Computer Essentials

This quick reference is for understanding the main concepts of ICT and using the computer and managing files on Windows 10

Quick Reference

Keyboard Shortcuts & Commands

Purpose	Keyboard Shortcut	Purpose	Keyboard Shortcut
Open menu	ALT+LETTER	Undo	CTRL+Z
Help	F1	Up one screen	PAGE UP
Cut	CTRL+X	Down one screen	PAGE DOWN
Copy	CTRL+C	Beginning of a line	HOME
Paste	CTRL+V	End of line	END

This module sets out essential concepts and skills relating to the use of devices, file creation and management, networks and data security.

Successful candidates 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, 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 key storage concepts and use utility software to compress and extract large files.
- Understand network concepts and connection options and be able to connect to a network.
- Understand the importance of protecting data and devices from malware and of backing up data.
- Recognise considerations relating to green IT, accessibility and user health.

1   Computers and Devices

1.1   ICT

1.1.1   Define the term Information and Communication Technology (ICT).

- ICT - Using digital technology to access, store and process information into an organized and understandable form

1.1.2   Identify different types of ICT services and uses like:

- Internet services - Examples include online banking, online shopping, e-mail and data transfer
- Mobile technology - Examples include using the internet on smartphones, laptops
- Office productivity applications - Examples include word processing, spread sheets, presentation software

1.2   Hardware

1.2.1   Define the term hardware.

- Hardware - Physical, tangible items that form part of a computer system

1.2.1   Identify the main types of computers like:

Types of Computer	
Desktop	A traditional stand-alone or networked computer
Laptop	A small, portable computer designed for mobile, flexible use
Tablet	A small, mobile, hand-held computer that combines computing and Internet access

1.2.1   Identify the main types of devices like:

Types of Devices	
Smart Phone	Used for phone calls, e-mail, Internet browsing, and working with mobile applications
Media Player	Used to download and play music and videos
Digital Camera	Used to take photographs in digital format

1.2.2   Define the terms processor, Random Access Memory (RAM), storage. Understand their impact on performance when using computers and devices.

- Processor - An important component for processing information
- RAM - Working temporary memory that loses its data when the computer is shut down
- Storage - Internal or external devices that retain saved data.
- The type and speed of the processor, the amount of RAM used, and the amount of available storage space, can have an impact on the computer's overall performance.

1.2.3   Identify the main types of integrated and external equipment like:

Printers	Devices that print information on paper or other materials	
Screens	Devices that display text and graphics	
Scanners	Devices that read images or text and convert the data into digital information	
Keyboards	Typing devices used to issue commands and enter characters	
Mouse/ Trackpad	A pointing device used to select items and issue commands	
Web camera (webcam)	A video camera used to capture a digital video	
Speakers	Devices that produce sound waves audible to the human ear	
Microphone	A device used to digitally capture sound	
Docking Station	A device that connects a laptop computer to other devices	

1.2.4   Identify common input/output ports like:

- Universal Serial Bus (USB) - Typically used to connect storage and other devices
- High-Definition Multimedia Interface (HDMI) - Typically used to connect media devices

1.3   Software and Licensing

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.

- Software - Applications or programs that perform specific tasks, such as word processing or graphics editing
- Operating system - Controls the computer, schedules tasks, manages storage, and handles communication with other devices.
- Applications software - Designed for specific tasks such as presentations or spreadsheets.
- Software can be installed on a specific computer or device, on a network or accessed via the cloud.

1.3.2   Define the term operating system and identify some common operating systems for computers and devices.

- Operating system - Software that schedules tasks, manages storage and handles communication with other devices
- Examples include Windows, Linux, Mac OS X

1.3.3   Identify common examples of applications like:

- Office productivity - Examples include word processing and spreadsheets
- Communications - Examples include e-mail and instant messaging
- Social networking - Examples include websites that allows users to connect and exchange status updates and comments
- Media - Examples include news applications and social media applications
- Design - Examples include photo-editing and desktop publishing
- Mobile applications - Examples include online storage applications and e-mail applications

1.3.4   Define the term End-User License Agreement (EULA). Recognise that software must be licensed before use.

- EULA - A legal agreement between the user of software and the software manufacturer
- Users should ensure all software used is fully licensed before use.

