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B4 INTRODUCTION TO COMPUTING: GENERATION OF COMPUTERS, PARTS OF A COMPUTER, AND OTHER GADGETS

This note guide will help you understand the basic parts of a computer and some other technology tools we use.

STRAND 1: STRAND 1: INTRODUCTION TO COMPUTING

This strand focuses on how we use computers to create, edit, and format text documents.

SUB-STRAND 1: GENERATION OF COMPUTERS AND PARTS OF A COMPUTER AND OTHER GADGETS - This sub-strand introduces us to the history of computers and helps us identify the different parts that make up a computer and other common technology tools.

CONTENT STANDARD: B4.1.1.1: Identify parts of a computer and technology tools

LEARNING INDICATOR: B4.1.1.1.1: Identify parts of a computer and technology tools (the mouse, keyboard, monitor, system unit and its components (memory, hard disk drive, CD-ROM etc.), speakers, and peripherals.

I. What is a computer?

A computer is an electronic device that can perform calculations and process information according to instructions given to it. It can store, retrieve, and manipulate data.

II. Generations of Computers (Brief Overview)

Computers have evolved significantly over time. We can generally talk about different "generations" of computers, each characterized by major technological advancements:

- **First Generation (1940s-1950s):** Used vacuum tubes, very large, expensive, and generated a lot of heat.
- **Second Generation (1950s-1960s):** Used transistors, smaller, faster, more reliable, and less energy-consuming than vacuum tubes.
- **Third Generation (1960s-1970s):** Used integrated circuits (ICs), even smaller, faster, and more efficient.
- **Fourth Generation (1970s-Present):** Used microprocessors, leading to the development of personal computers (PCs).
- **Fifth Generation (Present and Beyond):** Focuses on artificial intelligence, parallel processing, and advanced technologies.

Note: It's good to know that computers haven't always been the small devices we use today!

III. Main Parts of a Computer

A typical desktop computer has several key parts that work together:

1. **Monitor:**

- **What it is:** The screen that displays information, images, and videos from the computer.
- **Think of it like:** A television screen for your computer.
- **Your Task:** Draw a simple picture of a monitor in your notebook and label it.

2. **Keyboard:**

- **What it is:** An input device with keys that you press to type text, numbers, and commands into the computer.
- **Think of it like:** A typewriter connected to the computer.
- **Your Task:** Draw a simple picture of a keyboard in your notebook and label it.

3. **Mouse:**

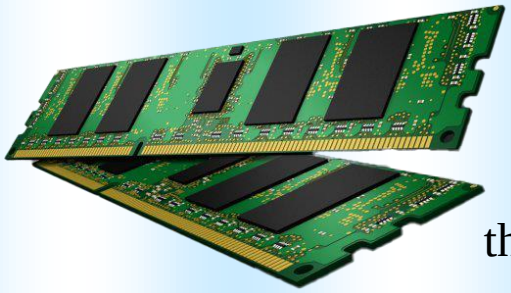
- **What it is:** A pointing device that you move with your hand to control the cursor (the arrow or blinking line) on the screen. It usually has buttons for selecting items and performing actions.
- **Think of it like:** A remote control for navigating on the computer screen.
- **Your Task:** Draw a simple picture of a mouse in your notebook and label it.

4. System Unit (or Tower):

- **What it is:** The main box that contains the most important parts of the computer, including the motherboard, central processing unit (CPU), memory, storage devices, and other components. It's the "brain" of the computer.
- **Think of it like:** The engine of a car.
- **Your Task:** Draw a simple picture of a system unit in your notebook and label it.

Inside the System Unit:

- **Memory (RAM - Random Access Memory):**



  - **What it is:** Temporary storage where the computer keeps data that it is currently using. When you close a program or turn off the computer, the information in RAM is usually lost.
  - **Think of it like:** Your desk where you keep the papers you are currently working on.
  - **Your Task:** If your teacher shows you a memory card or stick, observe its size and shape. Note down your observations.
- **Hard Disk Drive (HDD) or Solid State Drive (SSD):**

  - **What it is:** Long-term storage where all your files, programs, and the operating system are stored even when the computer is turned off.
  - **Think of it like:** A filing cabinet where you keep all your important documents.

- **Your Task:** If your teacher shows you a hard disk drive, observe its size and shape. Note down your observations.

- **CD-ROM/DVD-ROM Drive:**

- **What it is:** A drive that can read data from CDs or DVDs. Some can also write data onto them.
- **Think of it like:** A player for music CDs or movie DVDs.
- **Your Task:** If your teacher shows you a CD-ROM, observe its shape and how it is used. Note down your observations.

5. **Speakers:**

- **What they are:** Output devices that produce sound from the computer.
- **Think of them like:** A radio that plays music.
- **Your Task:** Draw a simple picture of a speaker in your notebook and label it.

IV. Other Technology Tools (Gadgets)

Besides the main parts of a computer, there are many other technology tools or gadgets we use:

- **Laptop:**

A portable computer that combines the keyboard, screen, and system unit into a single, battery-powered device.

