using two different methods:

1. By using a virus dictionary to search for known viruses.
2. By looking for suspicious behaviour in how software is functioning.

An example of anti-virus software is **Windows Defender**. To scan using Windows Defender:

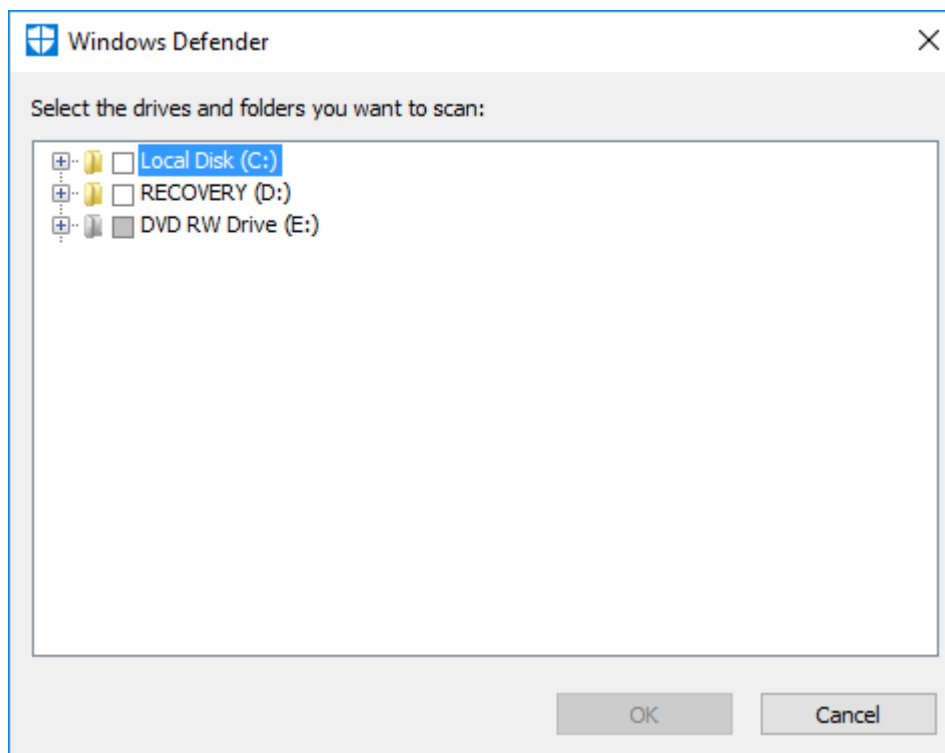
1. Open **Windows Defender** by clicking **Start** and selecting **Windows System**. Click **Windows Defender**.
2. In the **Home** tab, select a **Quick** or **Full** from the **Scan options**. **Quick scan** will search for viruses in locations where they are most likely to occur. **Full scan** searches the entire computer for viruses, but will be slower and may affect your computer's performance more when it is running.



3. Click **Scan now**.

To scan a specific drive:

1. In the **Home** tab, select **Custom**.
2. Click **Scan now**.
3. Check the required drive and folders.
4. Click **OK**.



6.3 HEALTH AND GREEN IT

Ensuring User Well-Being While Using a Computer

It is important to adjust the environment in which you use your computer so that it best supports your health and well-being. Your environment should have adequate lighting. It is also important to vary tasks and take regular short breaks away from the computer to perform gentle stretching and eye exercises.

Correct adjustment of furniture and equipment will aid you in maintaining correct posture and body alignment. Correct posture will, in turn, ensure an even distribution of workload on the body and will help minimise fatigue.

