



ICDL
International Computer
Driving Licence

Computer Essentials





Unit 1: Computer and Devices



ICT



Hardware



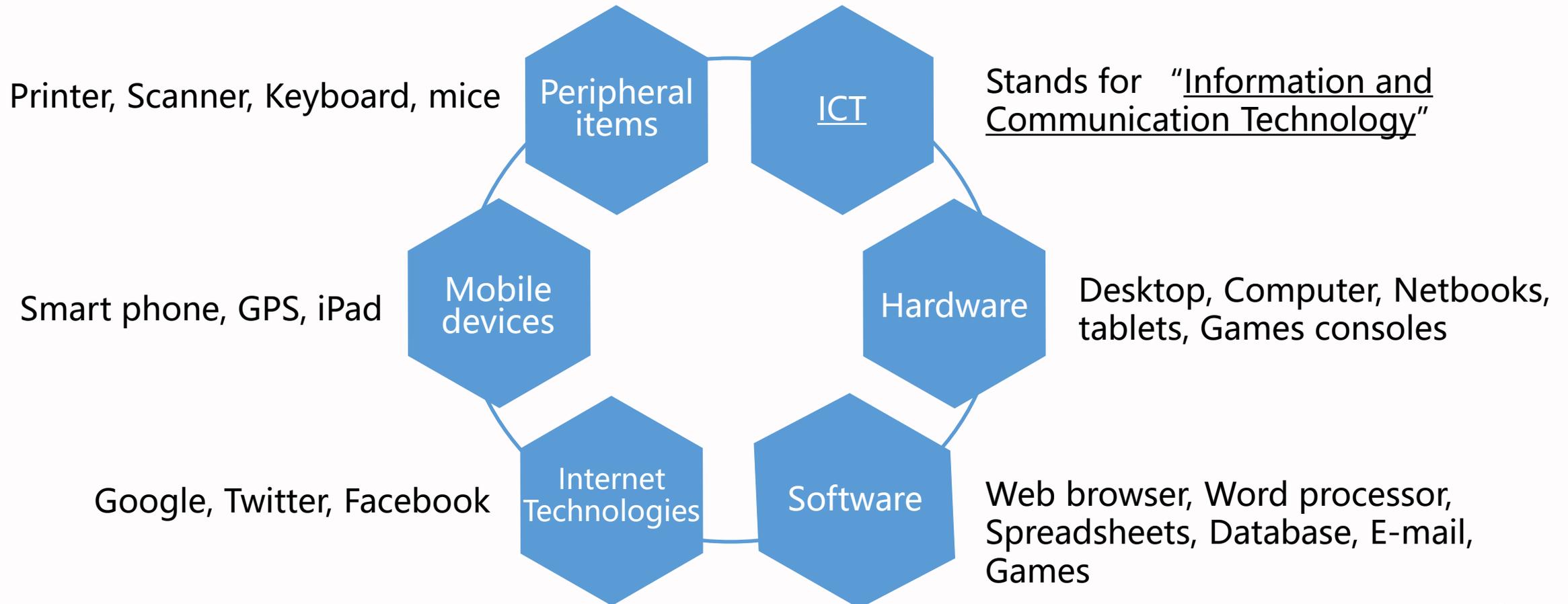
Software and Licenses



Start Up and Shut Down



ICT concept





Using ICT Safely

Electrical injuries and fires from damaged wires or incorrect connections.

Electrical injuries and fires from overloaded power sockets (too many plugs connected to one outlet).

Injuries and fires caused by badly stored materials



Breakdowns and breathing problems due to poor ventilation.

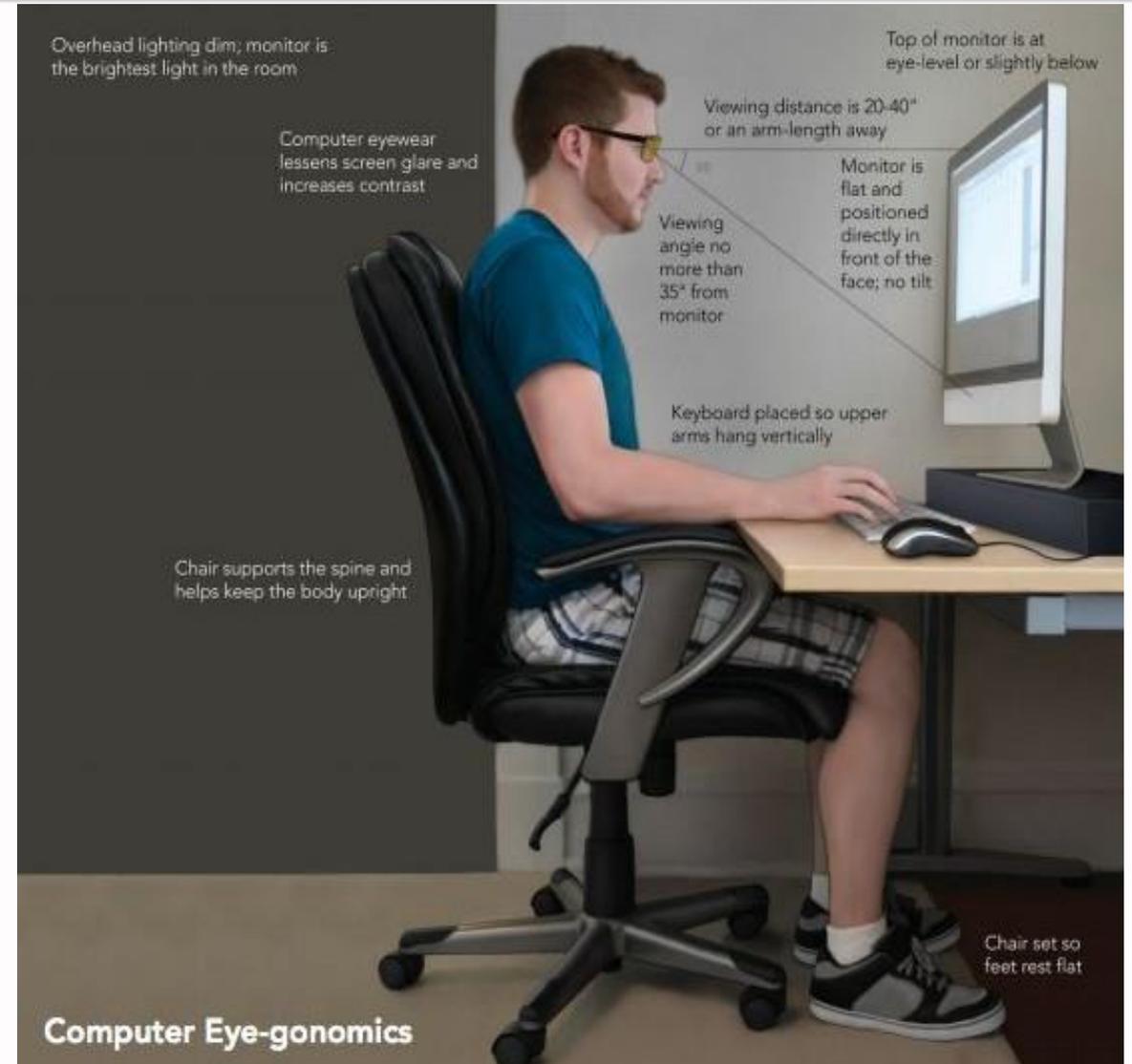
Trailing cables or problems accessing your work area.

Incorrect equipment handling.



Your workspace

- Chair support the spine & keep the body upright
- Overhead lighting dim
- Viewing angle no more than 35° from monitor
- Monitor is position directly of face
- Feet rest flat





Computing hardware

Desktop PC

Easy to upgrade, Can't be move easily



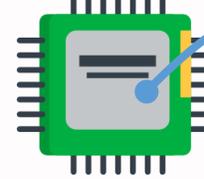
Mobile Phone

Easy to lose, small screen and short battery life



Laptop

Expensive than desktop, harder to upgrade and repair



CPU

(Central processing unit) the component responsible of the commands

RAM

(Random Access Memory)
Read & Write data, can access immediately, can upgrade

Optical disc drives

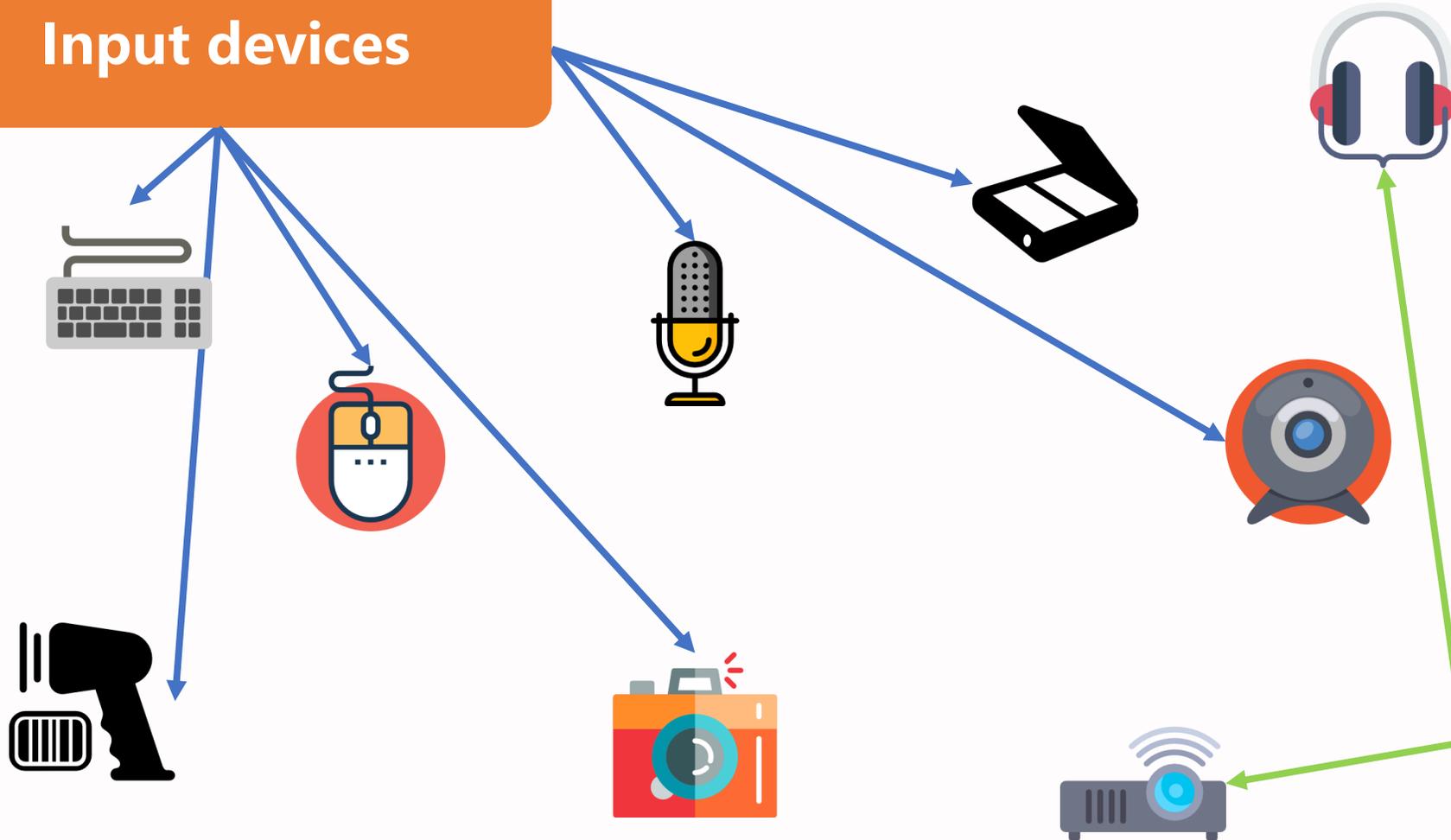
Reading & Writing CD/DVD

ROM

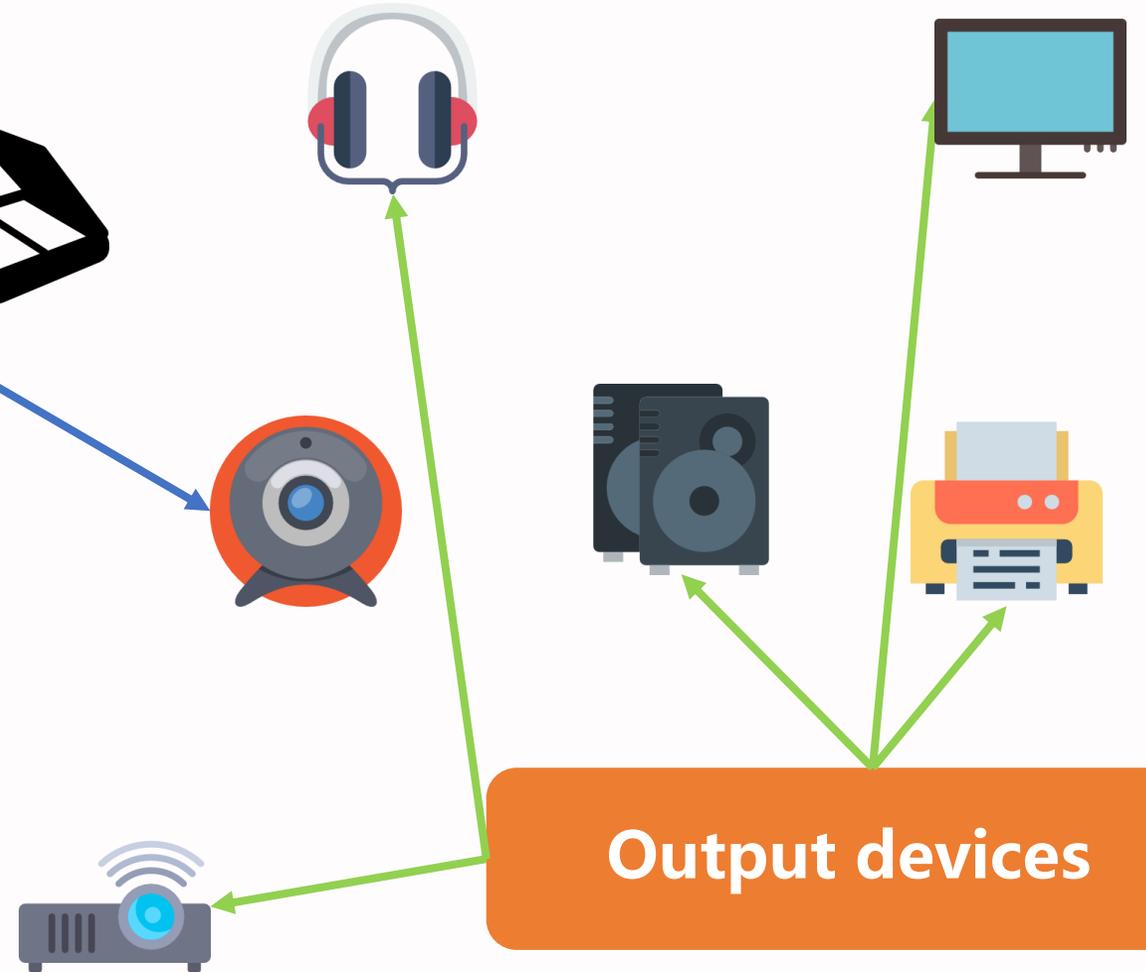
(Read Only Memory) cannot be remove, use to start device & loading operating system



Input devices



Output devices





Computing Software

The term software is used to describe a **program** of instructions that tells an ICT device what to do, how to do it, and when.