- **Tablet:**

A portable, touch-screen device that is typically smaller than a laptop and often used for browsing the internet, reading, and entertainment.

- **Smartphone:** A mobile phone with advanced computing capabilities and connectivity, like accessing the internet and running apps.

- **Printer:**

An output device that produces text and images on paper.

Scanner:

An input device that converts physical documents and images into digital files on the computer.

- **Projector:**

  An output device that displays computer images onto a large screen.

Your Task: Think of at least two other technology tools you have seen or used. Write their names and what they are used for in your notebook.

V. Peripherals

Peripherals are devices that connect to the computer to add functionality. Some examples include:

- **Mouse**
- **Keyboard**
- **Printer**

- **Scanner**
- **Speakers**
- **Webcam (for video calls)**
- **Microphone (for recording sound)**
- **External Hard Drive (for extra storage)**

Your Task: Look at the list above. Which of these peripherals are input devices? Which are output devices? Write them down in two separate lists in your notebook.

Summary:

In this lesson, we learned about the basic parts of a computer: the monitor, keyboard, mouse, and system unit (including memory, hard disk drive, and CD-ROM drive). We also explored other common technology tools like laptops, tablets, and smartphones, and understood the concept of peripherals.

Further Activities:

- With the guidance of your teacher, try to identify the different parts of a real computer in the classroom.
- Discuss with your classmates how each part of the computer helps us to use it.
- Draw and label more technology tools in your notebook.

CONTENT STANDARD: B4.1.1.1: Identify parts of a computer and technology tools

LEARNING INDICATOR: B4.1.1.1.2: Describe the types of input devices of a computer and their uses. E.g. joystick, light pen, mouse, pointing stick etc.

SUBJECT SPECIFIC PRACTICES: Identifying, Describing, Exploring

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I. What are Input Devices?

Input devices are hardware components that allow you to send data and instructions into a computer. They act as a bridge between you and the computer, enabling you to interact with it.

II. Types of Input Devices and Their Uses:

Let's explore some common types of input devices:

1. **Keyboard:**

- **What it is:** A board with keys that you press to type text (letters, numbers, symbols), and enter commands into the computer.
- **How it works:** When you press a key, it sends a signal to the computer, which then interprets that signal as a specific character or command.
- **Uses:**
  - Typing documents, emails, and messages.
  - Entering commands and shortcuts to control software.
  - Navigating through menus and dialog boxes.
- **Your Task:** Observe the different types of keys on a keyboard (alphanumeric, function keys, special keys). Note down at least three different categories of keys and give an example of what each category is used for.

2. **Mouse:**
   - **What it is:** A handheld pointing device that you move on a surface to control the cursor (the pointer) on the screen. It typically has one or more buttons for selecting items and performing actions.

- **How it works:** As you move the mouse, sensors inside track the movement and translate it into cursor movement on the screen. Clicking the buttons usually selects items or executes commands.
- **Uses:**
  - Selecting icons, files, and folders.
  - Opening programs and documents.
  - Dragging and dropping items.
  - Drawing and graphic design.
  - Navigating web pages.
- **Your Task:** If your teacher has different types of mice (e.g., wired, wireless), observe them. What are the similarities and differences you notice?

3. **Joystick:**

- **What it is:** A stick that you can move in different directions to control movement on the screen. It often has buttons that can be pressed to perform actions.

- **How it works:** The movement of the stick is detected by sensors and translated into directional commands for the computer.
- **Uses:**
  - Primarily used for playing video games (controlling characters, vehicles, etc.).
  - Sometimes used in specialized applications like controlling machinery or simulations.
- **Your Task:** If you have ever used a joystick or seen one, describe how you used it or what you saw it being used for.

4. **Light Pen:**

- **What it is:** A pen-like device that uses a light-sensitive tip to interact with a computer screen.
- **How it works:** When the tip of the light pen touches the screen, it detects the light emitted by the screen at that specific point, allowing the computer to identify the location.

- **Uses:**
  - Selecting options on menus.
  - Drawing directly on the screen.
  - Used in some older computer systems and specialized applications like graphic design and engineering.
- **Your Task:** Light pens are not as common now. Try to imagine how using a pen directly on the screen to select or draw might feel different from using a mouse. Write down your thoughts.
-

5. **Pointing Stick (TrackPoint):**

- **What it is:** A small, pressure-sensitive nub embedded within the keyboard of some laptops. You control the cursor by applying pressure to the stick in the desired direction.
- **How it works:** Sensors detect the pressure you apply to the stick and translate it into cursor movement. It often

has dedicated buttons located below the keyboard for clicking.

- **Uses:**
  - Controlling the cursor on laptops, especially in situations where there isn't much space for a mouse.
  - Navigation without lifting your hands from the keyboard.
- **Your Task:** If your teacher shows you a laptop with a pointing stick, try to gently apply pressure in different directions and observe the cursor movement on the screen. Describe your experience.