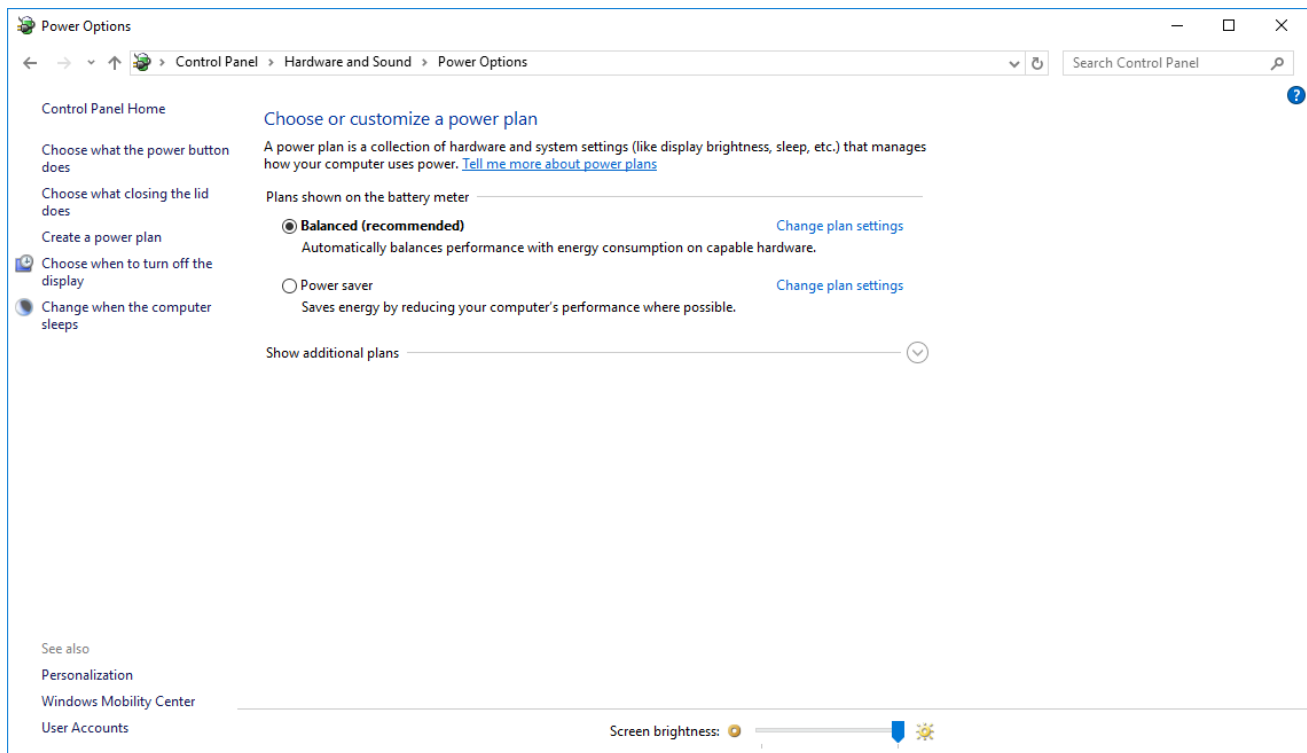
Recognising Computer and Device Energy Saving Practices

People are becoming increasingly concerned about the impact of our modern lifestyle on the environment. When you are using technology, you can help to reduce this impact.

Your computer or device may have energy-saving features built into its settings. Sleep modes and power management features are useful tools that reduce unnecessary energy use.

To maximise your energy savings, set your computer to go into sleep mode or to fully shut down once it has been idle for a period. Of course, you should also remember to turn off your computer when you are not using it!

Power mode options also allow you to save energy. If you run your computer in low-power mode, you conserve energy, keep the temperature of your equipment down, and extend its lifespan. Similarly, reducing the brightness of your display will also reduce the energy it consumes.



Recycling

Many of the components or consumables that we use when working with technology can be recycled.

- **Computer and devices**

Many of the components that make up computers and devices can be effectively recycled.

When you are ready to get rid of your old computer or device, you have a variety of choices:

- Find your closest recycling centre that handles computers or devices.
- Explore options such as re-selling, trading in, or exchanging your device.

- **Batteries**

Laptops or mobile devices can be recharged many times, but after a while consumers may want, or need, to buy a new battery. Old batteries must be recycled properly, because they contain chemicals that may harm the environment if they leak.

- **Printer cartridges**

It is a good idea to reuse your inkjet and toner cartridges, as this reduces unnecessary demand for new plastic cartridges. There are a variety of options available for refilling cartridges, and this may also be cheaper than buying a new cartridge.

- **Paper**

Do not print unless you absolutely need to. Read your documents on the screen, and share them with others electronically. If you have to print, consider printing on the back of old paper. If the paper can no longer be used put it into a recycling bin.