Adobe Photoshop

Photo & image editing



Spreadsheet

Work lots of number accounts budgets



Publisher

High quality printed Poster Banner Brochures



Word Processing

Document letter essays report



Power point

Slideshows Presentation



Web browsing

Access vast information Download files



Software Licenses

Copyright



Work cannot be used, adapted, copied or published without the creator' s permission

What does it apply to?

All original work is protected under copyright when it' s created.

End-User License Agreement (EULA)

<< This is a legal contract between you and the owner of the software, and specified exactly what you can and cannot do with the product.





Trial

Trial software allows you to try out a program for a limited time. Pay for a license to use "Full version"

Free Software

Freely use and give away copies of free software to other

Types of Software Licenses

Proprietary

A license to use proprietary software must be paid for *before* you are allowed to use the program

Shareware

Can given to others and trialled for free, but if you like and use full version, you must pay.

Open Source

Same as freeware. However, code is available can make changes to the software



Starting a Computer

To start such a device, it must be turned on using its main on/off power button.





Logging On

Windows allows more than one person to securely “sign in” and use a computer. Each person has their own settings and private storage spaces in which to keep their files.



To access your own files and start using the computer, you first need to **log on** to *Windows*. This involves entering a **Username** and **Password** that is know only by you.

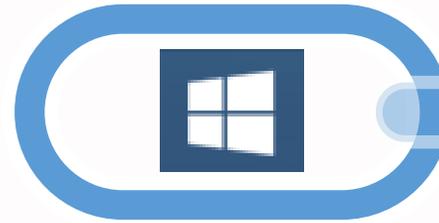


Logging Off

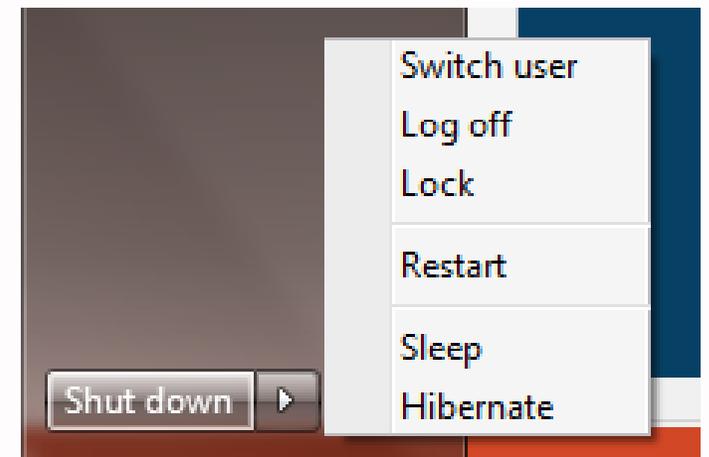
If you **share your computer** with others, you must always **log off** when you finish your work. This **does not shut the computer down** completely.

Tips. You can **lock** it to do, hold down  and press 
To log off your computer

Click **Start** button to open the **Start Menu**



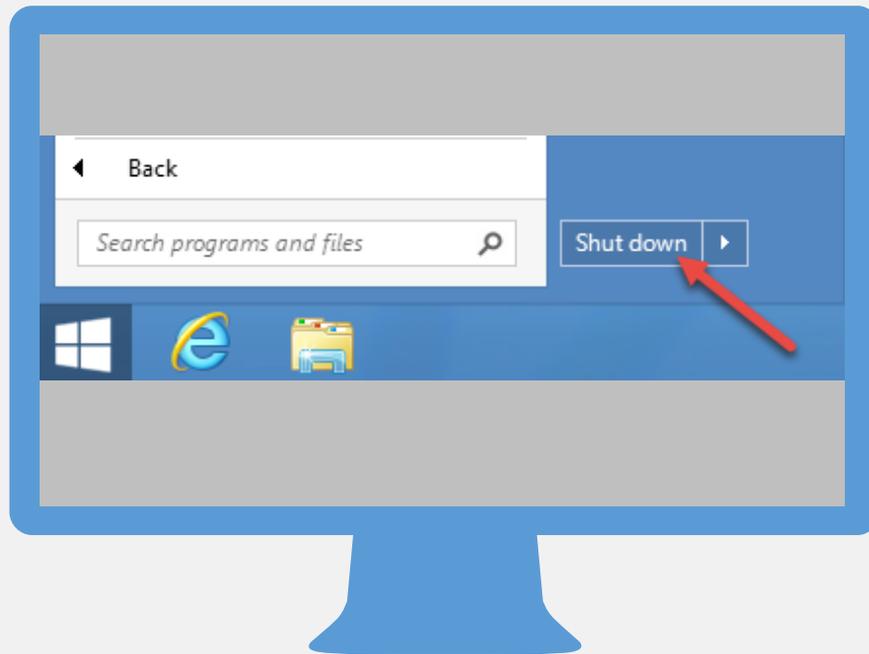
Click arrow on **Shut down** button.



From the options that appear, click **Log off**



Shutting Down Windows



Shutting down Windows also turns a computer off. To start it up again, you will need to use the main on/off power button.

- ✓ To shut down Windows, first click the **Start** button. Then, locate the **Shut down** button
- ✓ *If you are running any programs, it is always best to close these first before shutting down Windows.*



Manuevres

1. What does the term ICT stand for? ● ● USB, WiFi and Bluetooth
2. ICT computing devices ● ● Laptop, Mobile phone
3. What does the term PC stand for? ● ● Personal computing
4. RAM stand for? ● ● Program and Application
5. What is the peripheral device? ● ● Too many plugs connected to one outlet
6. Software ● ● View angle monitor no more than 35°
7. Good working environment ● ● Random Access Memory
8. Health and safety working ● ● Information and Communication Technology



Unit 2: Desktop, Icons, Setting



Desktops and Icons



Using Windows



Tools and Setting

Recycle Bin

When you delete a file, it is moved to the **Recycle Bin**. This allows you to recover the file if you change your mind. To permanently delete the file, you will need to **empty the Recycle Bin**.



Recycle Bin

Folders on the desktop

You can keep **folders, files, and shortcuts** on the desktop so they'll be easily accessible.



Photos

Shortcuts on the taskbar

Some programs will have **shortcuts** on the taskbar for easy access. In this example, there are shortcuts to **Internet Explorer, File Explorer, and Windows Media Player**.



Start button

Desktop background

Desktop

Open Folders

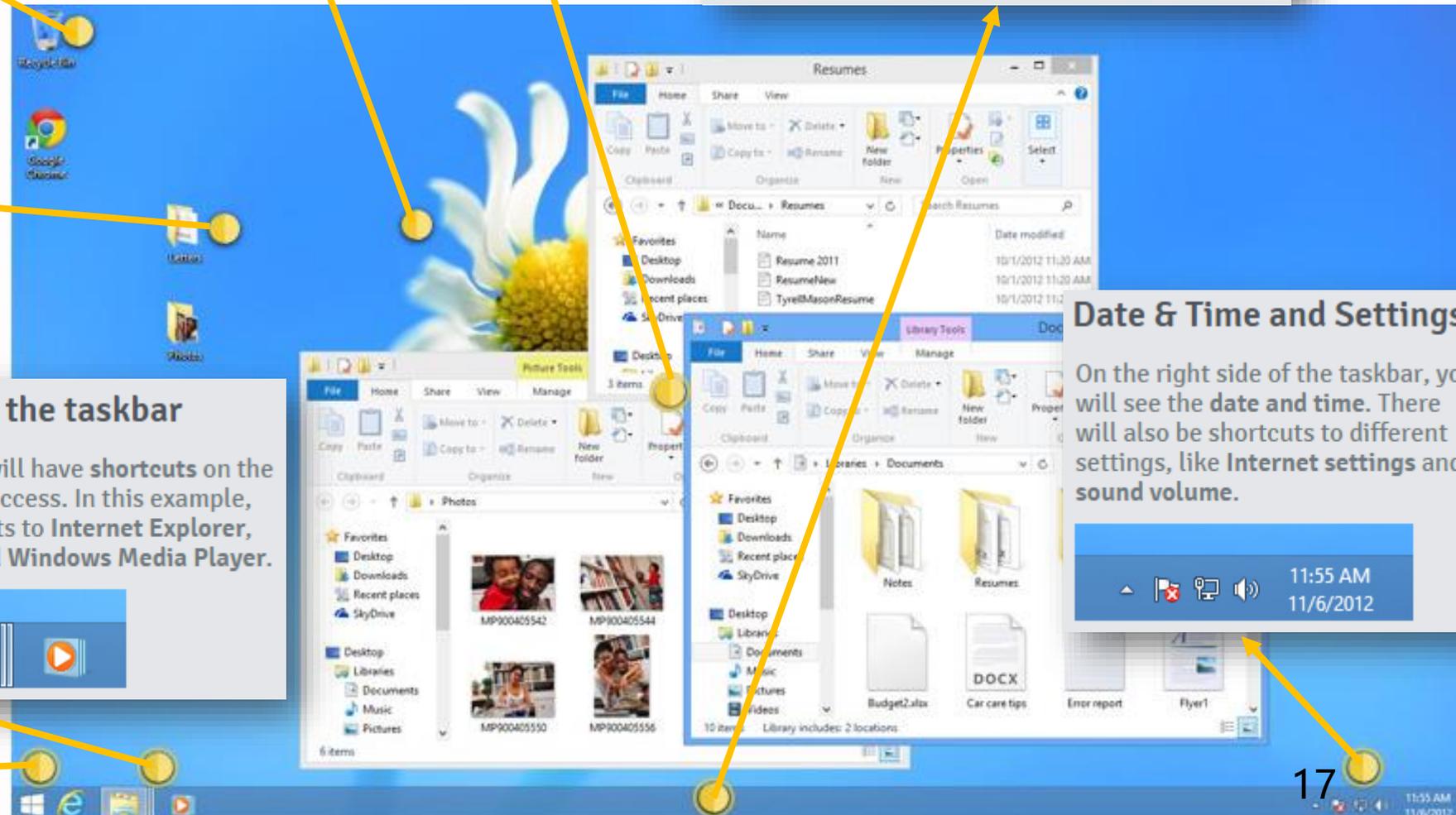
Taskbar

The taskbar contains **shortcuts to applications, the date & time, and more**. When you open a program or file, it will appear on the taskbar, and you can easily **switch between different programs** by selecting them on the taskbar.



Date & Time and Settings

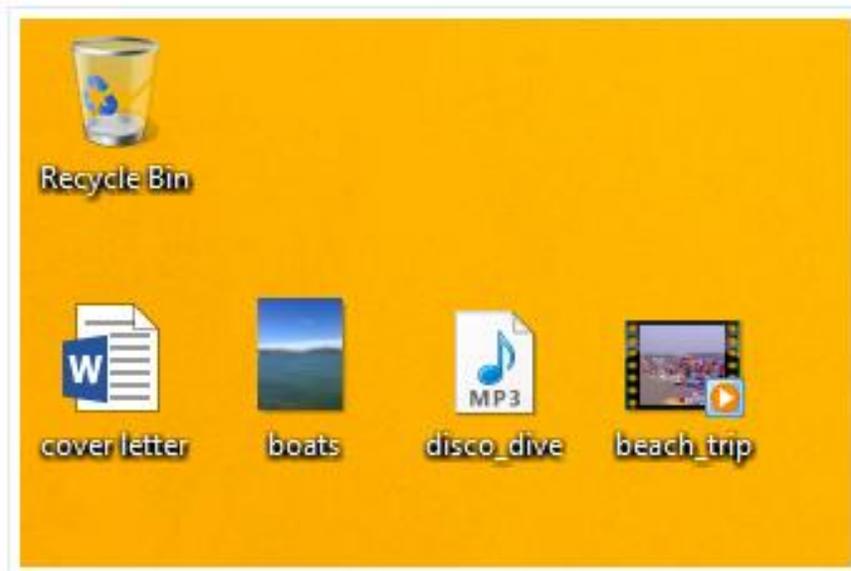
On the right side of the taskbar, you will see the **date and time**. There will also be shortcuts to different settings, like **Internet settings and sound volume**.





Identify Icons and Files

What' s Icons



Files are usually represented by an **icon**. In the image, you can see a different types of files on the desktop.

What' s Folders



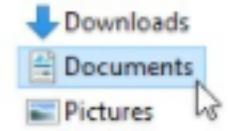
Can put files **inside a folder**, just like you would put documents inside a real folder.



Select and move items

Select 1 file

Single-click to select it. **Double-click** will open them.



Select more than files

Click and drag mouse to draw a box around files. Or Press and hold **Ctrl** key on keyboard.



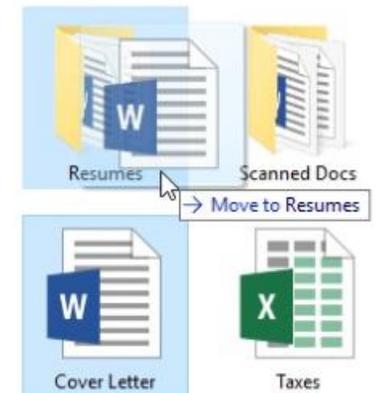
Select all files

Press **Ctrl+A** key on keyboard.



Move file

Click and drag the file to desired location.





Create, rename, delete a shortcut/alias

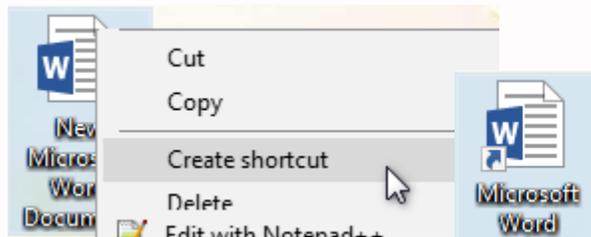
Shortcut

Small files

Easy access

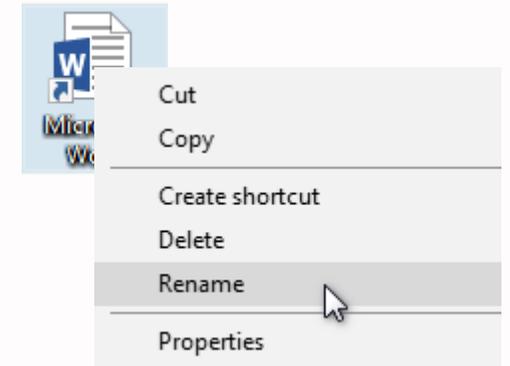
Create Shortcut

Place mouse pointer over file
>> **click right** >> **create shortcut**



Rename Shortcut/item

click right on shortcut/item
>> **rename**



Delete Shortcut/item

Press **Delete** key or **click right** and delete



Ribbon

The **Ribbon** allows you to access different **tabs** with options for **viewing, sharing, and organizing** your files, as well as common shortcuts like **copy and paste**.