1.3.5   Outline the types of software licenses:

- Proprietary - Software that must be bought before use
- Open source - Free software that makes its source code available
- Trial version - Software that can be used for a restricted time only and users will have to purchase to use further
- Shareware - Software that is distributed on a try-before-you-buy basis with limited functionality
- Freeware - Free copyrighted software

1.4 Start Up, Shut Down

1.4.1 **Start a computer and log on securely using a user name and password.**
- Make sure that both the computer and monitor are plugged into a power source.
- Turn on the computer and the monitor.
- Enter a user name and password when requested.
- Press the Return key.

1.4.2 **Log off a computer using an appropriate routine.**
- Close any open files and applications.
- Click the Start button.
- Select the Profile icon.
- Click Sign out.

1.4.2 **Shut down a computer using an appropriate routine.**
- Close any open files and applications.
- Click the Start button.
- Click the Power icon.
- Click Shut down.

1.4.2 **Restart a computer using an appropriate routine.**
- Close any open files and applications.
- Click the Start button.
- Select the Power icon.
- Click Restart.

2 Desktop, Icons, Settings

2.1 Desktop and Icons

2.1.1 **Outline the purpose of the desktop and the task bar.**
- Desktop - Displays icons for files, folders and applications
- Task bar- Shows active applications, files and folders and other icons

2.1.2 **Identify common icons like those representing:**

FILES

FOLDERS

APPLICATIONS

PRINTERS

DRIVES

SHORTCUTS/ALIASES

RECYCLE BIN/WASTEBASKET/
TRASH

2.1.3 **Select and move icons.**
- On the desktop, click on an icon and drag and drop to a new location.

2.1.4 **Create a shortcut/alias.**
- Select location to move shortcut to.
- Right-click and click Create shortcut.

2.1.4 **Rename a shortcut/alias.**
- Right-click on the shortcut icon.
- Click Rename.
- Enter new name.

2.1.4 **Move a shortcut/alias.**
- Right-click on the shortcut icon.
- Click Cut.
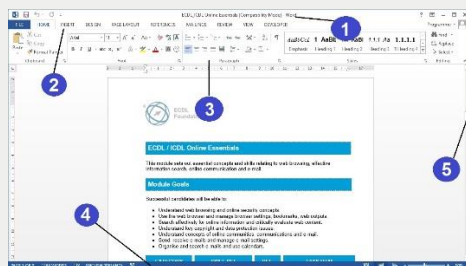- Select location to move shortcut to.
- Right-click and select Paste.

2.1.4 **Delete a shortcut/alias.**
- Right-click on the shortcut icon.
- Click Delete.

2.2 Using Windows

2.2.1 **Identify the different parts of a window:**
1. Title bar
2. Tab
3. Toolbar/Ribbon
4. Status bar
5. Scroll bar

2.2.2 **Open, collapse, expand, restore down, maximise, resize, move, close a window.**
- To open a window, select the file or folder, right-click and select Open.
- To collapse a window, click the Minimise button in the upper right corner of the window.
- To expand a window, move the mouse to the edge of the Title bar and drag the window to increase the size.
- To restore down a window, click the Restore Down button in the upper right corner of the window.
- To maximise a window, click the Maximise button in the upper right corner of the window.
- To resize a window, move the mouse over the Title bar and drag the window to size preferred.
- To move a window, move the mouse over the Title bar and drag the window to a new location.
- To close a window, click the Close button in the upper right corner of the window.

2.2.3 **Switch between open windows.**

- Move the mouse over the application icons on the Task Bar so any open windows are displayed.
- Click the required window icons found on the Task Bar.

2.3 Tools and Settings

2.3.1 **Use available help functions.**
- Click the Start button.
- Click Contact Support.
- Follow the steps in Contact Support to receive help with a query.

2.3.2 **View the computer's basic system information: operating system name and version number, installed RAM.**
- Click the Start button.
- Click Windows System.
- Click Control Panel.
- Click System.

2.3.3 **Change desktop configuration settings: date and time.**
- Click the Start button.
- Click Windows System.
- Click Control Panel.
- Click Date and Time.
- Click Change date and time.