Enhancing Accessibility

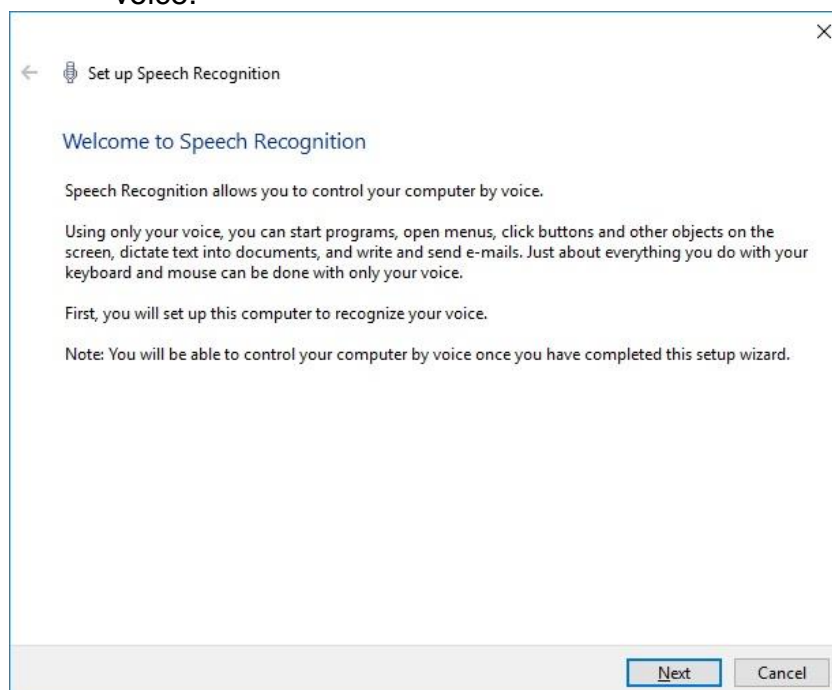
There are a range of options to improve computer accessibility.

These include voice recognition software, screen readers, screen magnifiers, on-screen keyboards, and high-contrast views.

- **Voice recognition software**

Voice recognition software allows you to give verbal commands to the computer or input information, such as text. MS Windows has built-in voice recognition software.

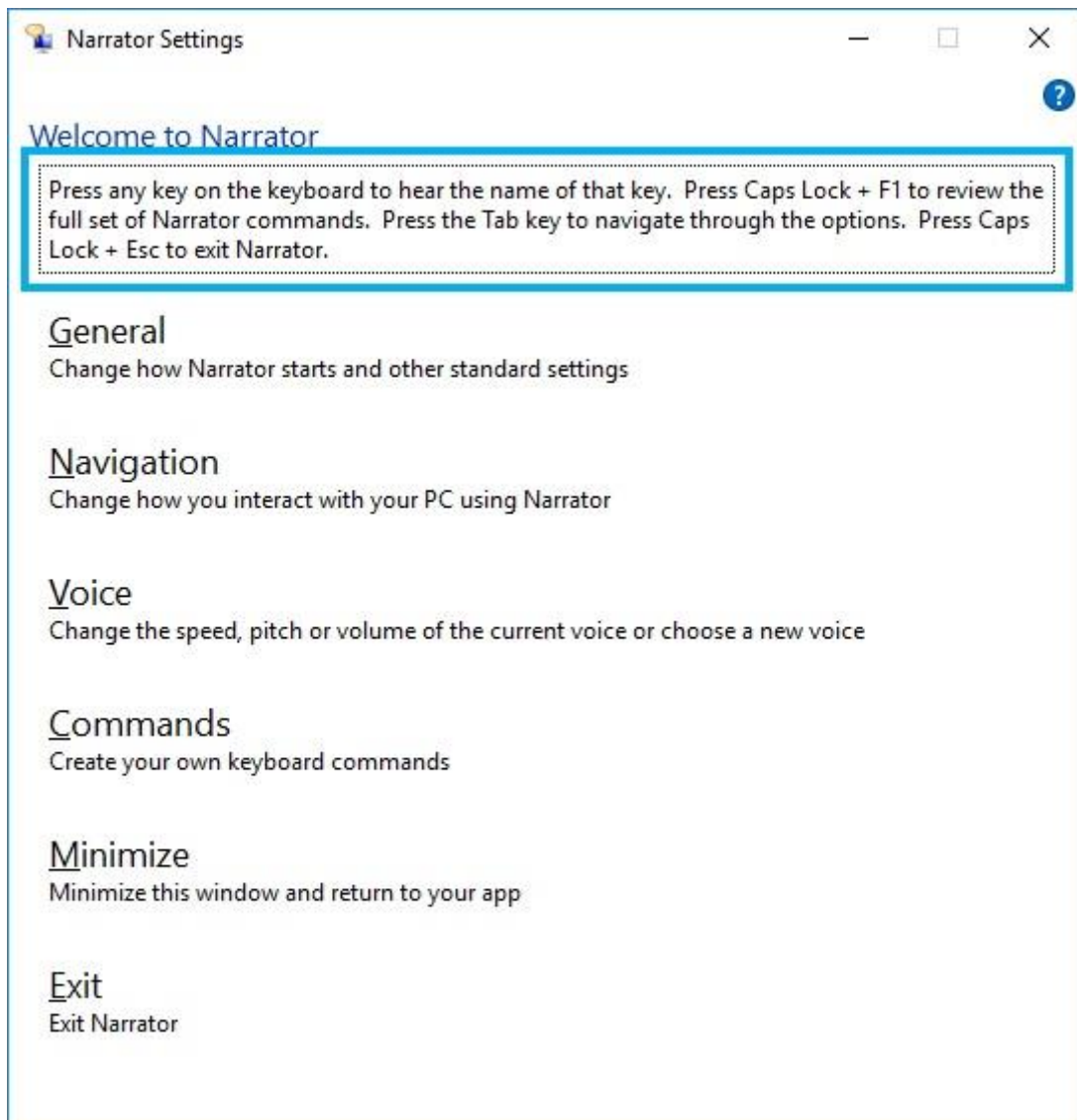
1. Click the **Start** button.
2. Scroll and click **Windows Ease of Access**.
3. Click **Windows Speech Recognition**.
4. Follow the instructions to set up the computer to recognise your voice.