Computer Essentials



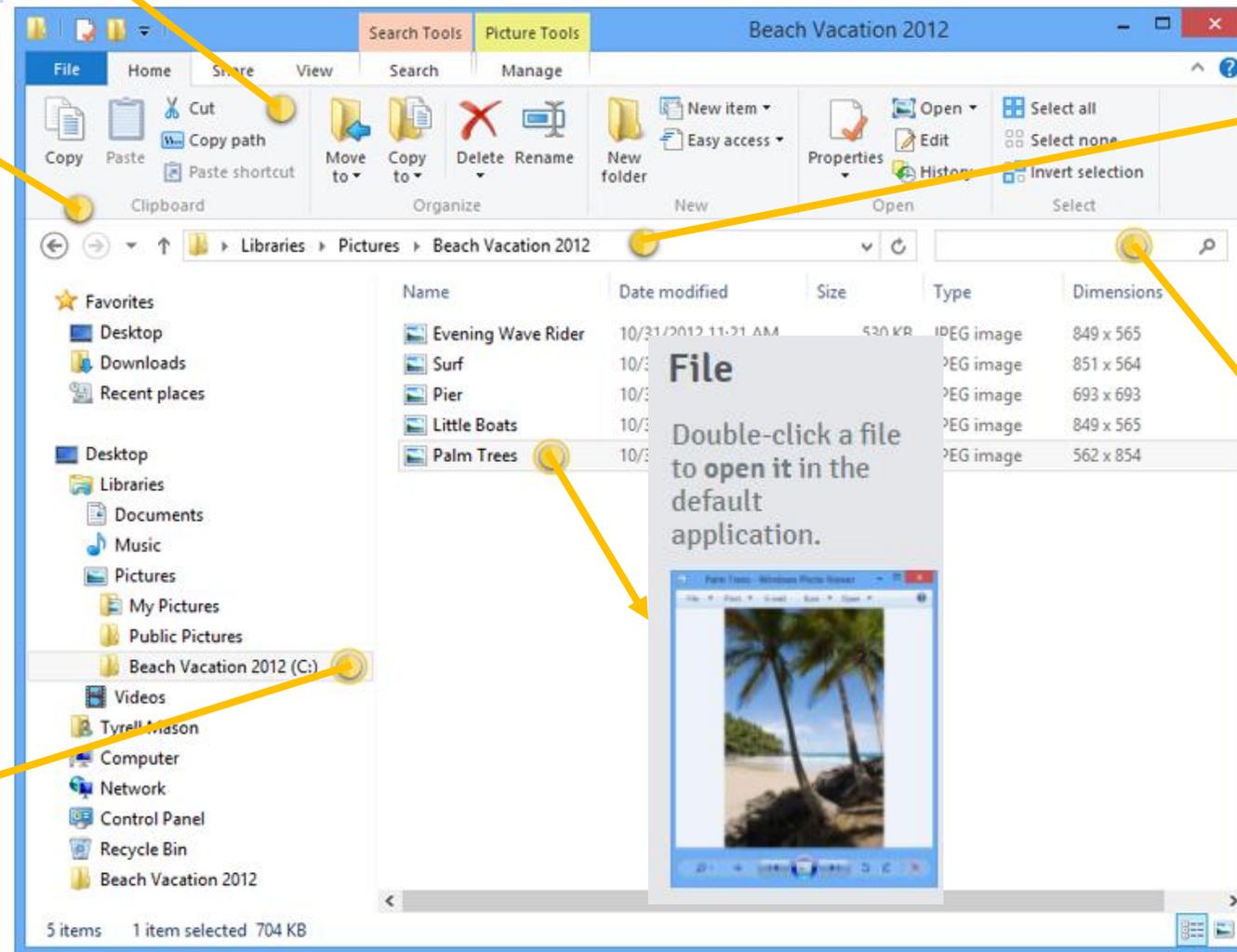
Windows Layout

Navigation Buttons

Use the **Back** and **Forward** buttons to navigate between folders.

Address Bar

Use the Address bar to **see the path** of the current folder.



Navigation Pane

You can quickly navigate between folders in the **Navigation pane**. Simply click a folder to make a selection.

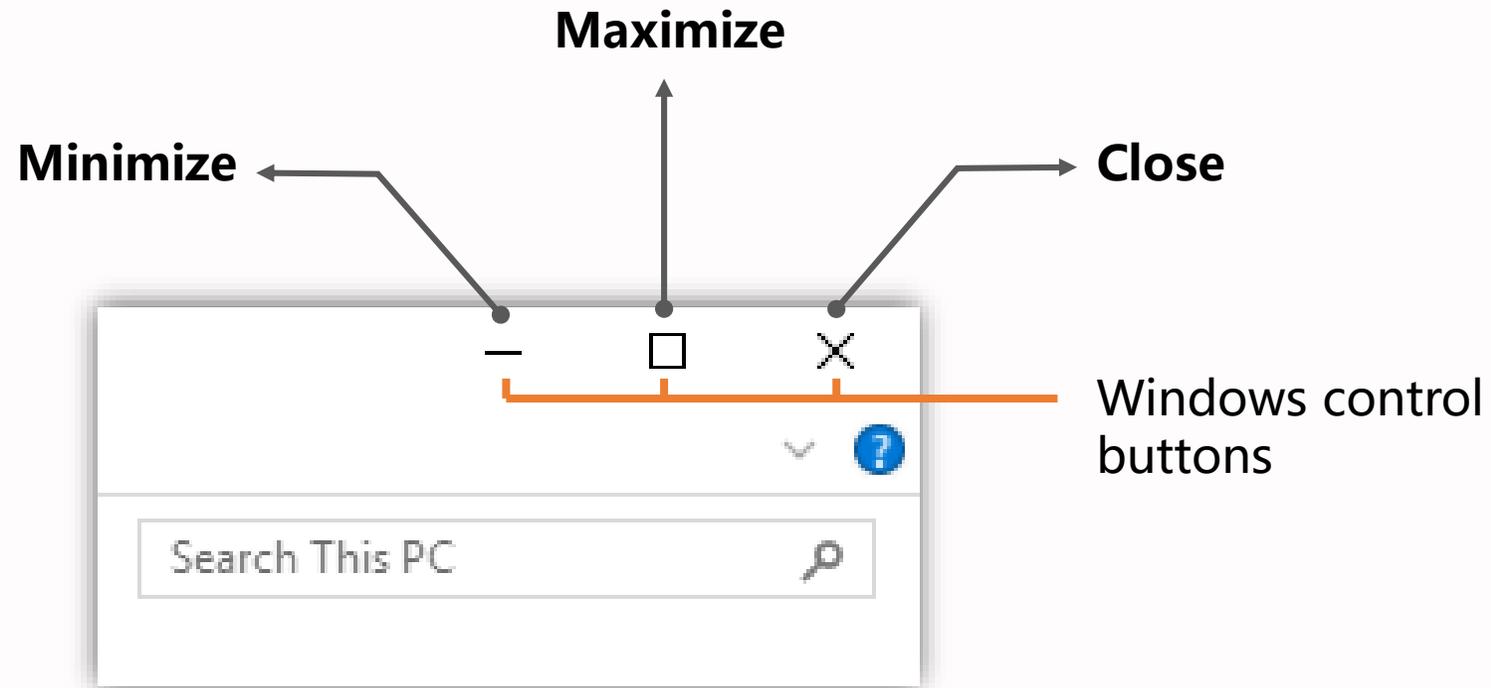
Search Bar

Use the search bar to **search** for specific files or folders.



Working with Windows

A windows can be **maximized** (filling the whole screen), **minimized** (appearing only as an active button on the taskbar) and **close** (found towards the top right of every window running to stopped any processes).





Finding Help

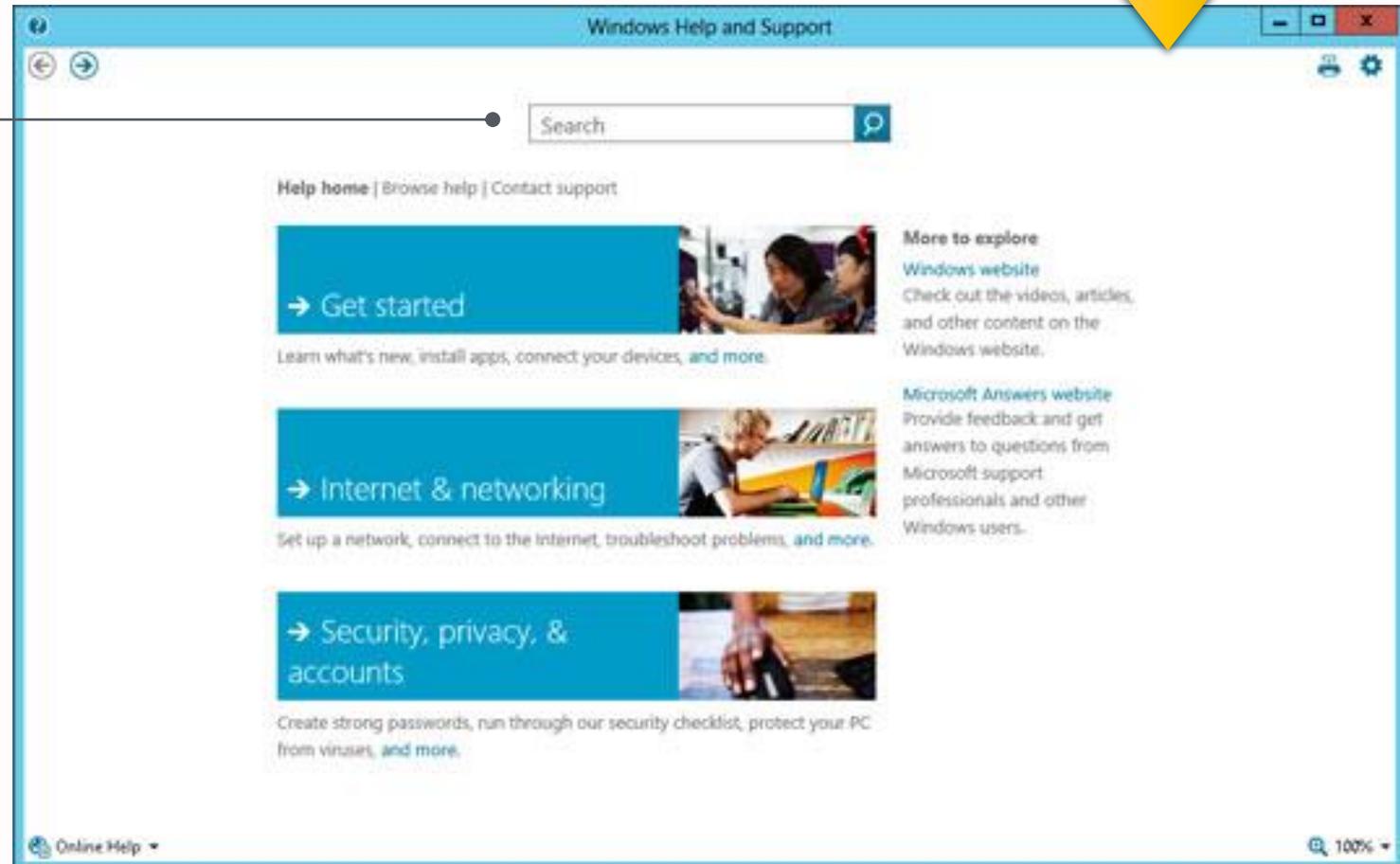
Start



Help and Support



Search Help



Windows has a **built-in** Help facility to assist you when have problems on computer



System Information

The **Control Panel** can be used to view important information about a computer system. Details include the computer's name, processor speed, memory capacity and the version of Windows that is installed.

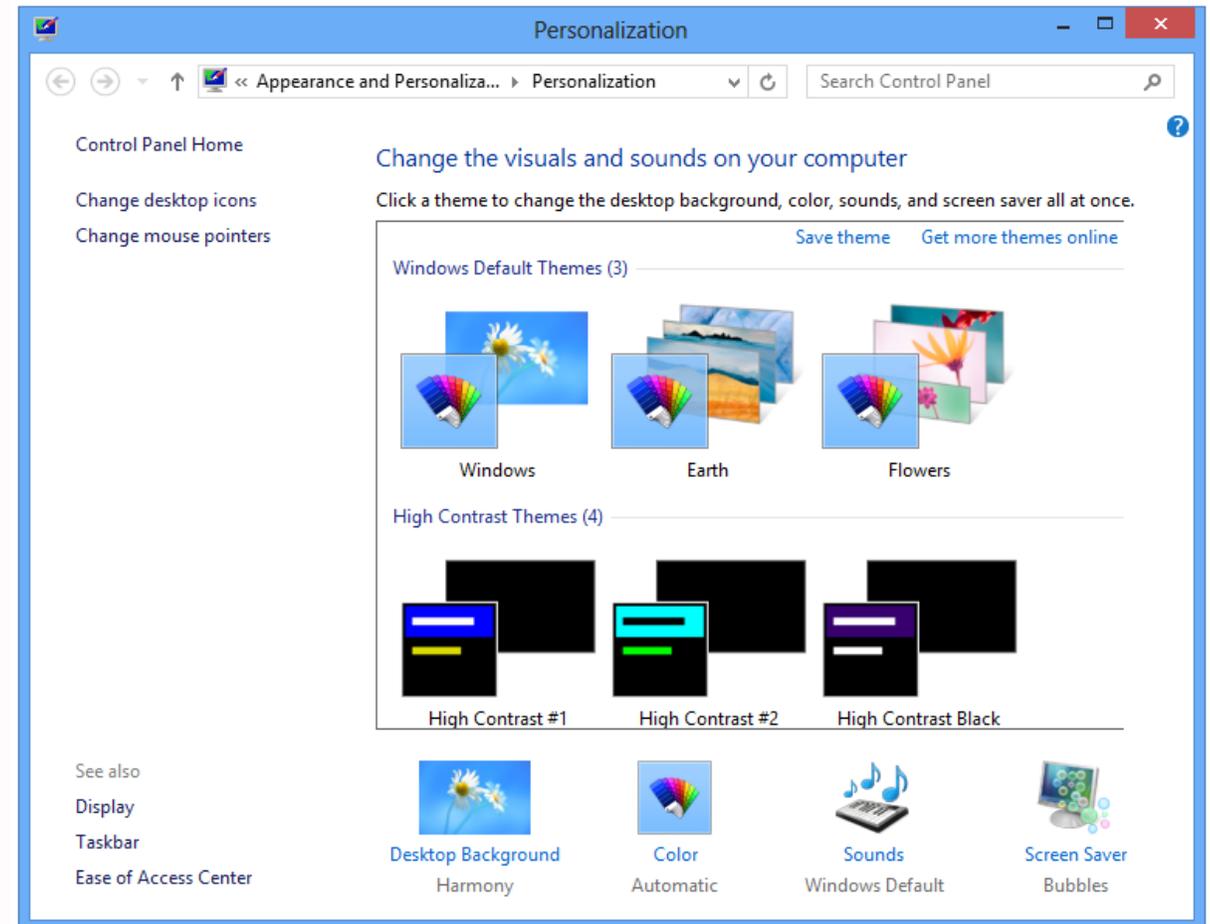
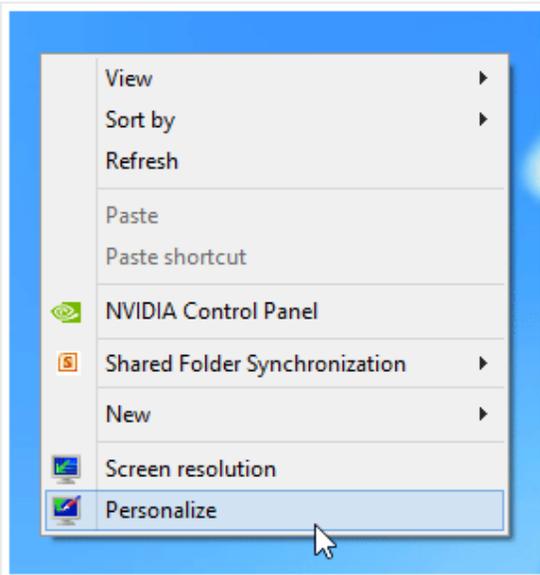




Display Setting : Personalizing pane

Allows you to customize the **theme**, **background image** and **color** of Desktop.