6. **Touchpad (Trackpad):**

- **What it is:** A flat, touch-sensitive surface found on most laptops. You control the cursor by moving your finger across the surface. Buttons for clicking are usually located

below the touchpad or the touchpad itself can be pressed.

- **How it works:** Sensors in the touchpad detect the movement and position of your fingers.
- **Uses:**
  - Controlling the cursor on laptops.
  - Performing actions like clicking, scrolling, and multi-touch gestures (depending on the touchpad).
- **Your Task:** If you have used a laptop with a touchpad, describe how you use your fingers to move the cursor and perform a click.

7. **Scanner:**
   - **What it is:** A device that captures images or documents and converts them into a digital format that can be stored and viewed on a computer.
   - **How it works:** It uses light to scan the surface of the document or image and then translates the light patterns into digital data.
   - **Uses:**
     - Creating digital copies of paper documents and photographs.

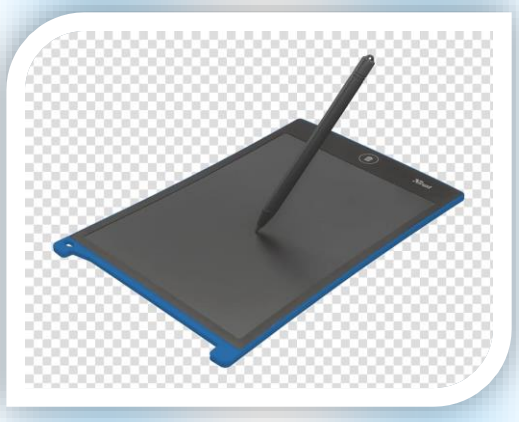
        - Importing images into documents or for editing.
    - **Your Task:** Think about a time you have seen a document being scanned. What happened to the paper document and what appeared on the computer screen?

8. **Microphone:**
    - **What it is:** A device that converts sound waves into electrical signals that can be processed and stored by a computer.
    - **How it works:** Sound waves cause a diaphragm inside the microphone to vibrate, which in turn generates an electrical signal.
    - **Uses:**
        - Recording voice for audio files.
        - Communicating online through voice chat or video conferencing.
        - Giving voice commands to the computer (voice recognition).
    - **Your Task:** Think about how your voice is captured when you speak into a phone. How is a microphone similar to that?

9. **Webcam:**

- **What it is:** A camera that connects to a computer (often built into laptops) and can capture still images and videos.
- **How it works:** It uses a lens and an image sensor to capture light and convert it into a digital image or video stream.
- **Uses:**
  - Video conferencing and online meetings.
  - Taking photos and recording videos.
  - Live streaming.
- **Your Task:** If you have used a webcam for a video call, describe how it allowed you to see and be seen by the other person.

10. **Graphics Tablet (Digitizing Tablet):**



- **What it is:** A flat surface that you draw on with a stylus (a pen-like tool). The tablet translates the movements of the stylus into digital drawings on the computer screen.
- **How it works:** The tablet has sensors that detect the position and pressure of the stylus.
- **Uses:**
  - Creating digital artwork and illustrations.
  - Retouching photos.
  - Signing documents digitally.
- **Your Task:** Graphics tablets are often used by artists. Imagine drawing on a flat surface and seeing your drawing appear on the screen. How might this be useful for an artist?

III. Bringing Input Devices to Class:

Your teacher may bring some of these input devices to class. Take the opportunity to:

- **Observe:** Look closely at each device. What is its shape, size, and how do you hold or interact with it?
- **Handle (if allowed):** Gently try using the devices to get a feel for how they work.
- **Ask Questions:** Don't hesitate to ask your teacher any questions you have about the input devices and their uses.

Summary:

Input devices are essential for interacting with computers. They allow us to enter text, give commands, control the cursor, capture images and sounds, and much more. Understanding the different types of input devices and their specific uses helps us to use computers effectively.

CONTENT STANDARD: B4.1.1.1: Identify parts of a computer and technology tools

LEARNING INDICATOR: B4.1.1.1.3: Differentiate between RAM and ROM.

SUBJECT SPECIFIC PRACTICES: Identifying, Comparing, Contrasting

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I. Understanding Computer Memory: RAM and ROM

Computers use different types of memory to store and access information. Two important types are RAM and ROM.