- **Screen reader software**

Screen reader software assists visually impaired users by interpreting the contents of the computer screen and then communicating that information in different formats, such as speech output.

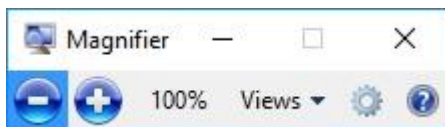
1. Click the **Start** button.
2. Scroll and click **Windows Ease of Access**.
3. Click **Narrator**.



- **Screen magnifier software**

This tool makes an area of the screen larger, making it easier to read. **Microsoft Windows** includes basic screen magnifier software.

1. Click the **Start** button.
2. Scroll and click **Windows Ease of Access**.
3. Click **Magnifier**.

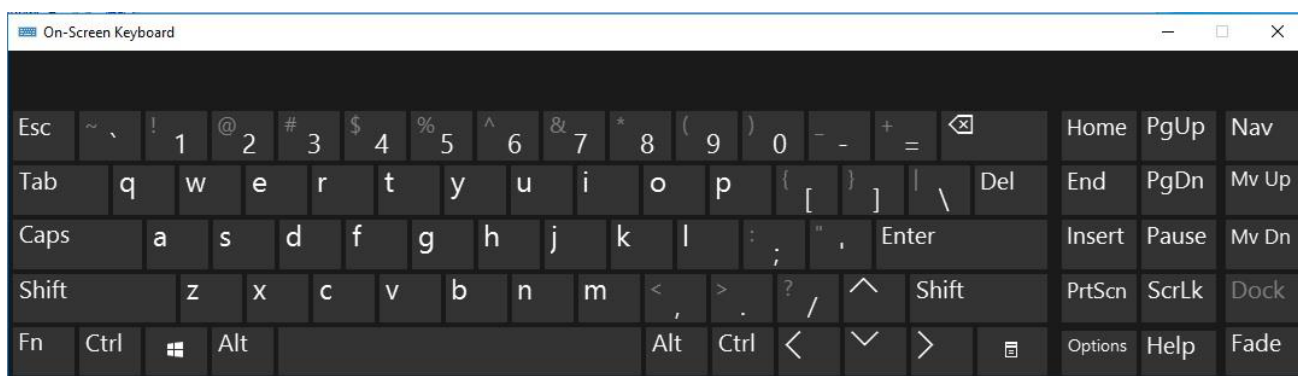


- **On-screen keyboard**

An on-screen keyboard is a virtual version of the physical keyboard. It is designed for use by individuals who cannot use a physical keyboard.

Microsoft Windows has a basic on-screen keyboard option.