2.3.3 **Change desktop configuration settings: volume settings.**
- Double-click the speaker button on the right side of the Task Bar.
- Adjust the volume as required.

2.3.3 **Change desktop configuration settings: background.**
- Click the Start button.
- Click Windows System.
- Click Control Panel.
- Click Personalization.
- Click Desktop Background.
- A new window appears with options for a new background. Close the window to save changes.

2.3.3 **Change desktop configuration settings: resolution.**
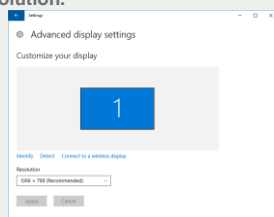
- Click the Start button.
- Click the Settings icon.
- Click System.
- Under Display, click Advanced display settings.
- Choose a resolution from the dropdown menu.

2.3.4 **Change keyboard language.**
- Click the Start button.
- Click Windows System.
- Click Control Panel.
- Click Language.
- Select the appropriate language and click Move up. Moving the language to the top of the list will set it as the preferred language.

2.3.4 **Add keyboard language.**
- Click the Start button.
- Click Windows System.
- Click Control Panel.
- Click Language.
- Click Add a language.
- Scroll and select the language of choice.
- Click Add.

2.3.4 **Remove keyboard language.**
- Click the Start button.
- Click Windows System.
- Click Control Panel.
- Click Language.
- Select the language from the list of languages available and click Remove.

2.3.4 **Change default language.**
- Click the Start button.
- Click the Settings icon.
- Click Time & language.
- Click Region & language.
- Add a language if necessary. Select the appropriate language and click Set as default.
- Close the window to apply new settings.

2.3.5 **Shut down a non-responding application.**
- Press the Ctrl+Alt+Delete keys.
- Click Task Manager.
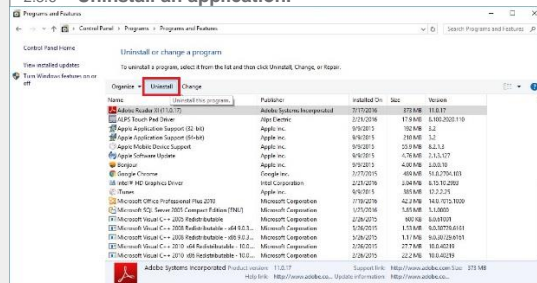- Select the application.
- Click End task.

2.3.6 **Install an application from a CD or DVD.**
- Insert the disc into your computer.
- Follow the steps displayed on screen.
- Type the administrator password or provide confirmation if prompted.
- The application will install.

2.3.6 **Install an application from the Internet.**
- Click the appropriate link on the web page to install or download the application.
- To install the application immediately: click **Open** or **Run** and follow the steps on screen. Type the administrator password or provide confirmation if prompted.
- To install the application later: click **Save**. The installation file will download.
- Double-click the installation file to install. Follow the steps on screen.

2.3.6 **Uninstall an application.**

- Click the Start button.
- Click Windows System.
- Click Control Panel.
- Click Programs and Features.
- Select the application to uninstall.
- Click Uninstall.
- Click Yes.

2.3.7 **Connect a device (USB flash drive, digital camera, media player) to a computer.**
- Insert the flash drive (or cable for other device) into the USB port on the computer.
- The computer will signal that a new device has been detected.
- Save or view files and folders as needed.

2.3.7 **Disconnect a device using an appropriate routine.**
- Click on the Safely Remove Hardware and Eject Media icon in the notification section of the taskbar.

- Select the device to be removed

- .2.3.8 **Capture a full screen.**
  - Press the Print Screen key (PrtScn).

2.3.8 **Capture an active window.**
- Open a window on the desktop.
- Press the Alt key + Print Screen key.

3 Outputs

3.1 Working with Text
3.1.1 **Open a word processing application.**
- Click the Start button.
- Select Microsoft Office 2013.
- Click Word 2013.

3.1.1 **Close a word processing application.**
- Click the Word icon in the top left-hand corner of the screen.
- Click Close.