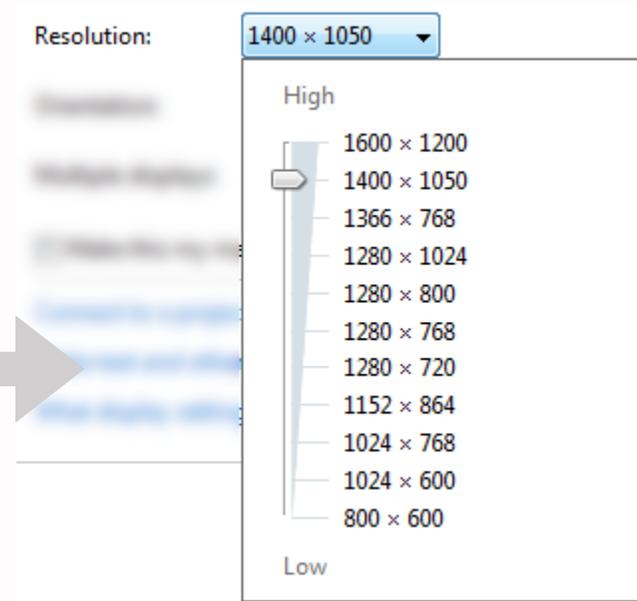
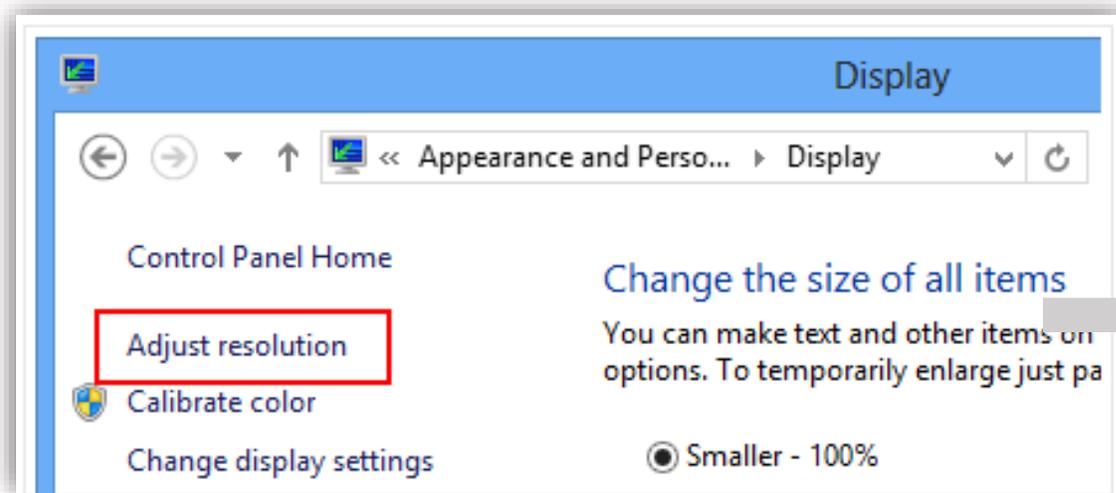
- **Right-click** on Desktop, and select **Personalize**. Or
- **Control Panel** >> **Appearance and Personalization**





Display Setting : Adjust resolution

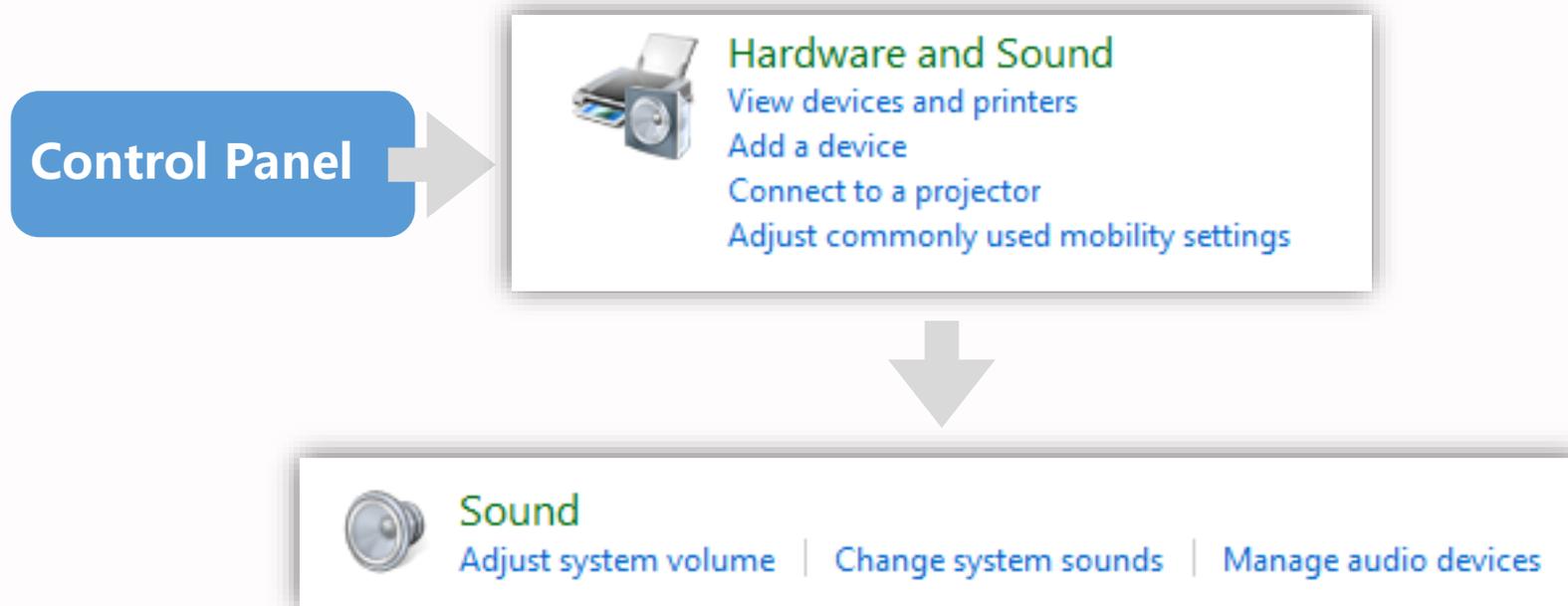
A popular screen resolution in business is *1366x768*. This creates a picture with **1366 pixels** – or single colored dots – displayed across and 768 down the screen (creating a grid of 1049088 pixels).





Display Setting : Sound Setting

Sound settings in Windows are grouped into two main categories: **Playback** and **Recording**. Playback controls how sounds are made by your computer, recording controls how sounds are captured by your computer.





Display Setting : Date and Time Setting

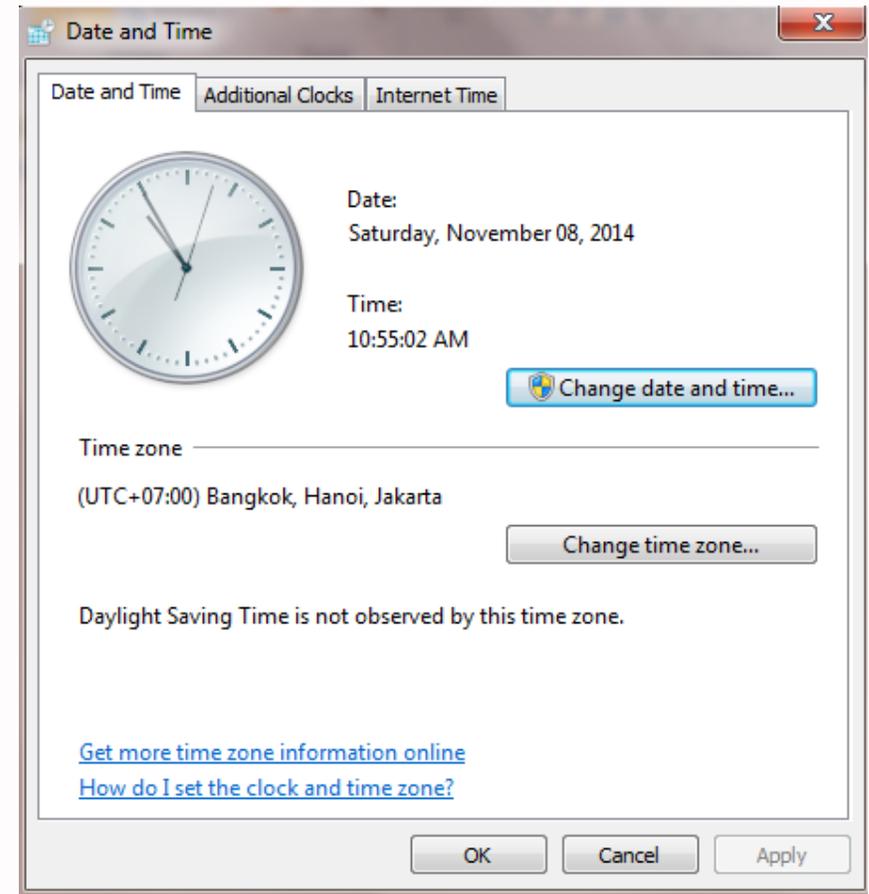
Every computer has a built-in clock that Windows uses to find the date and time.

Windows will automatically adjust the time to take into account daylight savings.

Control Panel



Clock, Language, and Region
Change keyboards or other input methods

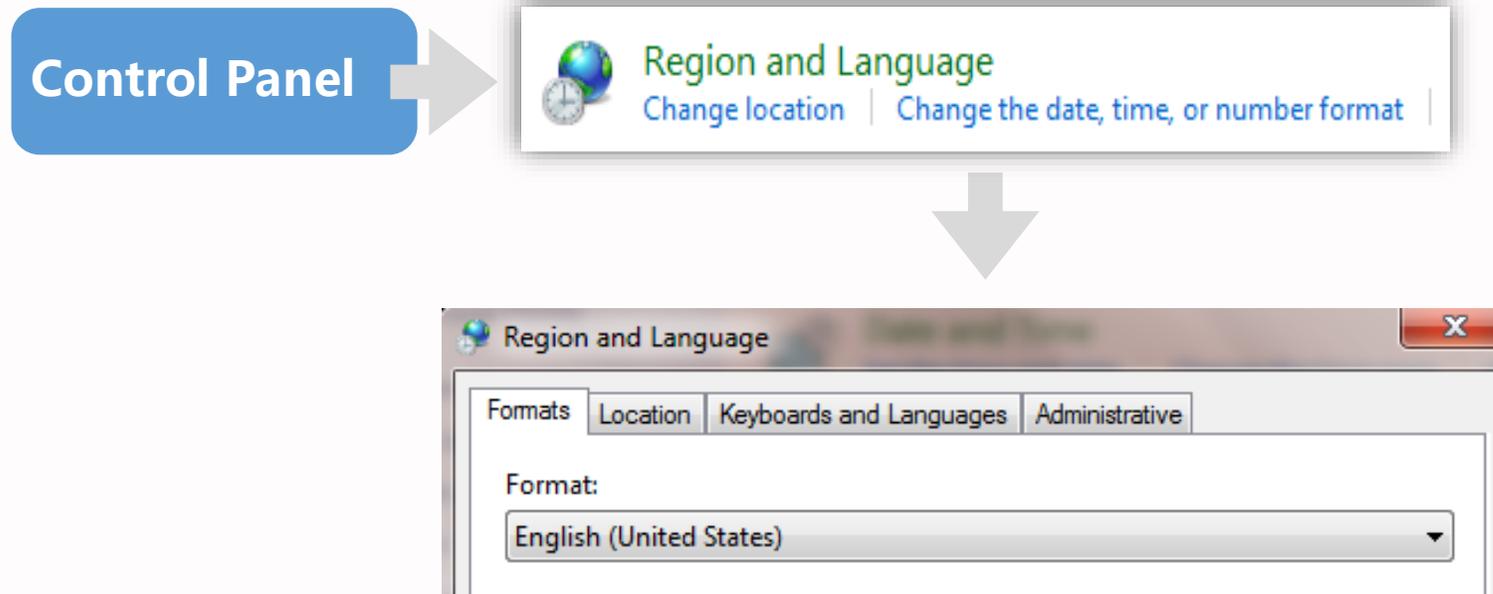




Display Setting : Language Settings

You can add new **input language** in Windows so that you can enter and edit text in multiple languages. This is particularly useful for people who work with documents in languages other than the computer's default.

*You can also change how Windows **formats** information such as dates, times, measurements and currency.*





Unresponsive Programs

<Ctrl + Alt + Del>



Task manager



Every once in a while a program will stop working, when it does it is very easy to close and then restart the program

The screenshot shows the Windows Task Manager window with the 'Processes' tab selected. The window title is 'Task Manager'. The menu bar includes 'File', 'Options', and 'View'. Below the menu bar are tabs for 'Processes', 'Performance', 'App history', 'Startup', 'Users', 'Details', and 'Services'. The main area displays a table of running processes, categorized into 'Apps (3)' and 'Background processes (17)'. The table has columns for Name, Status, CPU, Memory, Disk, and Network. At the bottom, there is a 'Fewer details' button and an 'End task' button.

Name	Status	16% CPU	29% Memory	49% Disk	0% Network
Apps (3)					
Internet Explorer		0.7%	24.4 MB	0.2 MB/s	0 Mbps
Task Manager		0%	11.3 MB	0 MB/s	0 Mbps
Windows Explorer		0.4%	22.0 MB	0 MB/s	0 Mbps
Background processes (17)					
Classic Shell Service (32 bit)		0%	0.6 MB	0 MB/s	0 Mbps
COM Surrogate		0%	0.8 MB	0 MB/s	0 Mbps
Communications Service		0%	3.5 MB	0 MB/s	0 Mbps
Device Association Framework Provid...		0%	3.1 MB	0 MB/s	0 Mbps
Host Process for Windows Tasks		0%	7.5 MB	0.1 MB/s	0 Mbps
Microsoft Windows Search Filter Host		0%	0.8 MB	0 MB/s	0 Mbps
Microsoft Windows Search Indexer		6.3%	20.0 MB	0.7 MB/s	0 Mbps
Microsoft Windows Search Protocol ...		2.1%	1.7 MB	0.1 MB/s	0 Mbps



Installing Programs

To add a new program to your computer it must first be **installed**. To do this a small utility packaged with the program copies all of the necessary files to the correct folders, "registers" the program with Windows, and finally creates **Start Menu** entries.