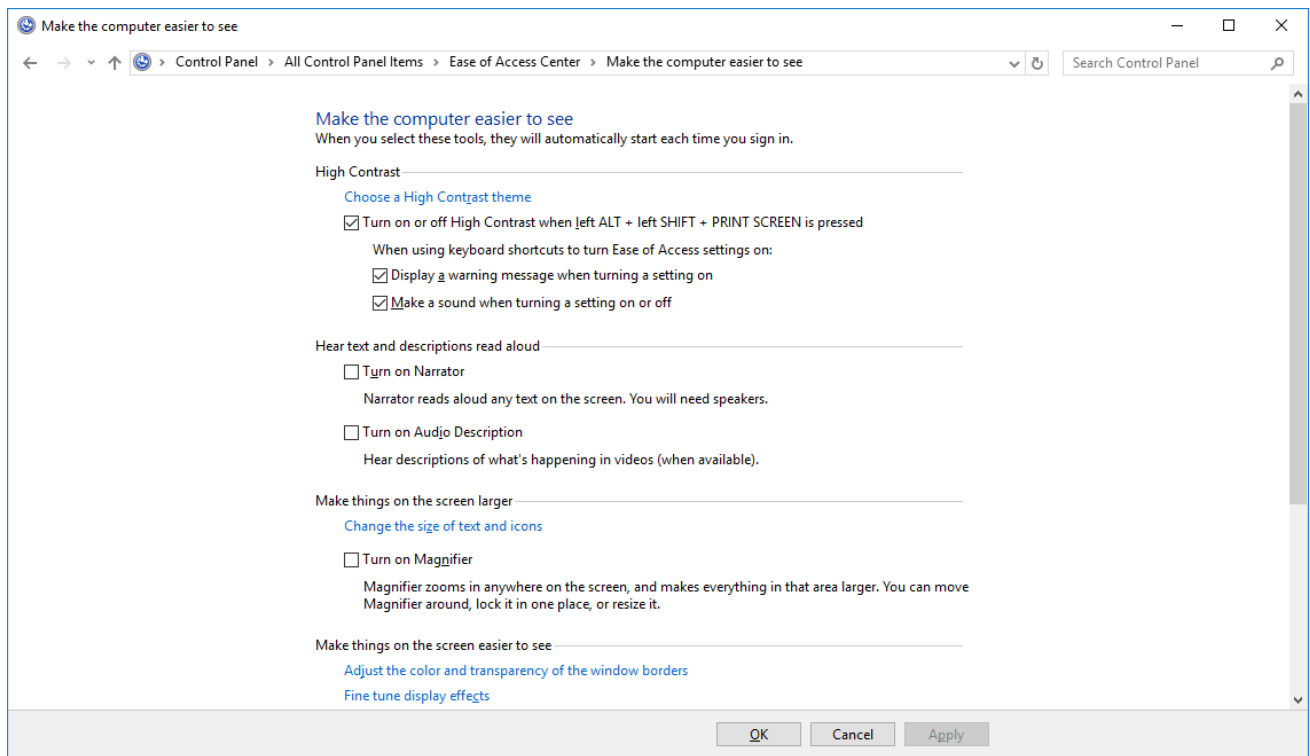
1. Click the **Start** button.
2. Click **Windows Ease of Access**.
3. Click **On-Screen Keyboard**.



- **High contrast**

High contrast colour schemes make it easier to read the screen.

1. Click the **Start** button.
2. Click **Windows System** and choose **Control Panel**.
3. Click **Ease of Access Center**.
4. Click **Make the computer easier to see**.
5. Select the required options under **High Contrast** and click **OK**.



6.4 REVIEW EXERCISE

1. Ideally, what characters should you use in a password to make it strong?
 - a. Letters and numbers only
 - b. Mixed case (upper and lower) characters
 - c. Special characters
 - d. All of the above

2. _____ software is created and distributed for malicious purposes.
 - a. Malware
 - b. Firewall
 - c. Anti-virus software
 - d. Database management

3. Match the malware type on the left with the description on the right.

TROJAN

This virus is so called because it is disguised as a file that a user would be particularly tempted to open e.g. a game or a graphics file

SPYWARE

This is a type of virus that replicates itself within a system so many times that it simply clogs up the system resources.

WORMS

This keeps track of web pages that you look at and then sends the data to a third party.

4. Which of the following does **not** help ensure your well-being when using a computer?
 - a. Take regular breaks
 - b. Make sure lighting is adequate
 - c. Consume ample water
 - d. Correctly position the computer

5. Indicate **True** or **False** for the following statements:

| | |
|--|--|
| Power options are commonly available to reduce computer power consumption. | |
| Constantly shutting down and restarting your computer consumes more energy than just leaving it running. | |
| Double sided printing is not wasteful compared to single sided. | |

6. Go to the following web page to test how secure your password is:

<http://howsecureismypassword.net/>

Example: Tested with the password “password”.

HOW SECURE IS MY PASSWORD?

Common Password: In The Top 10 Most Used Passwords
Your password is very commonly used. It would be cracked almost instantly.

Possibly A Word
Your password looks like it could be a dictionary word or a name. If it's a name with personal significance it might be easy to guess. If it's a dictionary word it could be cracked very quickly.

Character Variety: Just Letters
Your password only contains letters. Adding numbers and symbols can make your password more secure.