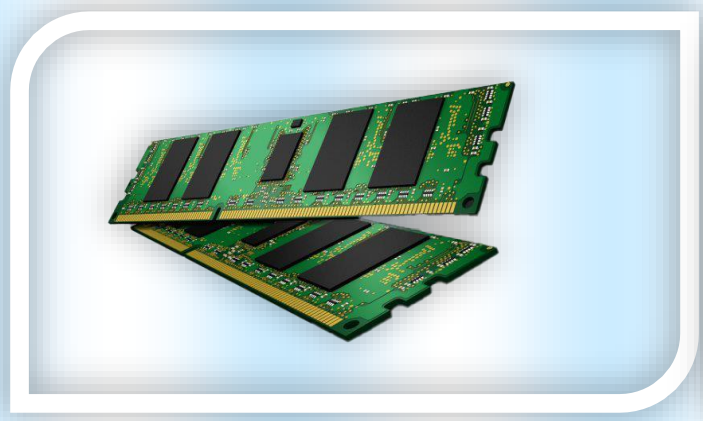
1. **RAM (Random Access Memory):**
   - **What it is:** RAM is the **temporary** memory of the computer. It's like the computer's short-term memory.
   - **How it works:** When you open a program or a file, the computer loads the necessary data into RAM so it can access it quickly. The computer can read from and write to RAM.

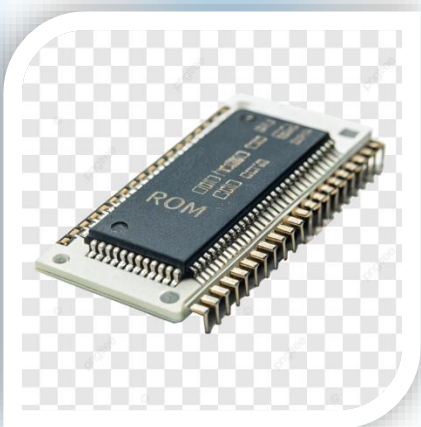
- **Think of it like:** Your desk where you keep the papers you are currently working on. You can quickly grab a paper, read it, write on it, and put it back. However, when you finish working and clear your desk, those papers are no longer there.
- **Key Characteristics:**
  - **Volatile:** Data in RAM is lost when the computer is turned off or loses power.
  - **Fast:** RAM allows for very quick reading and writing of data, which is essential for running programs smoothly.
  - **Used for:** Currently running applications, open files, and the operating system while the computer is on.
- **Your Task:** If your teacher shows you a RAM stick or a picture of one, observe its appearance. Note down any distinguishing features you see.

2. **ROM (Read-Only Memory):**
   - **What it is:** ROM is the **permanent** memory of the computer. It's like the computer's long-term, built-in instructions.

- **How it works:** ROM contains essential instructions that the computer needs to start up (boot up) and load the operating system. The computer can only read data from ROM; it cannot easily write new data to it.
- **Think of it like:** An instruction manual that comes with a device. The instructions are permanently printed there, and you can only read them to understand how to use the device.
- **Key Characteristics:**
  - **Non-volatile:** Data in ROM is retained even when the computer is turned off.
  - **Slower than RAM:** Reading data from ROM is generally slower than from RAM.
  - **Used for:** Storing the boot program (BIOS or UEFI) and other fundamental instructions that the computer needs to function at a basic level.
- **Your Task:** If your teacher shows you a ROM chip or a picture of one (it might be integrated onto the motherboard), observe its appearance. How might it look different from the RAM stick?

Summary Table: RAM vs. ROM





Feature	RAM (Random Access Memory)	ROM (Read-Only Memory)
Storage	Temporary	Permanent
Volatility	Volatile (data lost on power off)	Non-volatile (data retained on power off)
Speed	Fast	Slower
Read/Write	Read and Write	Primarily Read-Only
Usage	Running applications, open files	Boot instructions, basic system software

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LEARNING INDICATOR: B4.1.1.1.4: Type short phrases.

SUBJECT SPECIFIC PRACTICES: Typing, Practicing

II. Typing Short Phrases

Now, let's practice using a word processing application (like Microsoft Word, Google Docs, or any other text editor) to type some short phrases. This will help you get familiar with the keyboard and improve your typing skills.

Instructions:

1. Open a word processing application on the computer.
2. Type the following phrases carefully, pressing the spacebar between each word:
    - The quick brown fox
    - jumps over the lazy dog
    - Hello world
    - My name is [Your Name]
    - This is a computer
    - Practice makes perfect
    - Word processing is fun

3. Try typing each phrase a few times.
4. Pay attention to using the correct fingers for different keys.
5. Use the Shift key to type capital letters.
6. Use the spacebar to create spaces between words.

Your Task: Type the phrases listed above in your word processing application. If you make a mistake, use the backspace key to delete it and type again. Show your typed phrases to your teacher.

LEARNING INDICATOR: B4.1.1.1.5: Summarise the first generation of computers which used vacuum tubes as a major piece of technology.