*An installation utility is also a program (often called **Setup.exe** or **Install.exe**)*



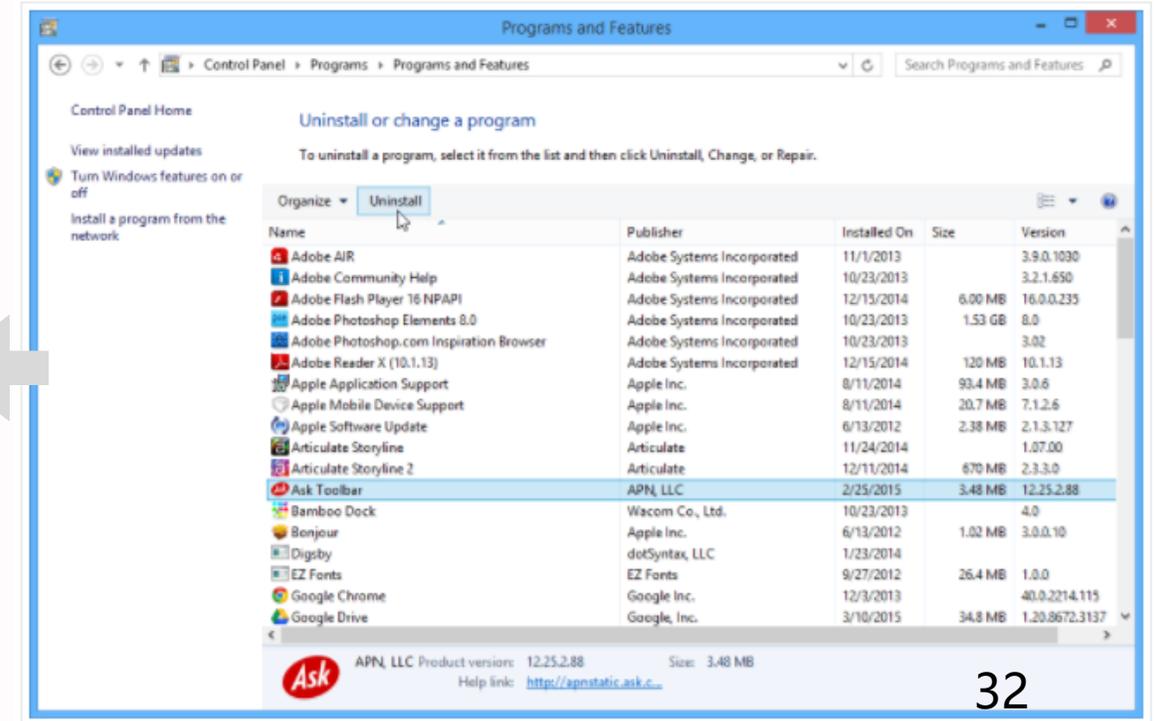
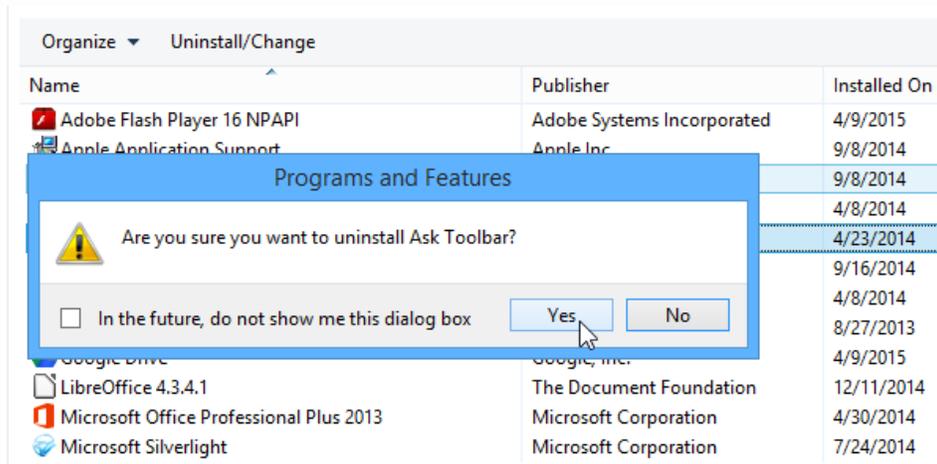


Uninstalling Programs

Unwanted programs can be removed from your computer by **uninstalling** them.

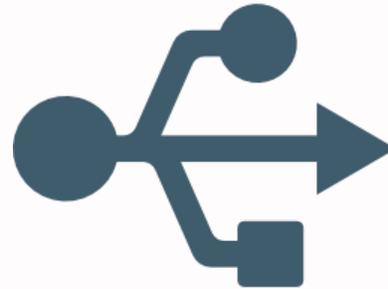
- Open Control Panel
- Select Uninstall a program
- Click Uninstall

Control Panel





Connect a device



Always follow the manufacturer's instructions when connecting a new peripheral.





Taking Screenshots

When taking a screenshot in Windows, you'll use the **Print Scrn** key in your keyboard shortcuts. The image will **copy** to the **clipboard**. It's important to note that only **one image at a time** can be copied to the clipboard.





Unit 3: Outputs



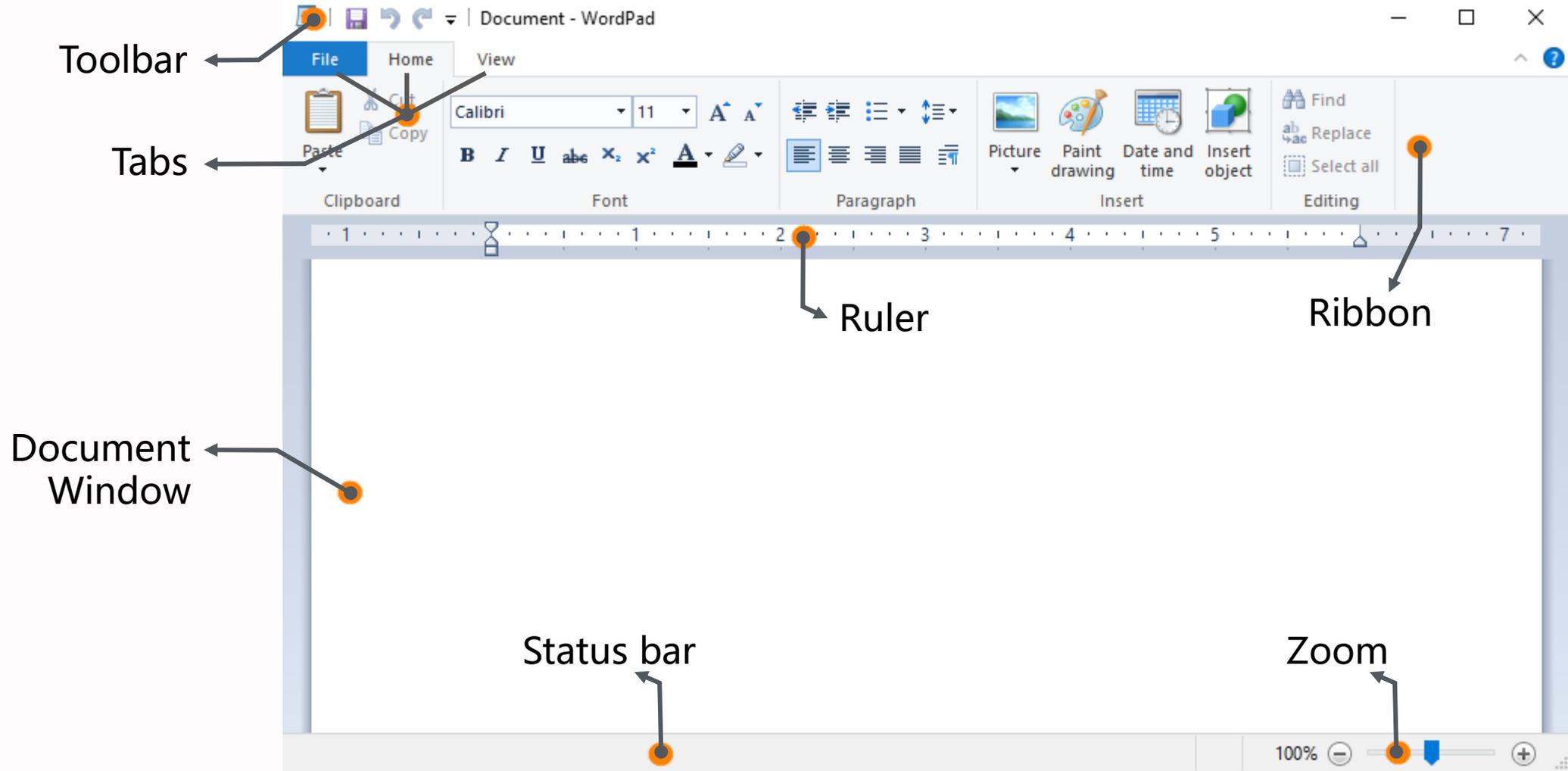
Working with Text



Printing



WordPad

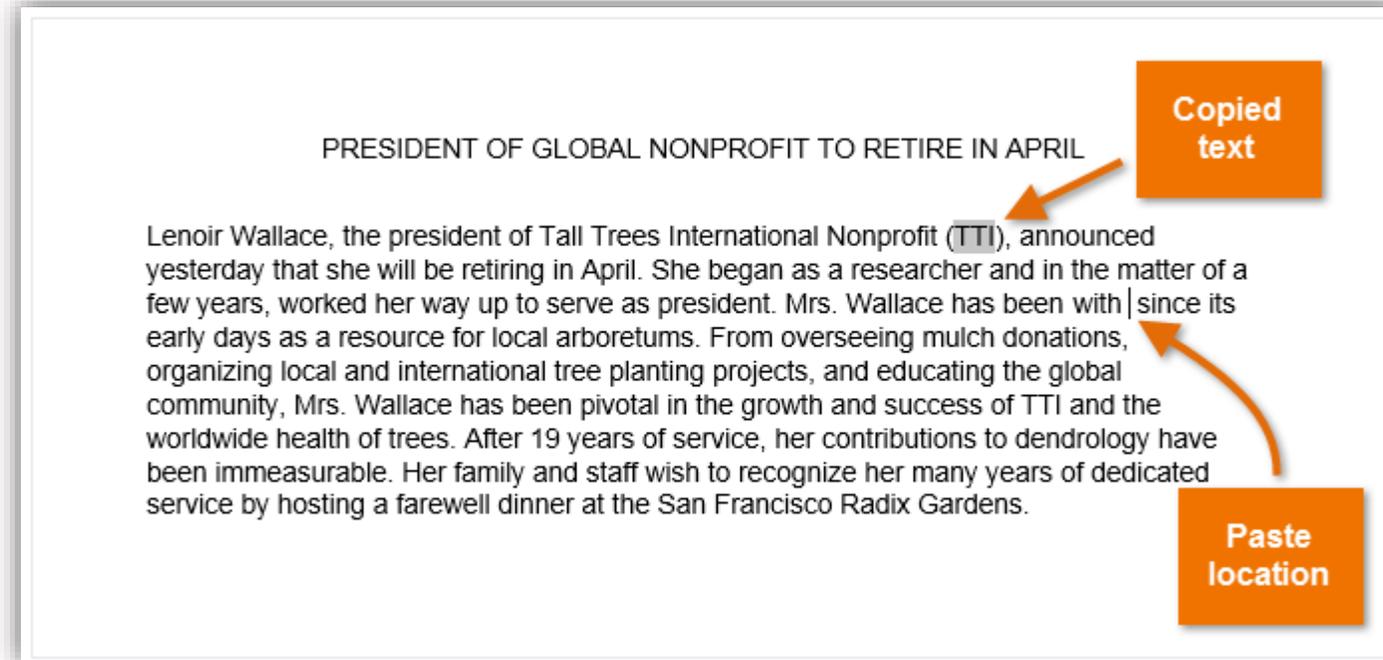




Cut, Copy, Paste

Cut, copy and paste commands allow text to be moved around a document from one place to another.

- **Cut** (Ctrl+X) >> removed from original location
- **Copy** (Ctrl+C)
- **Paste** (Ctrl+V)





Saving Document

Document can be saved to storage device so that they can be opened and used again later.

Save

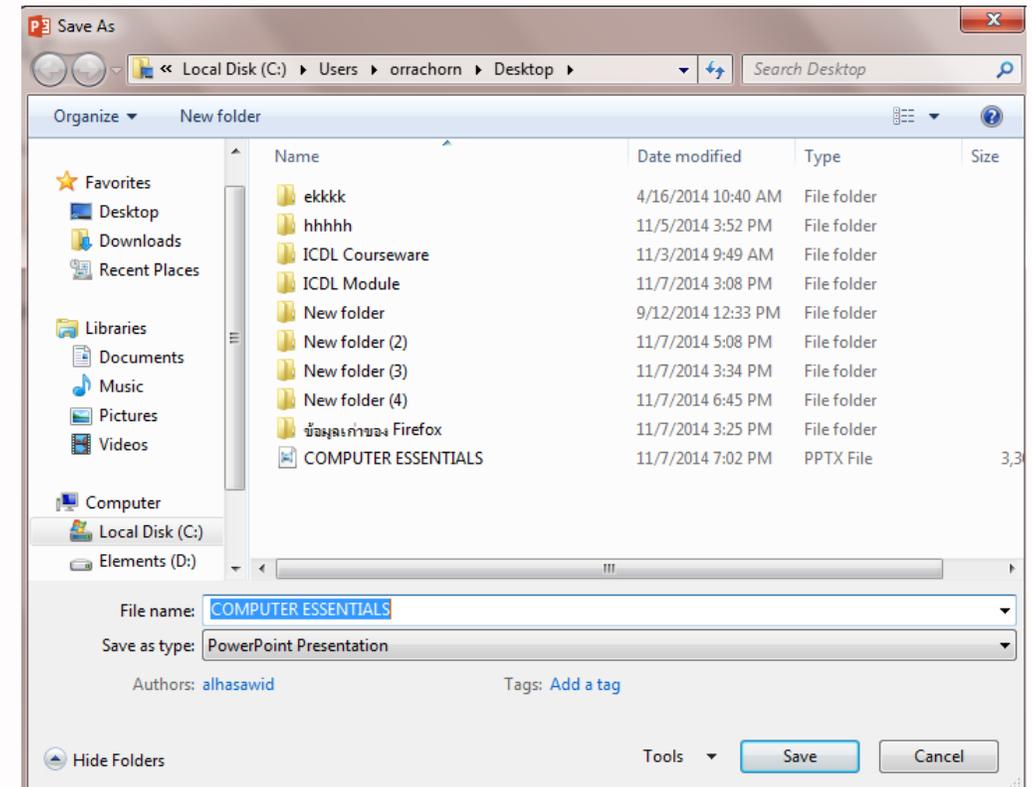


Use to save your changes
your job

Save as



Use when you need to choose
different **name/location** for
copied version





Install, Uninstall a printer

Control Panel

Add a printer

Devices and Printers

Control Panel > Hardware and Sound

Add a device

Add a printer

Devices (4)