ECDL Syllabus

| Ref | ECDL Task Item | Location | Ref | ECDL Task Item | Location |
|-------|--|----------------------------|-------|--|----------------------------|
| 1.1.1 | Define the term Information and Communication Technology (ICT). | 1.1 ICT | 1.3.3 | Identify common examples of applications like: Office productivity, communications, social networking, media, design, mobile applications. | 1.3 Software and Licensing |
| 1.1.2 | Identify different types of ICT services and uses like: Internet services, Mobile technology, Office productivity applications. | 1.1 ICT | 1.3.4 | Define the term End-User License Agreement (EULA). Recognise that software must be licensed before use. | 1.3 Software and Licensing |
| 1.2.1 | Define the term hardware. | 1.2 Hardware | 1.3.5 | Outline the types of software licenses: proprietary, open source, trial version, shareware, freeware. | 1.3 Software and Licensing |
| 1.2.1 | Identify the main types of computers like: desktop, laptop, tablet. | 1.2 Hardware | 1.4.1 | Start a computer and log on securely using a user name and password. | 1.4 Start Up, Shut Down |
| 1.2.1 | Identify the main types of devices like: smart phone, media player, digital camera. | 1.2 Hardware | 1.4.2 | Log off a computer using an appropriate routine. | 1.4 Start Up, Shut Down |
| 1.2.2 | Define the terms processor, Random Access Memory (RAM), storage. Understand their impact on performance when using computers and devices. | 1.2 Hardware | 1.4.2 | Shut down a computer using an appropriate routine. | 1.4 Start Up, Shut Down |
| 1.2.3 | Identify the main types of integrated and external equipment like: printers, screens, scanners, keyboards, mouse/trackpad, web camera (webcam), speakers, microphone, docking station. | 1.2 Hardware | 1.4.2 | Restart a computer using an appropriate routine. | 1.4 Start Up, Shut Down |
| 1.2.4 | Identify common input/output ports like: Universal Serial Bus (USB), High-Definition Multimedia Interface (HDMI). | 1.2 Hardware | 2.1.1 | Outline the purpose of the desktop and the task bar. | 2.1 Desktop and Icons |
| 1.3.1 | Define the term software and distinguish between the main types of software like: operating systems, applications. Know that software can be installed locally or available online. | 1.3 Software and Licensing | 2.1.2 | Identify common icons like those representing: files, folders, applications, printers, drives, shortcuts/aliases, recycle bin/wastebasket/trash. | 2.1 Desktop and Icons |
| 1.3.2 | Define the term operating system and identify some common operating systems for computers and devices. | 1.3 Software and Licensing | 2.1.3 | Select and move icons. | 2.1 Desktop and Icons |
| | | | 2.1.4 | Create a shortcut/alias. | 2.1 Desktop and Icons |
| | | | 2.1.4 | Rename a shortcut/alias. | 2.1 Desktop and Icons |
| | | | 2.1.4 | Move a shortcut/alias. | 2.1 Desktop and Icons |
| | | | 2.1.4 | Delete a shortcut/alias. | 2.1 Desktop and Icons |

| Ref | ECDL Task Item | Location | Ref | ECDL Task Item | Location |
|-------|--|-------------------------------|-------|--|--|
| 2.2.1 | Identify the different parts of a window. | 2.2 <i>Using Windows</i> | 2.3.7 | Disconnect a device using an appropriate routine. | 2.3 <i>Tools and Settings</i> |
| 2.2.2 | Open, collapse, expand, restore down, maximise, resize, move, close a window. | 2.2 <i>Using Windows</i> | 2.3.8 | Capture a full screen. | 2.3 <i>Tools and Settings</i> |
| 2.2.3 | Switch between open windows. | 2.2 <i>Using Windows</i> | 2.3.8 | Capture an active window. | 2.3 <i>Tools and Settings</i> |
| 2.3.1 | Use available help functions. | 2.3 <i>Tools and Settings</i> | 3.1.1 | Open a word processing application. | 3.1 <i>Working with Text</i> |
| 2.3.2 | View the computer's basic system information: operating system name and version number, installed RAM. | 2.3 <i>Tools and Settings</i> | 3.1.1 | Close a word processing application. | 3.1 <i>Working with Text</i> |
| 2.3.3 | Change the desktop configuration settings: date and time. | 2.3 <i>Tools and Settings</i> | 3.1.1 | Open files. | 3.1 <i>Working with Text</i> |
| 2.3.3 | Change desktop configuration settings: volume settings. | 2.3 <i>Tools and Settings</i> | 3.1.1 | Close files. | 3.1 <i>Working with Text</i> |
| 2.3.3 | Change desktop configuration settings: background. | 2.3 <i>Tools and Settings</i> | 3.1.2 | Enter text into a document. | 3.1 <i>Working with Text</i> |
| 2.3.3 | Change desktop configuration settings: resolution. | 2.3 <i>Tools and Settings</i> | 3.1.3 | Copy text within a document, between open documents. | 3.1 <i>Working with Text</i> |
| 2.3.4 | Change keyboard language. | 2.3 <i>Tools and Settings</i> | 3.1.3 | Move text within a document, between open documents. | 3.1 <i>Working with Text</i> |
| 2.3.4 | Add keyboard language. | 2.3 <i>Tools and Settings</i> | 3.1.3 | Paste a screen capture into a document. | 3.1 <i>Working with Text</i> |
| 2.3.4 | Remove keyboard language. | 2.3 <i>Tools and Settings</i> | 3.1.4 | Save and name a document. | 3.1 <i>Working with Text</i> |
| 2.3.4 | Change default language. | 2.3 <i>Tools and Settings</i> | 3.2.1 | Install a printer. | 3.2 <i>Printing</i> |
| 2.3.5 | Shut down a non-responding application. | 2.3 <i>Tools and Settings</i> | 3.2.1 | Uninstall a printer. | 3.2 <i>Printing</i> |
| 2.3.6 | Install an application. | 2.3 <i>Tools and Settings</i> | 3.2.1 | Print a test page. | 3.2 <i>Printing</i> |
| 2.3.6 | Uninstall an application. | 2.3 <i>Tools and Settings</i> | 3.2.2 | Set the default printer from an installed printer list. | 3.2 <i>Printing</i> |
| 2.3.7 | Connect a device (USB flash drive, digital camera, media player) to a computer. | 2.3 <i>Tools and Settings</i> | 3.2.3 | Print a document from a word processing application, | 3.2 <i>Printing</i> |
| | | | 3.2.4 | View, pause, restart, cancel a print job. | 3.2 <i>Printing</i> |
| | | | 4.1.1 | Understand how an operating system organises drives, folders, files in a hierarchal structure. | 4.1 <i>Introducing Files and Folders</i> |
| | | | 4.1.1 | Navigate between drives, folders, sub-folders, files. | 4.1 <i>Introducing Files and Folders</i> |