SUBJECT SPECIFIC PRACTICES: Discussing, Summarizing, Recalling

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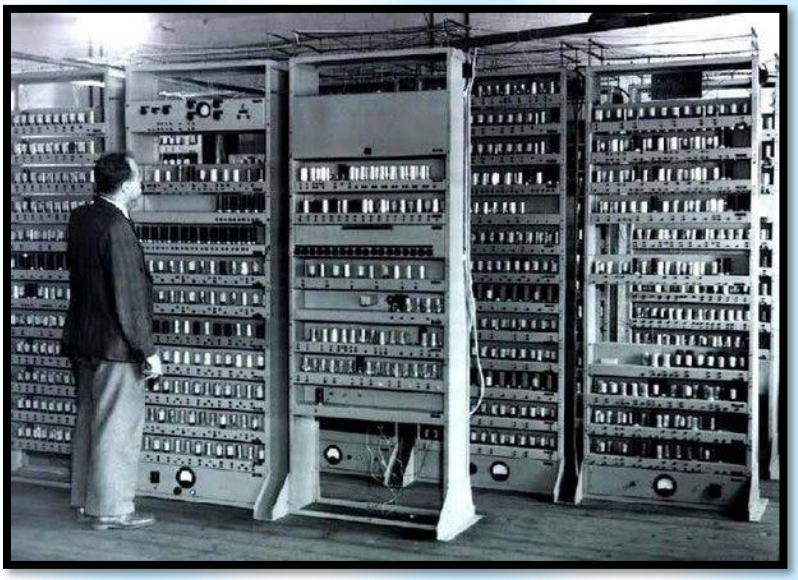
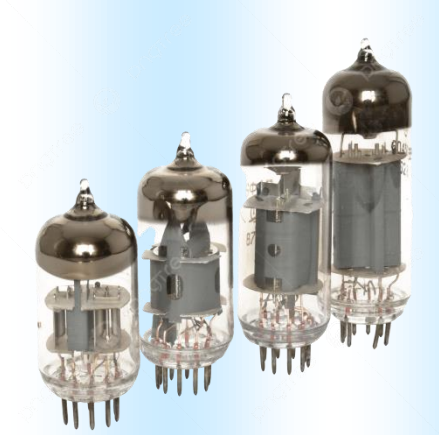
III. The First Generation of Computers (Using Vacuum Tubes)



The first generation of computers, developed roughly from the 1940s to the 1950s, was a groundbreaking era in technology. These

early computers were characterized by their use of **vacuum tubes**.

- **Vacuum Tubes:**



These were electronic devices that controlled the flow of electricity. They acted as switches and amplifiers. However, they were large, consumed a lot of power, generated a significant amount of heat, and were prone to failure.

Key Characteristics of First Generation Computers:

- **Technology:** Primarily used vacuum tubes for circuitry and magnetic drums for memory.
- **Size:** Very large, often occupying entire rooms.
- **Speed:** Relatively slow compared to modern computers.
- **Power Consumption:** Consumed enormous amounts of electricity, leading to high operating costs and heat problems.

- **Programming:** Programmed in machine language (binary code – 0s and 1s), which was very difficult and time-consuming.
- **Input/Output:** Used punched cards and paper tape for inputting data and instructions, and produced output on paper printouts.

Examples of First Generation Computers:

- **ENIAC (Electronic Numerical Integrator and Computer):** Often considered the first general-purpose electronic digital computer. [1] It was massive and primarily used for military calculations. [2]

- **EDVAC (Electronic Discrete Variable Automatic Computer):** Improved upon ENIAC by incorporating the idea of storing both data and instructions in memory (the stored-program concept).
- **UNIVAC (UNIVersal Automatic Computer):** One of the first commercially produced computers, used for business and government applications.

- **IBM 701:** IBM's first large-scale electronic computer.

Discussion Points:

- Imagine how difficult it would be to work with a computer that filled an entire room!
- Why do you think the invention of the transistor was a significant improvement over vacuum tubes? (Hint: Think about size, power, and reliability).
- How do you think programming in binary code (0s and 1s) would have been different from how we use computers today?

Your Task: In your own words, write a short paragraph summarizing the main features of the first generation of computers, focusing on the use of vacuum tubes and the challenges associated with them. Mention at least one of the example computers listed above.

B4 WORD PROCESSING: INTRODUCTION TO MS-WINDOWS INTERFACE - DESKTOP BACKGROUND AND LOCATIONS OF THE COMPUTER

This note guide will introduce you to the Microsoft Windows interface, focusing on the desktop background and its features.

STRAND 1: INTRODUCTION TO COMPUTING

SUB-STRAND 2: INTRODUCTION TO MS-WINDOWS INTERFACE (DESKTOP BACKGROUND AND LOCATIONS OF THE COMPUTER.)

CONTENT STANDARD: B4.1.2.1: Demonstrate the use of the Desktop Background as well as working with folders.

LEARNING INDICATOR: B4.1.2.1.1: Describe the desktop background and explain its features (e.g. image, icons and Taskbar of the background).