3.1.1 **Open files.**
- Click the FILE button.
- Click Open.
- To access local files click Computer.
- Select the file.
- Click Open.

3.1.1 **Close files.**
- Click the FILE button.
- Click Close.

3.1.2 **Enter text into a document.**
- Click into the open word processing document.
- Enter the text.

3.1.3 **Copy text within a document, between open documents.**
- Select the text to copy.
- On the HOME tab, in the Clipboard group, click the Copy button.
- Click in a new location within the document or within another open document.
- On the HOME tab in the Clipboard group, click the Paste button.

3.1.3 **Move text within a document, between open documents.**
- Select the text to move.
- On the HOME tab, in the Clipboard group, click the Cut button.
- Click in a new location within the document or within another open document.
- On the HOME tab in the Clipboard group, click the Paste button.

3.1.3 **Paste a screen capture into a document.**
- After taking the screen capture, click in a new location within the document.
- On the HOME tab in the Clipboard group, click the Paste button.

3.1.4 **Save and name a document.**
- Click the FILE button.
- Click Save.
- Create a file name and select the location.
- Click Save.

3.2 Printing
3.2.1 **Install a printer.**
- Click the Start button.
- Click the Settings icon.
- Click Devices.
- Click Add a printer or scanner. If the printer you are looking for appears click Add device.
- If the printer you are looking for does not appear, click The printer that I want isn't listed.
- Select Add a local printer or network printer with manual settings and click Next.
- Select the Use an existing port option with LPT1: (Printer Port) chosen. Click Next.
- Under Install the printer driver, select the printer manufacturer model. Click Next.

3.2.1 **Uninstall a printer.**
- Click the Start button.
- Click Windows System and choose Control Panel.
- Click Devices and Printers.
- Right-click and select Remove device.
- Click Yes to confirm removal.

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

3.2.2 **Set the default printer from an installed printer list.**
- Click the Start button.

Click Windows System and choose Control Panel.Click Devices and Printers.
- Right-click and click Set as default printer.

3.2.3 **Print a document from a word processing application.**
- In an open document, click the FILE button.
- Select Print.
- Click Print.

3.2.4 **View, pause, restart, cancel a print job.**
- Click the Start button.
- Click Windows System and choose Control Panel.
- Click Devices and Printers.
- Right-click the printer's icon and then select See what's printing.
- To pause or resume printing: right-click the document waiting to be printed, click Pause or Resume.
- To restart printing a document: right-click the document waiting to print, click Restart.
- To cancel printing: right-click the document waiting to be printed, click Cancel and then Yes to confirm.

4 File Management

4.1 Introducing Files and Folders
4.1.1 **Understand how an operating system or-ganises drives, folders, files in a hierarchical structure.**
- Windows Explorer displays the hierarchical structure of files, folders, and drives on your computer.

4.1.1 **Navigate between drives, folders, sub-folders, files.**
- Click the Start button.
- Click the File Explorer icon.
- Double-click on the drive where the folder or file is located.
- Locate the folder and file name on the drive.

4.1.2 **Display file, folder properties like: name, size, location.**
- Right-click on the file or folder.
- Select Properties.
- Click OK to close.

4.1.3 **Change view to display files and folders like: tiles, icons, list, details.**
- In an open window, click on the Change your view button.
- Click on a preferred option to view files or folders.

4.1.4 **Identify common file types like:**

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	

4.1.5 **Open a file, folder, drive.**
- Select the file, folder or drive to open.
- Right-click and click Open.

4.1.6 **Recognise good practice in folder, file naming:**
- Use meaningful names for folders and files to help with searching and organisation.

4.1.7 **Create a folder.**
- Navigate to where the folder will be created.
- Right-click and click New.
- Click Folder.
- Enter a folder name and press the Return key.

4.1.8 **Rename a file, folder.**
- Right-click on the file or folder to re-name.
- Click Rename.
- Enter a new name.
- Press the Return key.

4.1.9 **Search for files by properties: all or part of file name.**
- Double-click the File Explorer icon on the Task Bar.
- In the search field enter a full file name or part of a file name.
- Click Search.