| Ref | ECDL Task Item | Location | Ref | ECDL Task Item | Location |
|--------|---|--|-------|---|---|
| 4.1.2 | Display file, folder properties like: name, size, location. | <i>4.1 Introducing Files and Folders</i> | 4.2.3 | Copy files, folders between folders, drives. | <i>4.2 Organising Files and Folders</i> |
| 4.1.3 | Change view to display files and folders like: titles, icons, list, details. | <i>4.1 Introducing Files and Folders</i> | 4.2.3 | Move files, folders, between folders, drives. | <i>4.2 Organising Files and Folders</i> |
| 4.1.4 | Identify common file types like: .docx, .xlsx, .pptx, .pdf, .gif, .jpg, .bmp, .mp3, .avi, .zip, .exe. | <i>4.1 Introducing Files and Folders</i> | 4.2.4 | Restore files, folders to original location. | <i>4.2 Organising Files and Folders</i> |
| 4.1.5 | Open a file, folder, drive. | <i>4.1 Introducing Files and Folders</i> | 4.2.5 | Empty the recycle bin/wastebasket/trash. | <i>4.2 Organising Files and Folders</i> |
| 4.1.6 | Recognise good practice in folder, file naming. | <i>4.1 Introducing Files and Folders</i> | 4.3.1 | Identify the main types of storage media like: internal hard disk, external hard disk, network drive, CD, DVD, Blu-ray disc, USB flash drive, Memory card, Online file storage. | <i>4.3 Storage and Compression</i> |
| 4.1.7 | Create a folder. | <i>4.1 Introducing Files and Folders</i> | 4.3.2 | Identify the file size, folder size, storage capacity measurements like: kilobyte, megabyte, gigabyte, terabyte. | <i>4.3 Storage and Compression</i> |
| 4.1.8 | Rename a file, folder. | <i>4.1 Introducing Files and Folders</i> | 4.3.3 | View available space or a storage device. | <i>4.3 Storage and Compression</i> |
| 4.1.9 | Search for files by properties: using wildcards if necessary. | <i>4.1 Introducing Files and Folders</i> | 4.3.4 | Understand the purpose of file, folder compression. | <i>4.3 Storage and Compression</i> |
| 4.1.9 | Search for files by properties: all or part of file name. | <i>4.1 Introducing Files and Folders</i> | 4.3.5 | Compress files, folders. | <i>4.3 Storage and Compression</i> |
| 4.1.9 | Search for files by properties: by content. | <i>4.1 Introducing Files and Folders</i> | 4.3.6 | Extract compressed files, folders to a location on a drive. | <i>4.3 Storage and Compression</i> |
| 4.1.9 | Search for files by properties: by date modified. | <i>4.1 Introducing Files and Folders</i> | 5.1.1 | Define the term network. | <i>5.1 Network Concepts</i> |
| 4.1.10 | View list of recently used files. | <i>4.1 Introducing Files and Folders</i> | 5.1.1 | Outline the purpose of a network. | <i>5.1 Network Concepts</i> |
| 4.2.1 | Select individual files, folders. | <i>4.2 Organising Files and Folders</i> | 5.1.2 | Define the term Internet. Identify some of its main uses like: World Wide Web (WWW), VoIP, e-mail, IM. | <i>5.1 Network Concepts</i> |
| 4.2.1 | Select adjacent files, folders. | <i>4.2 Organising Files and Folders</i> | 5.1.3 | Define the terms intranet, virtual private network (VPN) and identify their main uses. | <i>5.1 Network Concepts</i> |
| 4.2.2 | Sort files in ascending, descending order by name. | <i>4.2 Organising Files and Folders</i> | | | |
| 4.2.2 | Sort files in ascending, descending order by size. | <i>4.2 Organising Files and Folders</i> | | | |
| 4.2.2 | Sort files in ascending, descending order by type. | <i>4.2 Organising Files and Folders</i> | | | |
| 4.2.2 | Sort files in ascending, descending order by date modified. | <i>4.2 Organising Files and Folders</i> | | | |