SUBJECT SPECIFIC PRACTICES: Observing, Describing, Identifying

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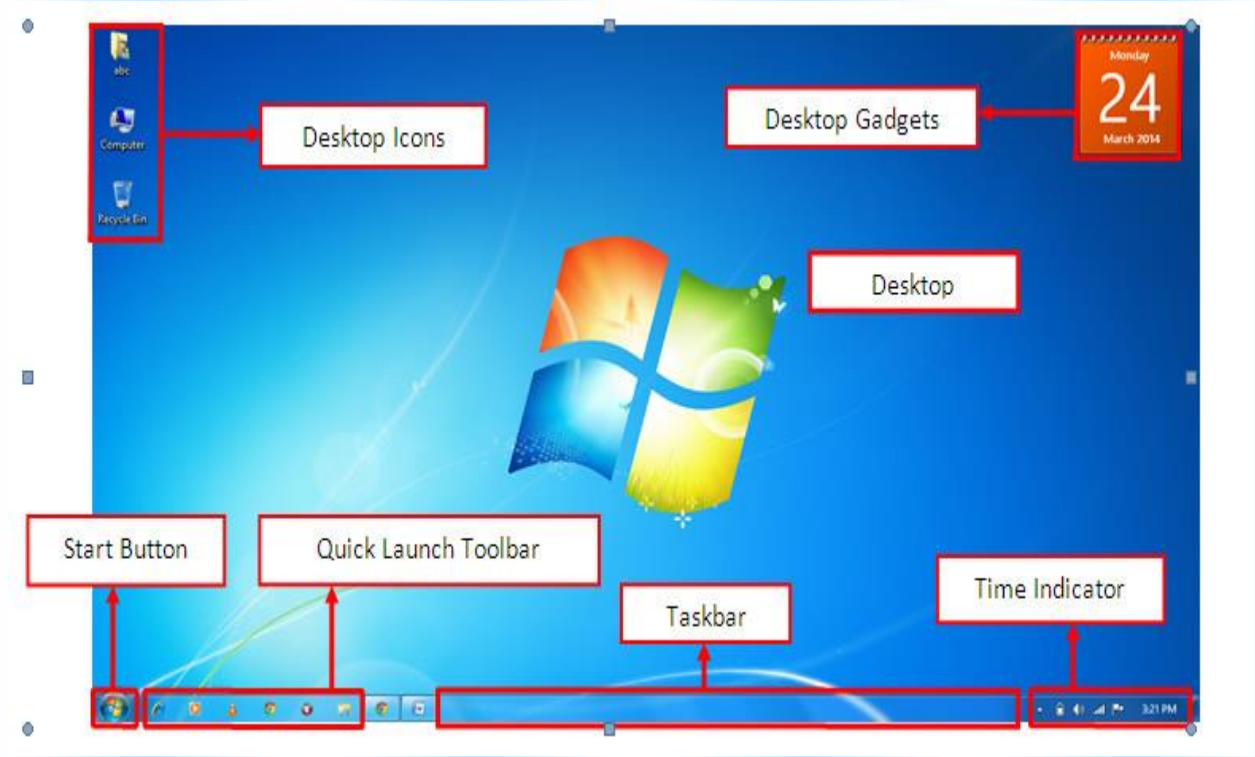
I. What is the Desktop Background?



When you turn on a computer with Microsoft Windows, after it starts up, you will usually see the **Desktop**. The Desktop is the main screen that appears after you log in. Think of it like the top of your physical desk – it's the workspace where you can access your files, folders, and programs.

The **Desktop Background**, also known as the **wallpaper**, is the image or color that you see on your Desktop. It's like the covering on your physical desk.

II. Features of the Desktop Background:

Let's explore the different parts you typically see on the Desktop Background:

1. **Wallpaper (Background Image):**
    - **What it is:** The picture or color that covers the main area of your Desktop.
    - **Purpose:** It can personalize your computer and make it visually appealing. You can often choose your own pictures as wallpaper.
    - **Your Task:** Observe the default wallpaper on your computer or the different examples your teacher shows you. Describe what you see in the images. Do you find them interesting? Why or why not?
2. **Icons:**
    - **What they are:** Small graphical symbols or pictures that represent files, folders, applications (programs), and shortcuts.
    - **Purpose:** Icons provide a quick and easy way to access your frequently used items.
    - **Types of Icons:**

- **File Icons:** Represent individual documents (like a Word document or a picture). They often have a small image that indicates the type of file.
- **Folder Icons:** Represent containers where you can organize your files and other folders. They usually look like small folders.
- **Application (Program) Icons:** Represent software programs that you can open and use (like a web browser or a word processor). They often have a unique logo or symbol.
- **Shortcut Icons:** These are links to files, folders, or programs that are stored elsewhere on your computer. They have a small arrow on the bottom-left corner to indicate that they are shortcuts.

- **Your Task:** Look at the icons on your computer's Desktop. Can you identify any file icons, folder icons, or application icons? Draw a simple example of each in your notebook and label them.

3. **Taskbar:**
   - **What it is:** A long horizontal bar usually located at the bottom of the Desktop. It provides quick access to

running applications, pinned programs, and system information.