FaceTime HD
Camera (Built-in)



Generic Non-PnP
Monitor



Virtual Mouse

Printers and Faxes (3)



Fax



Fax - HP Officejet
Pro 6960 v
from ADM



See what's printing

Set as default printer

Printing preferences

Printer properties

Create shortcut

Troubleshoot

Remove device

Properties

Remove device

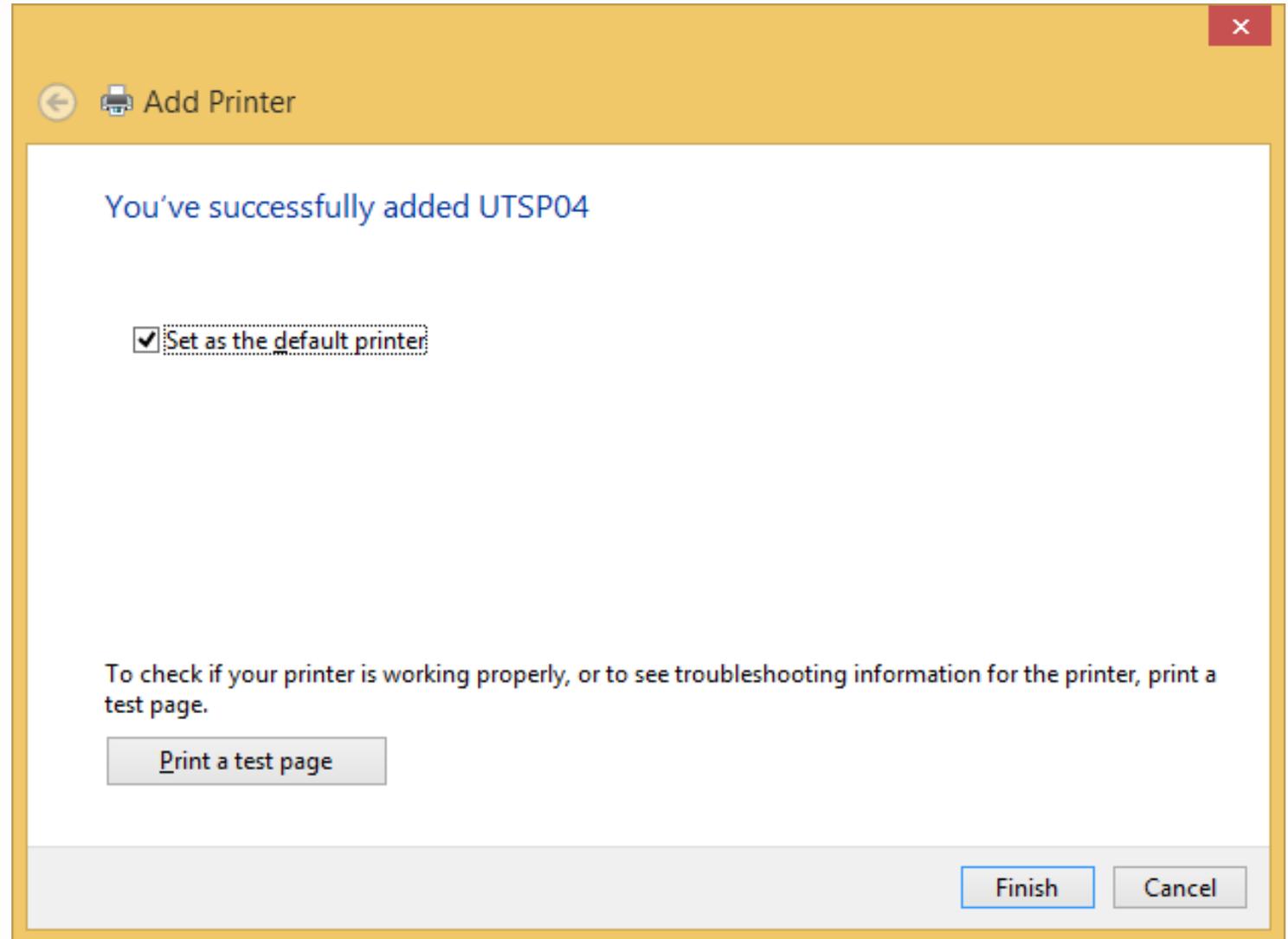
Click right



Print a test page

The information printed on a **Test Page** contains useful details about the selected printer.

1. **Click-right** on any printer
2. Select **Printer properties**
3. Click button **Print a test page**



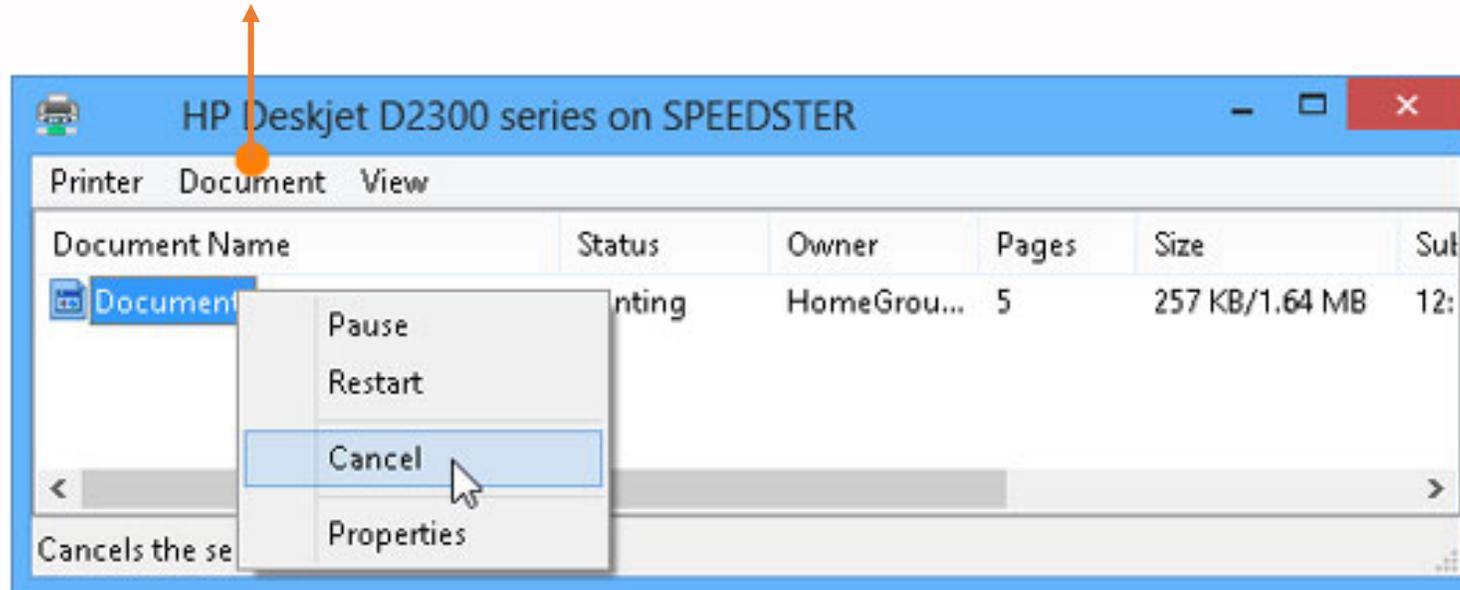


Set as default printer, Paused, Restarted and Cancelled

To set as default printer >> **Click-right** icons printer and select **Set as default printer**

To pause, restart, cancel printer >> Click **menu document**

Paused, Restarted and Cancelled





Unit 4: File Management



Introducing Files and Folders



Organizing Files and Folders

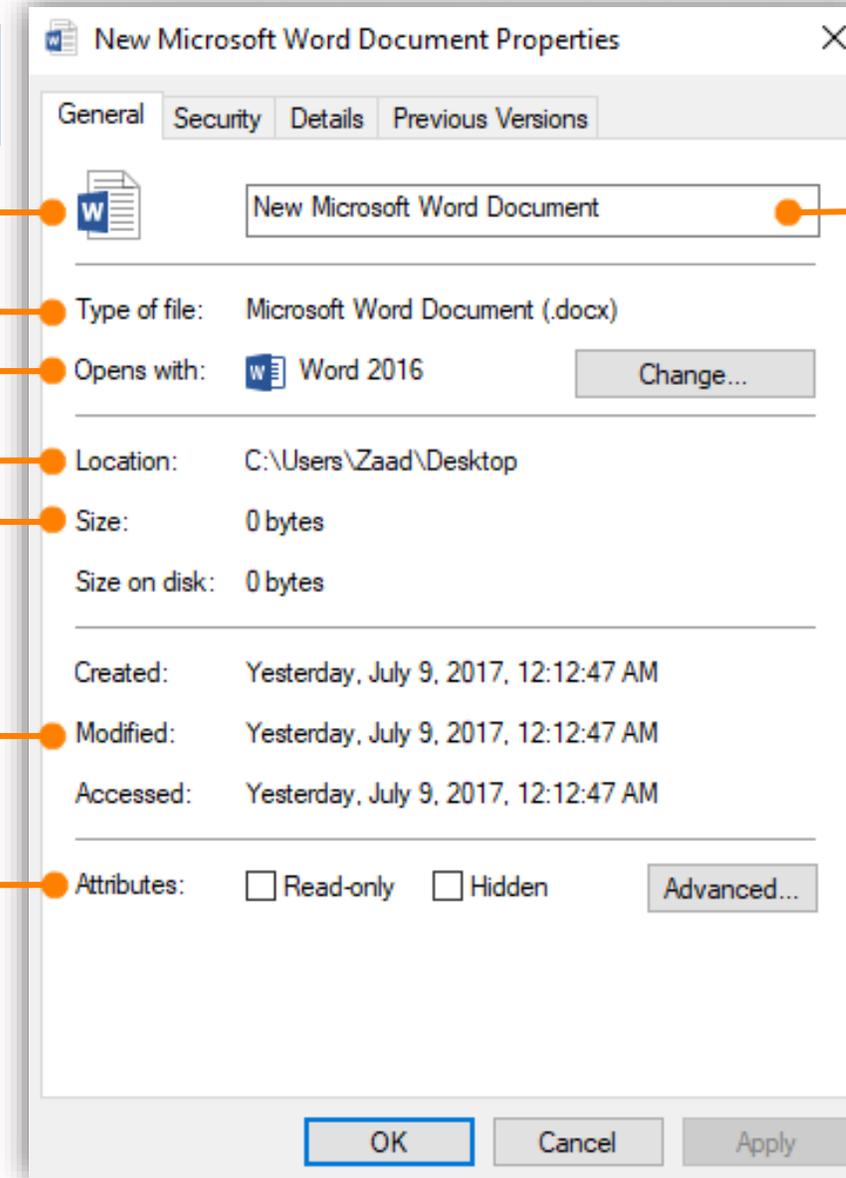


Storage and Compression



Item Properties

- File Icon ←
- File type ←
- Default Application ←
- File location ←
- File size ←
- Date time ←
- File Attribute ←

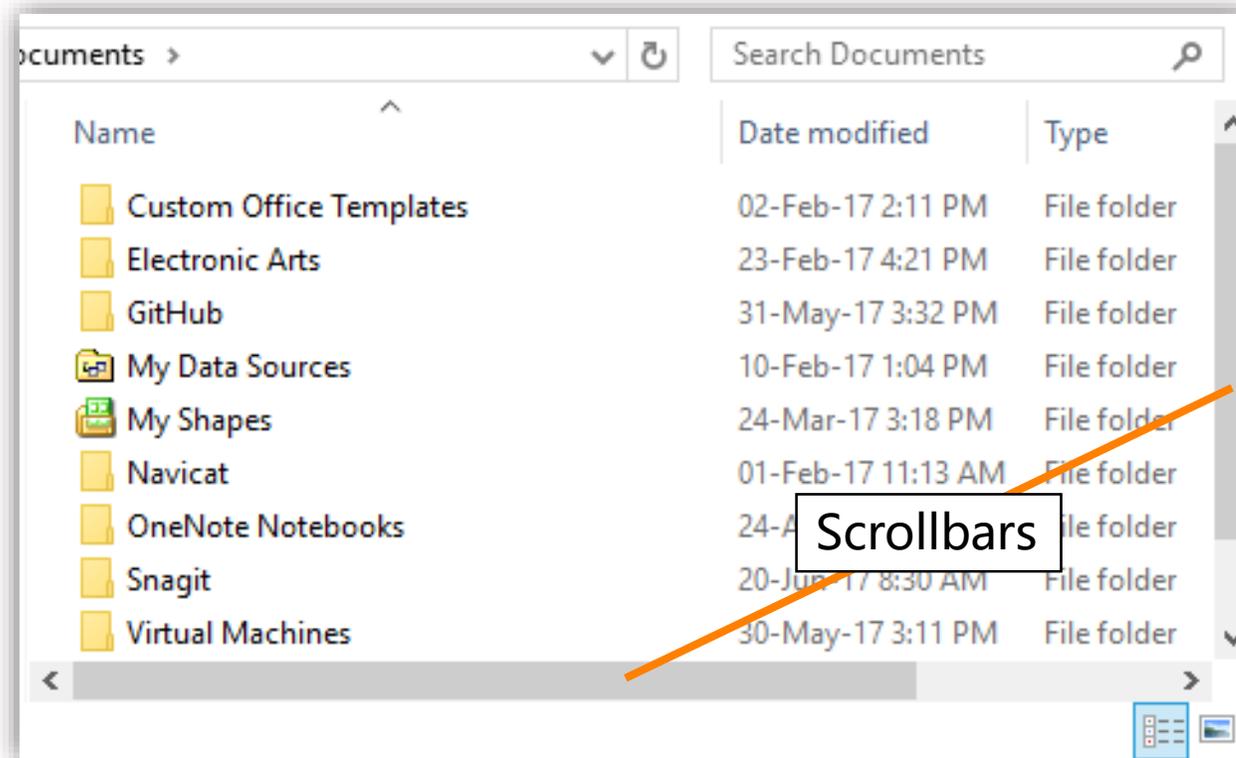


File name →



Folder Views

You can use whichever you find most appropriate and useful. However, it is recommended that you use the default **Details** view.



Change your
view



File Types

Extension	File Type
docx/doc	Microsoft Word Document
xlsx/xls	Microsoft Excel
pptx/ppt	Microsoft Power point
pdf	Portable document format
wma/mp3/wav	Audio file
txt	Plain text file
rtf	Text file with additional text formatting (rich text)
exe	Executable software program
csv	File containing comma separated value



Good practice naming file

It is important that you use **sensible and meaningful** names to make it easy to see at a glance what a folder contains.