| Ref | ECDL Task Item | Location | Ref | ECDL Task Item | Location |
|-------|--|--|-------|---|--------------------------------|
| 5.1.4 | Understand what transfer rate means. Understand how it is measured: bits per second (bps), kilobits per second (kbps), megabits per second (mbps), gigabits per second (gbps). | 5.1 <i>Network Concepts</i> | 6.2.2 | Be aware how malware can infect a computer or device. | 6.2 <i>Malware</i> |
| 5.1.5 | Understand the concepts of downloading from, uploading to a network. | 5.1 <i>Network Concepts</i> | 6.2.3 | Use anti-virus software to scan a computer. | 6.2 <i>Malware</i> |
| 5.2.1 | Identify the different options for connecting to the Internet like: phone line, mobile technology, cable, wi-fi, wi-max, satellite. | 5.2 <i>Network Access</i> | 6.3.1 | Recognise ways to help ensure a user's well-being while using a computer or device like: take regular breaks, ensure appropriate lighting and posture. | 6.3 <i>Health and Green IT</i> |
| 5.2.2 | Define the term Internet Service Provider (ISP). | 5.2 <i>Network Access</i> | 6.3.2 | Recognise computer and device energy saving practices: turning off, adjusting automatic shutdown, adjusting backlight, adjusting sleep mode settings. | 6.3 <i>Health and Green IT</i> |
| 5.2.2 | Identify important considerations when selecting an Internet subscription option like: upload speed, download speed, download quota, cost. | 5.2 <i>Network Access</i> | 6.3.3 | Recognise that computers, devices, batteries, printer cartridges and paper should be recycled. | 6.3 <i>Health and Green IT</i> |
| 5.2.3 | Recognise the status of a wireless network: protected/secure, open. | 5.2 <i>Network Access</i> | 6.3.4 | Identify some options available for enhancing accessibility like: voice recognition software, screen reader, screen magnifier, on-screen keyboard, high contrast. | 6.3 <i>Health and Green IT</i> |
| 5.2.4 | Connect to a wireless network. | 5.2 <i>Network Access</i> | | | |
| 6.1.1 | Recognise good password policies like: create with adequate length, create with adequate character mix, do not share, change regularly. | 6.1 <i>Protecting Data and Devices</i> | | | |
| 6.1.2 | Define the term firewall and outline its purpose. | 6.1 <i>Protecting Data and Devices</i> | | | |
| 6.1.3 | Understand the purpose of regularly backing up data to a remote location. | 6.1 <i>Protecting Data and Devices</i> | | | |
| 6.1.4 | Recognise the importance of regularly updating software like: anti-virus, application operating system software. | 6.1 <i>Protecting Data and Devices</i> | | | |
| 6.2.1 | Define the term malware. Identify different types of malware like: virus, worm, Trojan, spyware. | 6.2 <i>Malware</i> | | | |

Congratulations! You have reached the end of the ECDL Computer Essentials book.

You have learned about the key skills relating to computers, devices and ICT, including:

- How to work effectively on the computer desktop using icons and windows.
- Adjusting the main operating system settings and use built-in help features.
- Know the main concepts relating to file management and how to efficiently organise files and folders.
- Understand the importance of protecting data and devices from malware, as well as backing up data.

Having reached this stage of your learning, you should now be ready to undertake an ECDL certification test. For further information on taking this test, please contact your ECDL test centre.