- **Key Components of the Taskbar (from left to right, generally):**
  - **Start Button:** Usually located at the far left (often with the Windows logo). Clicking it opens the Start Menu, which gives you access to all your applications, settings, and the power options (shut down, restart, sleep).
  - **Pinned Applications (Quick Launch):** Icons of programs that you have chosen to keep readily accessible on the Taskbar. You can click these icons to quickly open the programs.
  - **Running Applications:** Icons of the programs that are currently open and running. Often, a line or a small indicator appears below the icon of a running application.
  - **System Tray (Notification Area):** Usually located on the far right. It displays icons for background processes, notifications (like updates or messages), the clock, and volume control.

- **Purpose:** The Taskbar helps you manage open applications and quickly launch your favorite programs.
- **Your Task:** Look at the Taskbar on your computer. Identify the Start Button, any pinned applications, and the system tray. Draw a simple representation of your Taskbar in your notebook and label these key components.

III. Exploring the Desktop Background:

Your teacher will guide you to explore the Desktop Background on the computer. This might involve:

- **Identifying the wallpaper image.**
- **Locating different types of icons (files, folders, applications, shortcuts).**
- **Finding the Taskbar and its key components (Start Button, pinned apps, running apps, system tray).**
- **Possibly changing the wallpaper image (if allowed by your teacher).**

Remember: The appearance of your Desktop Background might be slightly different depending on the version of Windows you are using and any personal customizations you or other users have made. However, the basic features (wallpaper, icons, and Taskbar) will generally be present.

Summary:

The Desktop Background is the main screen you see after starting Windows. It consists of the wallpaper (background image), icons (representing files, folders, and programs), and the Taskbar (for quick access to applications and system information). Understanding these features is the first step in learning how to navigate and use the Windows interface effectively.

Further Activities:

- Try to identify different types of icons on your Desktop. What kind of file or program do you think each icon represents?

- Practice locating the Start Button and the system tray on the Taskbar. What information or options can you find in these areas?
- If you have a personal computer at home (with permission), try changing the Desktop wallpaper to a picture you like.

CONTENT STANDARD: B4.1.2.1: Demonstrate the use of the Desktop Background as well as working with folders.

LEARNING INDICATOR: B4.1.2.1.2: Demonstrate how to Personalise the Desktop Background using required tools and settings.

SUBJECT SPECIFIC PRACTICES: Demonstrating, Applying, Customizing

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I. Personalizing Your Desktop Background

Personalizing your Desktop Background allows you to change the way your computer screen looks by selecting different wallpapers (images or colors). This can make your computing experience more enjoyable and reflect your personal style.

II. Steps to Personalize the Desktop Background:

There are usually a couple of ways to access the settings for personalizing your Desktop Background:

Method 1: Using the Right-Click Menu (Most Common)

1. **Find an Empty Area on the Desktop:** Move your mouse cursor to an empty space on your Desktop where there are no icons.
2. **Right-Click:** Press the right mouse button once. This will open a context menu (a list of options).
3. **Select "Personalize":** Look for the option that says "Personalize" (it might be at the bottom of the menu). Click on it with the left mouse button. This will open the Personalization settings window.

Method 2: Through the Settings App

1. **Open the Start Menu:** Click on the Start Button (usually at the bottom-left corner of the screen).
2. **Click on "Settings":** Look for the "Settings" icon (it often looks like a gear). Click on it.
3. **Select "Personalization":** In the Windows Settings window, find and click on the "Personalization" category.

III. Understanding the Personalization Settings:

Once you are in the Personalization settings, you will usually see several options on the left-hand side. The option you are looking

for to change the Desktop Background is typically called **"Background"**. Click on "Background".

On the right side of the window, you will see options for choosing your background:

1. **Background Drop-down Menu:**
    - **Picture:** This option allows you to choose a single image as your wallpaper. You can select from the default pictures provided by Windows or browse your own pictures stored on your computer by clicking the "Browse" button.
    - **Solid color:** This option allows you to choose a single color as your background. You can select from a palette of colors.
    - **Slideshow:** This option allows you to select a folder of images, and Windows will automatically change the wallpaper at a set interval (e.g., every 30 minutes, every hour). You can customize the slideshow settings.
2. **Choose your picture:** If you selected "Picture", you will see thumbnails of available images. Click on an image to set it as your Desktop Background.

3. **Browse:** If you want to use your own picture, click the "Browse" button and navigate to the folder where your picture is saved. Select the picture and click "Choose picture".
4. **Choose a fit:** When you select a picture, you might see a "Choose a fit" or similar drop-down menu. This allows you to control how the image is displayed on your screen:
    - **Fill:** Stretches the image to fill the entire screen, which might distort the image if it doesn't have the same aspect ratio as your screen.
    - **Fit:** Displays the entire image while maintaining its aspect ratio, which might result in black bars around the image if it doesn't fit the screen perfectly.
    - **Stretch:** Stretches the image to fill the screen, potentially distorting it.
    - **Tile:** Repeats the image across the screen like tiles. This is useful for smaller images or patterns.
    - **Center:** Centers the image on the screen with any remaining area filled with a solid color.
5. **Choose a color:** If you selected "Solid color", click on one of the color swatches to set that color as your background.