4.1.9 **Search for files by properties: using wildcards if necessary**
- Double-click the File Explorer icon on the Task Bar.
- In the search field use wildcards in the criteria boxes to perform search.
- Enter *.txt to find all files with the extension .txt.
- Enter b*.* to find all files that begin with the letter b.
- Click Search.

4.1.9 **Search for files by properties: by content.**
- Double-click the File Explorer icon on the Task Bar.
- Click in the Search bar.
- Enter text.

4.1.9 **Search for files by properties: by date modified.**
- Double-click the File Explorer icon on the Task Bar.
- Click the View tab and select Sort by.
- Click Date modified.

4.1.10 **View list of recently used files.**
- Click the File Explorer icon.
- Select Quick access.
- A list of Recent files appears below Frequent folders.

4.2 Organising Files and Folders
4.2.1 **Select individual files, folders.**
- Click on a file or folder.

4.2.1 **Select adjacent files, folders.**
- Click the first file or folder, hold down the Shift key, and then click the last file or folder.
- Release the Shift key.

4.2.1 **Select non-adjacent files, folders.**
- Hold down the Ctrl key, and then click each file or folder to select.

4.2.2 **Sort files in ascending, descending order by name.**
- Click the View tab.
- Select Sort by.
- Click Name to sort files by name in ascending order.
- Click the View tab.
- Select Sort by.
- Click Descending to sort in descending order.

4.2.2 **Sort files in ascending, descending order by size.**
- Click the View tab.
- Select Sort by.
- Click Size to sort files by size in ascending order.
- Click the View tab.
- Select Sort by.
- Click Descending to sort in descending order.

4.2.2 **Sort files in ascending, descending order by type.**
- Click the View tab.
- Select Sort by.
- Click Type to sort files by name in ascending order.
- Click the View tab.
- Select Sort by.
- Click Descending to sort in descending order.

4.2.2 Sort files in ascending, descending order by date modified.
- Double-click on the folder containing the files to sort.
- Click the View tab.
- Select Sort by.
- Click Date Modified to sort files by date modified in ascending order.
- Click the View tab.
- Select Sort by.
- Click Descending to sort in descending order.

4.2.3 Copy files, folders between folders, drives.
- Right-click on the file or folder to copy.
- Click Copy.
- Click on the new location.
- Right-click and click Paste.

4.2.3 Move files, folders between folders, drives.
- Right-click on the file or folder to move.
- Click Cut.
- Click on the new location.
- Right-click and click Paste.

4.2.4 Delete files, folders to the recycle bin/ wastebasket/trash.
- Right-click on the file or folder to delete.
- Click Delete.

4.2.4 Restore files, folders to original location.
- Double-click the Recycle Bin icon.
- Select the items to restore.
- Under the Recycle Bin Tools group, click the Manage tab.
- Click Restore the selected items.

4.2.5 Empty the recycle bin/wastebasket/trash.
- Open the Recycle Bin.
- Under the Recycle Bin Tools group, click the Manage tab.
- Click Empty Recycle Bin.

4.3 Storage and Compression
4.3.1 Identify the main types of storage media like:

Storage Media	Description
Internal hard disk	A non-volatile, random access storage device for digital data
External hard disk	A hard disk located outside the computer
Network drive	A drive shared by multiple users or devices
CD	An optical disc used to store music
DVD	An optical disc used to store video
Blu-ray Disc	A high definition optical disc used to store media with up to five times greater storage than DVDs
USB flash drive	A portable digital storage device
Memory card	A digital storage device used in cameras and other devices
Online file storage	A file storage service available over the Internet

4.3.2 Identify file size, folder size, storage capacity measurements like:

Unit Bit	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

4.3.3 View available space on a storage device.
- Select the drive or device.
- Right-click and select Properties.
- Click OK.

4.3.4 Understand the purpose of file, folder compression.
- Compressing files decreases a file's size and reduces the amount of space used for storage.

4.3.5 Compress files, folders.
- Select files.
- Right-click on files.
- Select Send To.
- Select Compressed (zipped) folder.

4.3.6 Extract compressed files, folders to a location on a drive.
- Right-click on the compressed file icon.
- Select Extract files… and choose a location.
- Click OK.