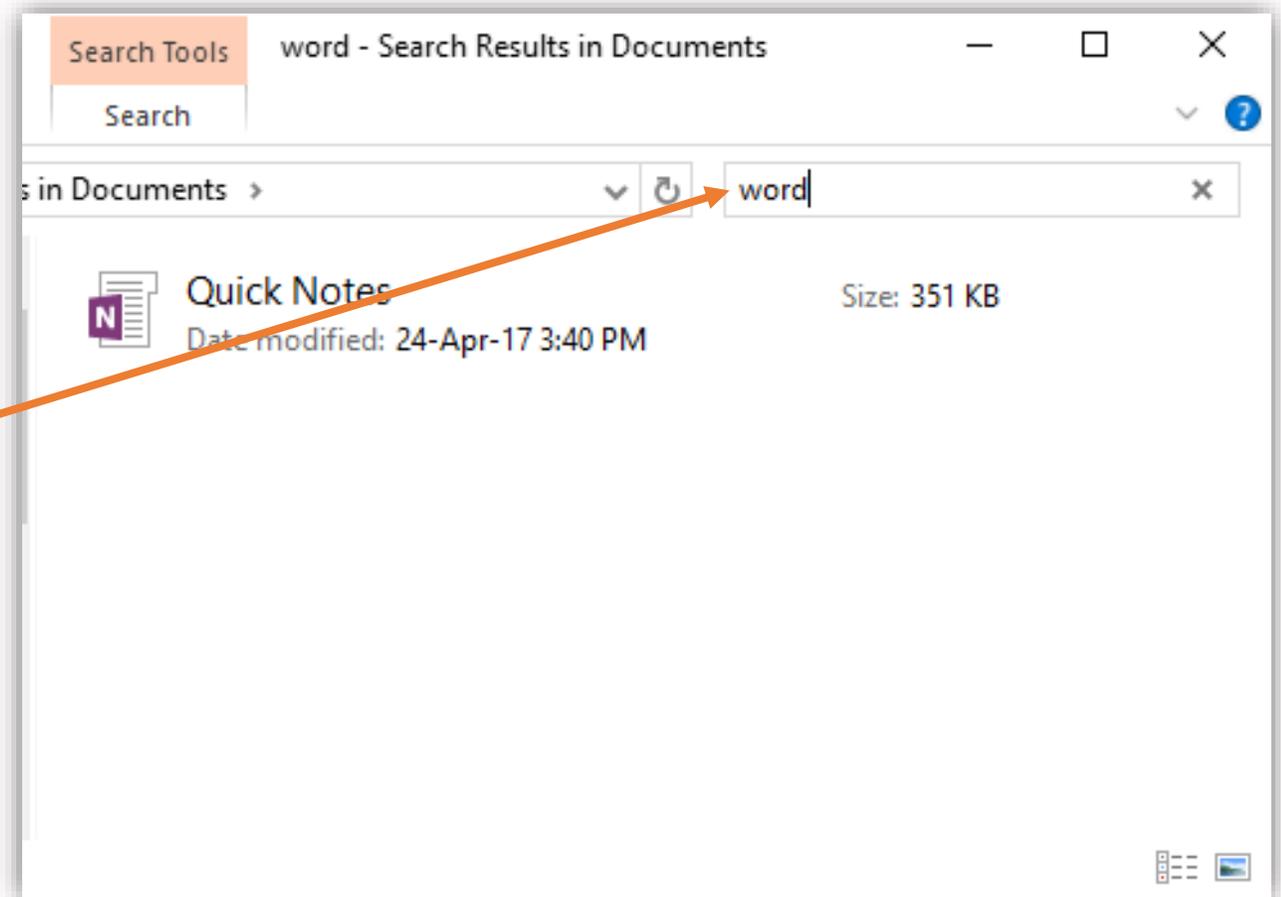
Name	Date modified	Type
 Custom Office Templates	02-Feb-17 2:11 PM	File folder
 Electronic Arts	23-Feb-17 4:21 PM	File folder
 GitHub	31-May-17 3:32 PM	File folder



Searching

Searching for files and folders is achieved using the **Search** box in **Windows Explorer**. Searches act on the contents of the current folder and subfolders only

Enter keyword for search

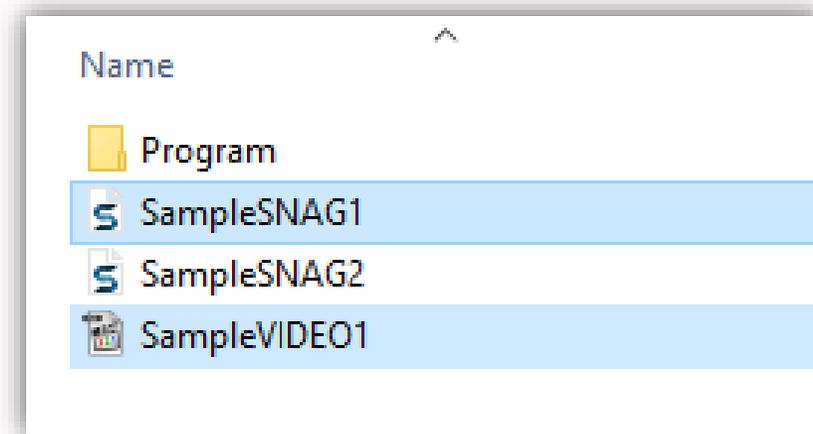




Selecting Item

- **Single-click** a file or folder to select it.
- **Double-clicking** will open them.

Hold <**Ctrl**> and single-click each item to **select more than file**





Sorting Files and Folders

The list of files shown in the **View Pane** can be sorted in different ways. (sort in **ascending, descending alphabetical, file size**)

Name	Date modified	Type	Size
Program	01-Feb-17 11:19 AM	File folder	
SampleSNAG1	17-Apr-15 4:22 AM	SNAG File	97 KB
SampleSNAG2	17-Apr-15 4:22 AM	SNAG File	249 KB
SampleVIDEO1	17-Apr-15 4:22 AM	MP4 Video File	3,264 KB

Click to sorting by Date modified

Click to sorting by Type

Click to sorting by ascending/descending alphabet

Click to sorting by Size



Data Storage



Hard disk drive (HDD) or
Solid state drive (SSD)

Use on desktop or laptop computer

Cloud storage



Can store and share data in a private location on the Internet

Flash memory card



Use on mobile phone, MP3 player, Camera or tablet

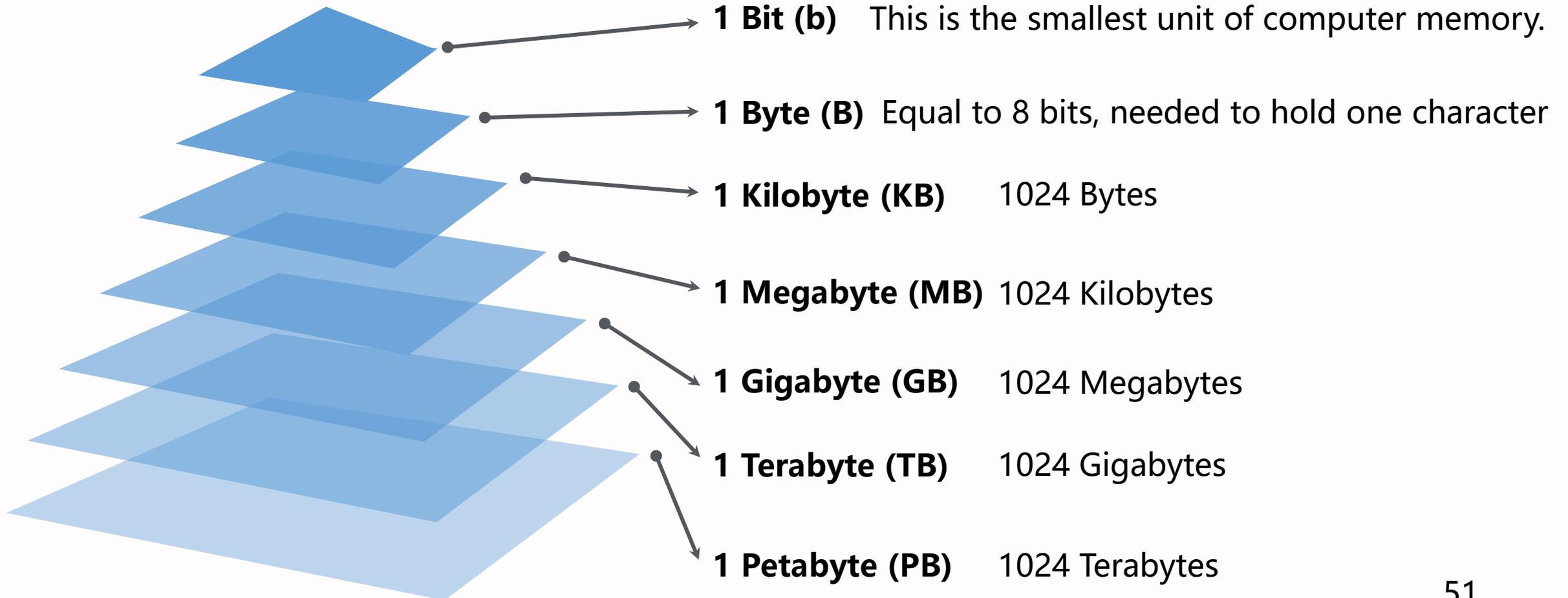


CD-R | DVD-R >> can only save data
CD-RW | DVD-RW >> allow data to saved and edited

CD (Compact disc) or DVD (Digital versatile disc)



Data Storage (Con.) "Capacity"





Storage Space

The screenshot shows the Windows 'Computer' window. The left sidebar contains a 'Device List' with 'Computer' selected, showing 'Local Disk (C:)' and 'Home on \'.psf\' (Y:)'. The main pane shows storage categories: 'Hard Disk Drives (1)' with 'Local Disk (C:)' (47.1 GB free of 63.9 GB); 'Devices with Removable Storage (2)' with 'Floppy Disk Drive (A:)' and 'DVD RW Drive (D:)' (grouped as 'Local Removable Storage'); and 'Network Location (2)' with 'Home on \'.psf\' (Y:)' (200 GB free of 465 GB, labeled as 'Network Storage'). The bottom status bar shows 'Workgroup: WORKGROUP', 'Memory: 4.00 GB', and 'Processor: Intel(R) Xeon(R) CPU ...' (labeled as 'Detail Storage').

Device List →

Local Hard Disk →

Local Removable Storage →

Network Storage →

Detail Storage →

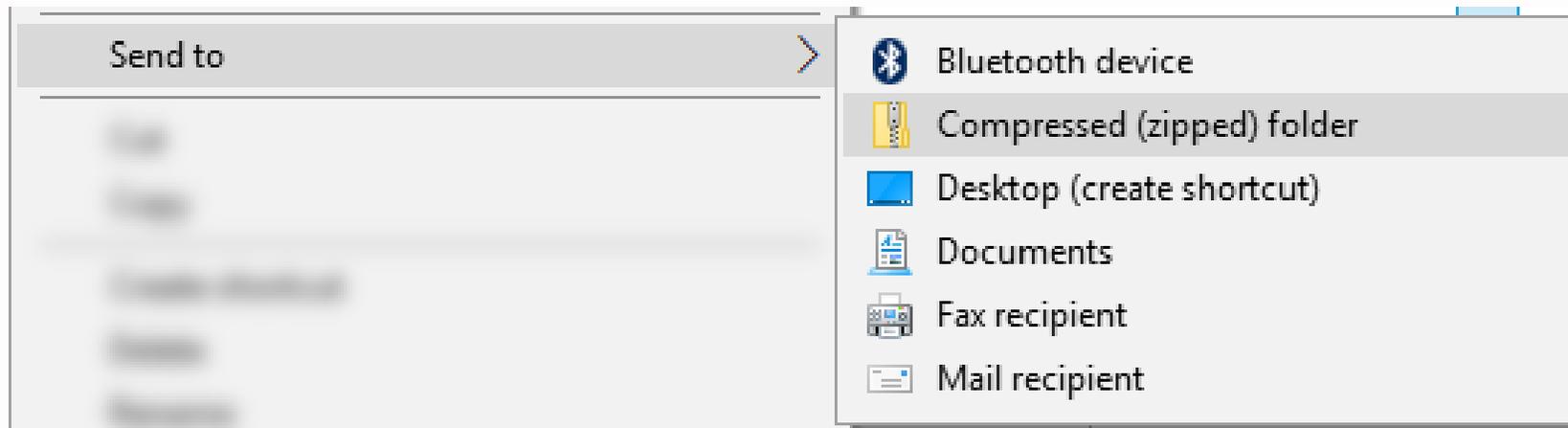


Compressing Files

To reduce the space occupied by older files and folder, you can create **compressed** versions of them. This process is know as **zipping** and shrinks files down to a fraction of their original size.

How to compress file?

- **Right-click** on it and select menu **Sent to** >> **Compressed (zipped) folder**





Unit 5: Network



Network Concepts



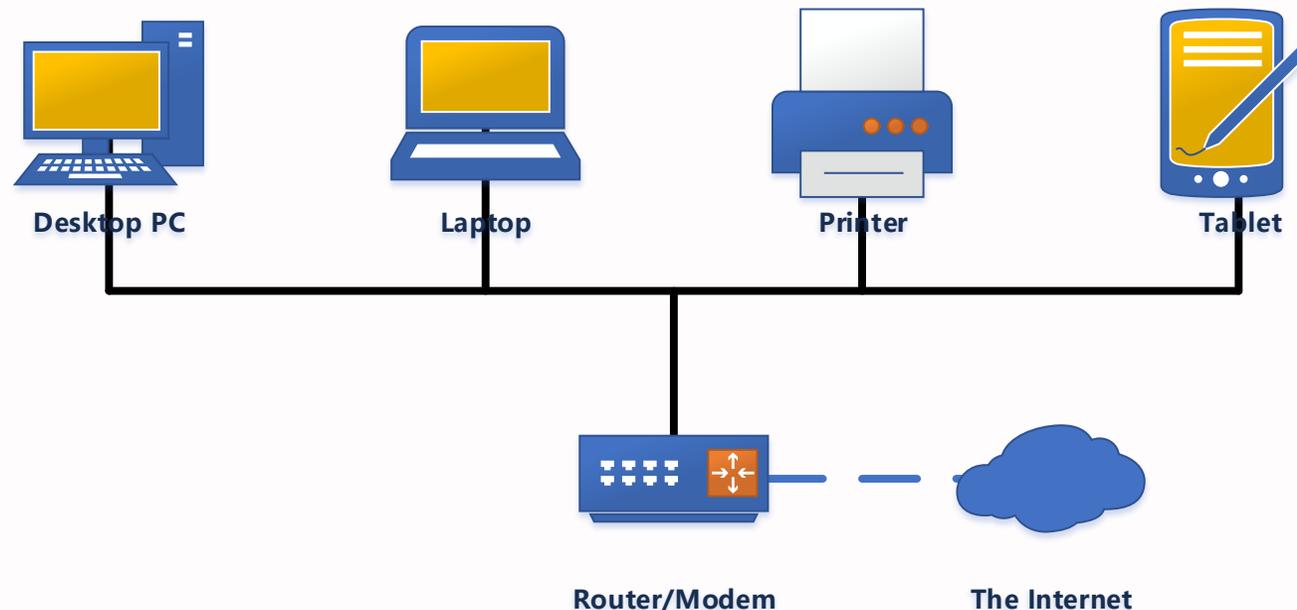
Network Access



Networks

A **network** is name given two or more ICT devices that are connected to each other.