5 Networks

5.1 Network Concepts
5.1.1 Define the term network.
- Network- More than one computer or device connected together to share data, applications or peripherals

5.1.1 Outline the purpose of a network:
- Share, access data and devices securely

5.1.2 Define the term Internet. Identify some of its main uses like: World Wide Web (WWW), VoIP, e-mail, IM.
- Internet - A global network connecting millions of computers worldwide
- Main uses - To provide access to information via the World Wide Web, to allow conversations over the internet (VoIP), to allow digital message exchange via email and to allow real-time text messaging via instant messaging

5.1.3 Define the terms intranet, virtual private network (VPN) and identify their main uses.
- Intranet - A private Internet used internally within an organisation to store internal documents, training material or business specific applications
- VPN - A network used to connect remote users securely to a business network to share data and communicate.

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).
- Transfer rate - The rate at which information is transferred to or from a disk drive
- Measured in bits per second (bps), kilobits per second (kbps), megabits per second (mbps), gigabits per second (gbps).

5.1.5 Understand the concepts of downloading from, uploading to a network.
- Downloading - To copy a file or image from a web page
- Uploading - To copy a file or image from a computer to a web page

5.2 Network Access
5.2.1 Identify the different options for connecting to the Internet like:
- Phone line
- Mobile technology
- Cable
- Wi-fi
- Wi-max
- Satellite

5.2.2 Define the term Internet Service Provider (ISP).
- Internet Service Provider (ISP) - An organisation that provides access to the Internet

5.2.2 Identify important considerations when selecting an Internet subscription option like:
- Upload speed
- Download speed
- Download quota
- Cost

5.2.3 Recognise the status of a wireless network:
- Protected/secure - The network is protected to prevent unauthorised access.
- Open - The network is accessible to all

5.2.4 Connect to a wireless network.
- Double-click on the wireless connection icon on the Task Bar.
- Select desired network and connect, using a password if required.

6 Security and Well-Being

6.1 Protecting Data on Computers and Devices
6.1.1 Recognise good password policies like:
- Create with adequate length
- Create with adequate character mix
- Do not share
- Change regularly

6.1.2 Define the term firewall and outline its purpose.
- Firewall - A security system designed to protect a network against external threats

6.1.3 Understand the purpose of regularly backing up data to a remote location.
- Important to have an off-site backup copy of files in case of unforeseen network, hardware or software problems, so that a copy of the data is available if the original data were to become unusable

6.1.4 Recognise the importance of regularly updating software like: anti-virus, application, operating system software.
- Update anti-virus regularly to detect new viruses
- Update application and operating system software regularly to fix known problems and security risks

6.2 Malware
6.2.1 Define the term malware. Identify different types of malware like: virus, worm, Trojan, spyware.
- Malware - Malicious software designed to install itself on a computer without the owner's consent
- Virus - Intrusive programs that infect 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

6.2.2 Be aware how malware can infect a computer or device.
- Viruses can be transmitted via the installation of a program from an insecure source on the Internet, a CD- ROM, an online bulletin board, or e-mail attachments.

6.2.3 Use anti-virus software to scan a computer.
- Open the virus scanning application.
- Enter the specific drive(s), folder(s) and name of file to scan.
- Perform the scan.

6.3 Health and Green IT
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
- Lighting should be bright enough and correctly positioned.
- Correct positioning of the computer, desk and seat will minimise bad posture.

6.3.2 Recognise computer and device energy saving practices:
- Turning off - When not in use
- Adjusting automatic shut down - After a specified number of minutes not used
- Adjusting backlight - This can be decreased
- Adjusting sleep mode settings - This can be activated after pre-set timings

6.3.3 Recognise that computers, devices, batteries, printer cartridges and paper should be recycled.

6.3.4 Identify some options available for enhancing accessibility like:

Type	Description
Voice recognition software	Translates voice commands and is used in place of a mouse and keyboard
Screen reader	Reads aloud information from a computer display, for users with impaired vision
Screen magnifier	Displays enlarged screen content
On-screen keyboard	Provides an alternative to a physical keyboard or inputting data
High contrast	Makes the screen easier to view for users

For more information,
visit: **icdl.org**