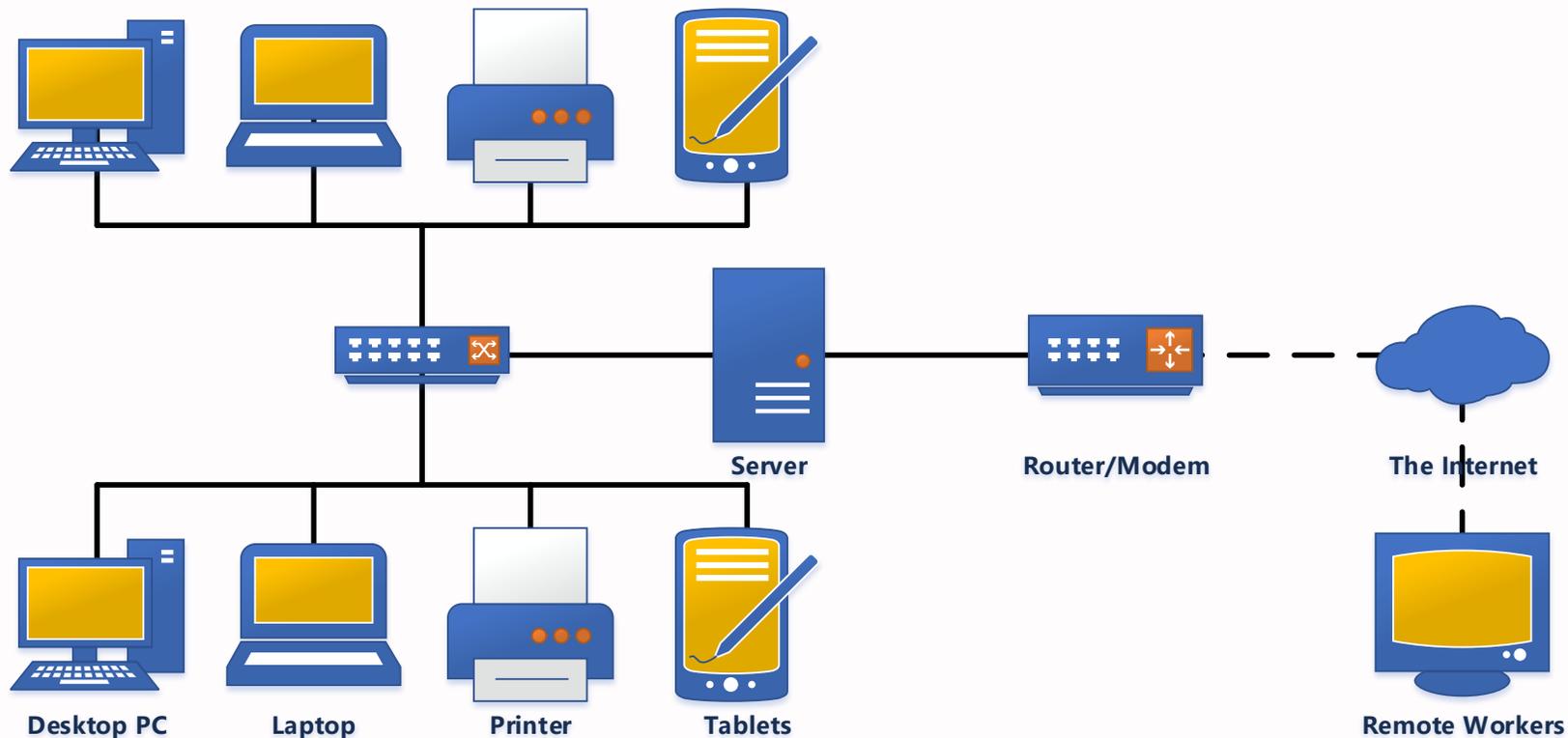
Setting up a home or other office network, referred to as a **Local Area Network (LAN)**, is very simple. Needed is a **router** to control flow of data between devices, A **modem** to access the Internet. Device connect via the router using **cables or wireless Wi-Fi**





Networks con.

For large business, a **server** is sometimes used. This is a dedicated computer which looks after the security of the network, manages shared services (such as Internet access and e-mail), stores shares files.





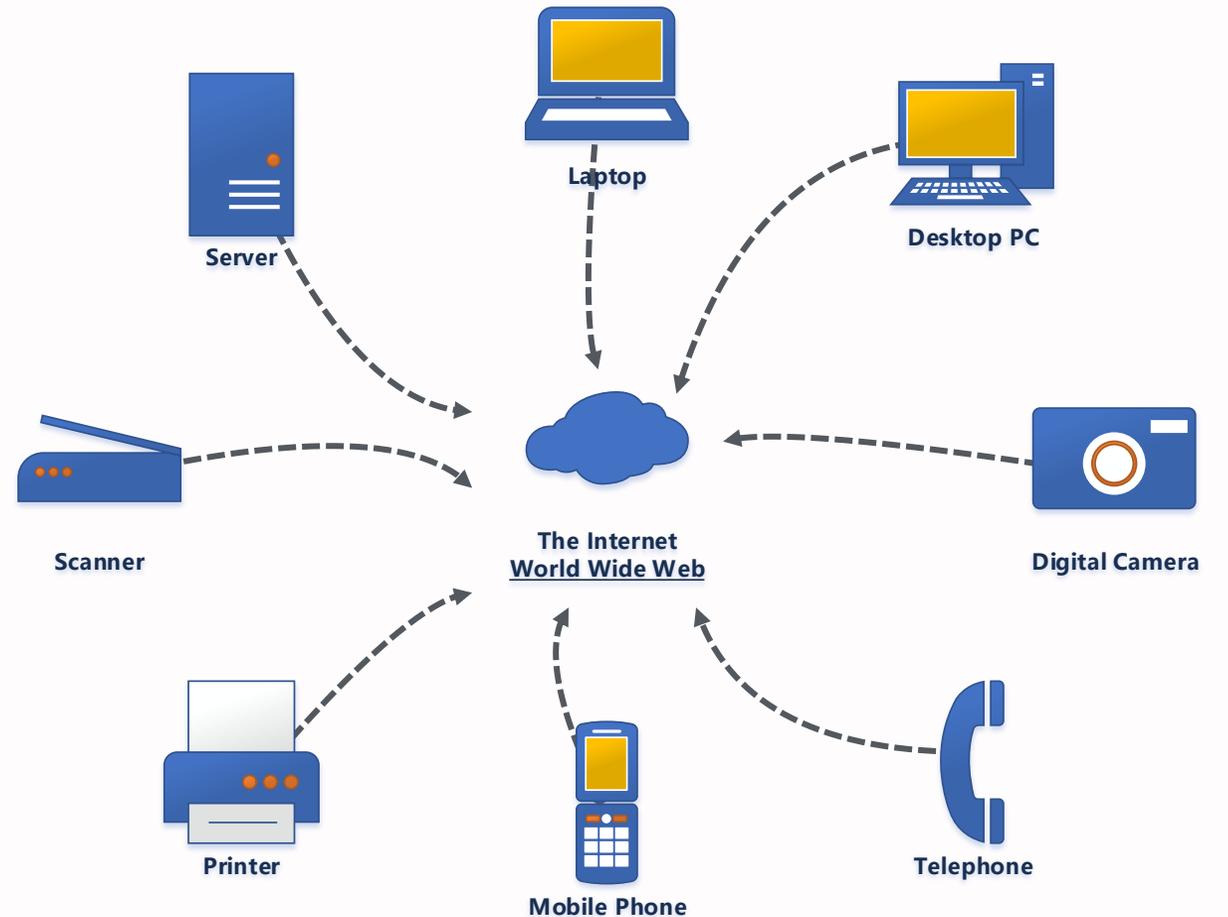
The Internet

The **Internet** a global network of linked ICT devices allow all over the world to communicate and share information.

Use the Internet to access the **World Wide Web (www)**. The name given to a vast collection of interconnected files called **web pages**.

When combined, two or more related web pages form a **website**.

Web pages are stored on computers called **server**.





Connecting to the Internet

The connection between a local network device and the Internet is provided by an **Internet Service Provider (ISP)**. This is a third-party communications company. Supply or rent hardware for connecting to their service.

Connection	Description
Dial-up	An older form of Internet connection uses a modem connected to a standard telephone line. Very slow
Satellite	The most expensive types. Useful for people living in remote areas . Much faster than dial-up .
3G and 4G	A direct link between an ICT device and operator' s network. Highly variable and depend greatly on mobile phone. Faster replacement for 3G.
DSL/Cable	Popular at home and small business , high bandwidth. They are usually know as broadband connections.
Leased Lines	Popular in big business , high bandwidth, very expensive.



Choosing an ISP

When choosing an ISP provide, One of the biggest requirements is **bandwidth** or **Transfer Rate**. This is the speed of your Internet access.

Downloading : the term given to the act of copying a file from ICT device on a network.

Uploading : refers to the sending of a file from your device to another.

Bandwidth is measured in **bits per second (bps)**.

*** Your Internet connection is like a pipe through which data flows like water. The large pipe more information that can pass through it. ***

Bandwidth	Description
Kilobits (kbps)	1 kbps = 1,000 bits/s
Megabits (mbps)	1 mbps = 1,000,000 bits/s
Gigabits (gbps)	1 gbps = 1,000,000,000 bits/s



Wi-Fi Networks

Short –range **Wi-Fi** connections is so convenient, you can working on the move.

Wi-Fi access points (**hotspots**) are often protected by a **security key** it helps to stop other people from being able to remotely access your computer.

SSID List



Signal Strength Indicators



Communicating Online



Chat Rooms



E-mail



Instant Message (IM)



Social Network



VoIP : Voice over Internet Protocol
>> allowing you to talk anywhere in
the world



Forums & Bulletin Boards

**** Connect your computer to a remote local area network, *Virtual Private Network (VPN)*.
A network within a company is sometimes referred to as an *Intranet*.****



Manoeuvres

1. LAN ● ● Bits per second
2. LAN used for? ● ● DSL/Cable
3. ISP ● ● Internet Service Provider
4. Type of device used to connect a LAN to an ISP ● ● Local area network
5. Bandwidth measured ● ● Share data and resources



Unit 6: Security and Well-Being



Protecting Data and Devices



Malware



Health and Green IT



Safe and Proper Practice



(Safe) : Ensure personal information and passwords are kept private.



(Meet) : Never meet with an online friend in person, even if you think you know that person well.



(Accept) : Do not open e-mails from people you do not know.



(Reliable) : Not all of the information or people online are reliable. There is a lot of false information.



(Tell) : Tell a trusted adult if anything online makes you feel uncomfortable.



Passwords

Time to change my password again! I better choose something easy that I can remember!!!

Well don't make it too easy!!!
Your password should be easy to remember but hard to guess!

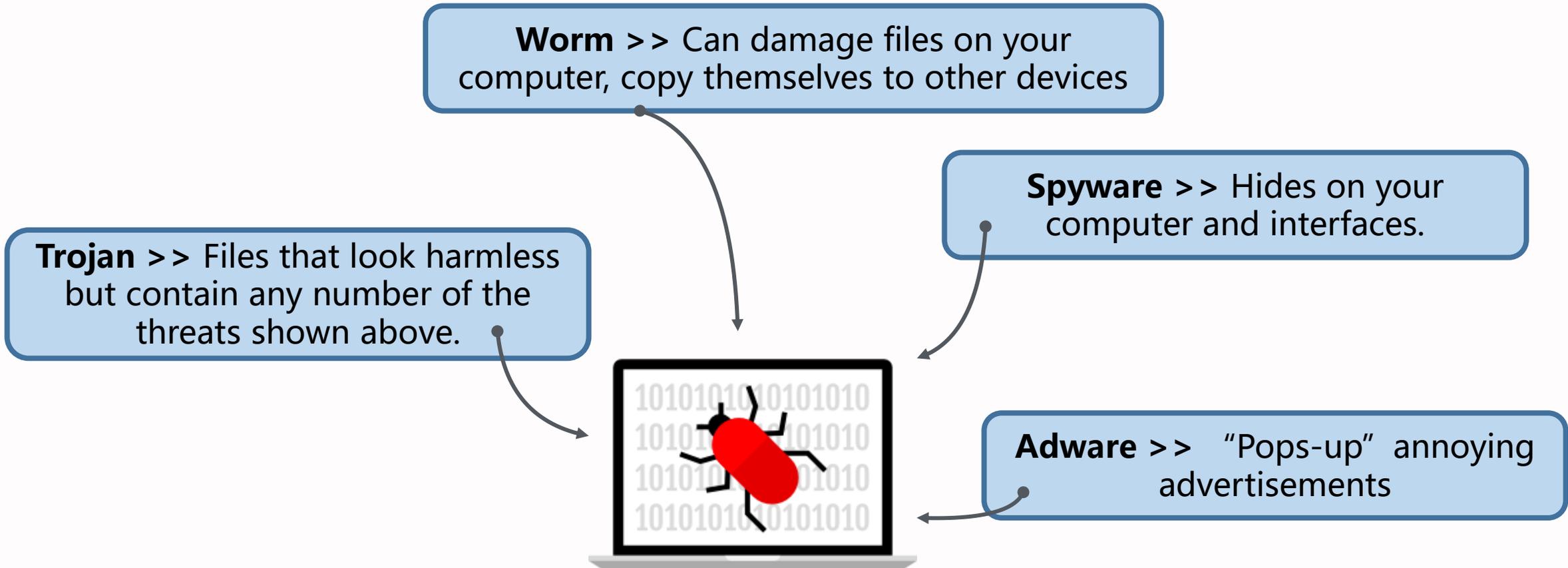


Follow these easy tips to make sure that your password is *easy to remember but hard to guess*.

- Is at **least 8 characters** long.
- Includes at least one character from 3 of the following 4 categories:
 - **Uppercase** (A to Z)
 - **Lowercase** (a to z)
 - **Numbers** (0 to 9)
 - **Symbols** (!, \$, #, etc.)
- Does not include 3 or more consecutive characters from your login or full name.



Computer Viruses





Accessibility

A features is help people with low vision or limited mobility interact with and use a computer more effectively.

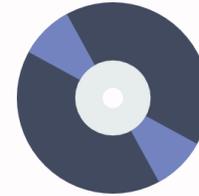
Feature	Description
Magnifier	Shows an enlarged view of the screen where the mouse pointing
On-Screen Keyboard	Allows you to enter text using only mouse
Narrator	A screen-reader which reads aloud any text that appears on your screen
High Contrast	Display easier view as items and text are more distinct
Speech Recognition	Use your voice to control the computer by speaking commands



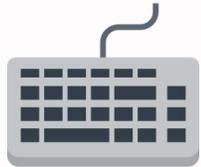
Cleaning Your Computer



Screens : a wipe with a soft damp cloth is often sufficient.



CD/DVD Drive : Blow compressed air into it to remove any dust.



Keyboards : Shake to remove dust, dirt and crumbs.



Desktop Case : Clean the external case with a damp cloth and mild cleaning. Inside of case use air blow to clean dust from vents, fans, ports and circuit boards.



Mouse : Clean away any dust and dirt from the rollers inside.