You can often click on "Custom color" to choose a specific shade.

6. **Slideshow settings:** If you selected "Slideshow", you can set the picture change interval, choose to shuffle the pictures, and decide if the slideshow should run even when on battery power (for laptops).

IV. Demonstrating Personalization:

Your teacher will likely demonstrate how to personalize the Desktop Background using a projector or by showing you pictures of the different settings. Pay close attention to the steps and the different options available.

V. Guided Practice:

Under the guidance of your teacher, you will now get a chance to personalize the Desktop Background on the computer you are using. Follow these steps:

1. **Right-click** on an empty area of the Desktop.
2. Select **"Personalize"**.
3. Click on **"Background"** in the left-hand menu.

4. Try setting the background to a **Picture** using one of the default images.
5. Experiment with the different options in the **"Choose a fit"** drop-down menu and see how it affects the appearance of the wallpaper.
6. Try setting the background to a **Solid color**. Choose a color you like.
7. If there are pictures available, try setting up a **Slideshow**.

Remember: If you are using a shared computer, be mindful of any restrictions and always follow your teacher's instructions.

Summary:

Personalizing the Desktop Background is a simple way to customize the look of your computer. By accessing the Personalization settings, you can choose different pictures, solid colors, or even a slideshow of images as your wallpaper and adjust how they fit your screen.

Further Activities:

- If you have your own computer at home (with permission), explore the different personalization options available.
- Find a digital image that you like and try setting it as your Desktop Background. Experiment with the different "Choose a fit" options.
- Discuss with your classmates what kind of Desktop Backgrounds they prefer and why.

CONTENT STANDARD: B4.1.2.1: Demonstrate the use of the Desktop Background as well as working with folders.

LEARNING INDICATOR: B4.1.2.1.3: Demonstrate the use of the Sections of the Taskbar; Start Menu (Location and Launching only), Pinned Applications (Launched / Minimised programmes) and Notification Area or system tray (Date & Time, and Volume).

SUBJECT SPECIFIC PRACTICES: Demonstrating, Exploring, Identifying

I. Exploring the Sections of the Taskbar

As we learned before, the Taskbar is usually located at the bottom of your screen and provides quick access to various functions and information. Let's explore its main sections:

1. **Start Menu:**
    - **Location:** Typically found on the far left of the Taskbar. It usually has the Windows logo.
    - **Launching:** Click on the Start Button to open the Start Menu.
    - **Purpose:** The Start Menu is your gateway to all the applications installed on your computer, your files and folders, settings, and power options (shut down, restart, sleep).
    - **Your Task:** Locate the Start Button on your screen and click it. Observe what appears. Can you see a list of programs? Can you find the power options?
2. **Pinned Applications:**
    - **Location:** Usually in the middle section of the Taskbar, next to the Start Button.

- **Launched Programmes:** Icons of applications that you have "pinned" to the Taskbar for quick access. A single click on a pinned application icon will launch (open) the program if it's not already running.
- **Minimised Programmes:** If a pinned application is currently running, its icon on the Taskbar will usually have a visual indicator underneath it (like a line or a highlight). If you click on the icon of a running application, it will either bring the window to the front if it's minimised or minimise it (hide it from view on the Desktop) if it's currently open.
- **Your Task:** Identify the pinned applications on your Taskbar. Click on one of them to launch it. Once it's open, click on its icon again. What happens? Click it again. What happens this time?

3. **Notification Area (System Tray):**
    - **Location:** Usually on the far right of the Taskbar.
    - **Date & Time:** Typically displayed in the bottom-right corner of the Notification Area. You can often hover your mouse over it to see more details or click on it to open a calendar and clock.

- **Volume:** Usually represented by a speaker icon. Clicking on it opens a volume control slider, allowing you to adjust the sound level of your computer.
- **Other Icons:** The Notification Area also displays icons for background processes and notifications, such as internet connection status, battery level (for laptops), and updates.
- **Your Task:** Locate the Notification Area on your Taskbar. Find the date and time display. Hover your mouse over it or click on it. What do you see? Find the volume icon and click on it. Try adjusting the volume slider.

II. Guided Exploration:

Your teacher will guide you to explore these sections of the Taskbar on the computer. Pay attention to how to:

- Open the Start Menu and navigate through the list of applications.
- Launch pinned applications from the Taskbar.

- Minimise and restore (bring back) open applications using their icons on the Taskbar.
- Check the date and time in the Notification Area.
- Adjust the volume using the volume control in the Notification Area.

LEARNING INDICATOR: B4.1.2.1.4: Adding and removing icons from the desktop.

SUBJECT SPECIFIC PRACTICES: Manipulating, Organizing, Customizing

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III. Adding Icons to the Desktop

Icons on the Desktop provide quick access to your files, folders, and applications. Here are common ways to add icons:

1. **Creating Shortcuts:**
    - **Find the Application in the Start Menu:** Open the Start Menu and find the application you want to create a shortcut for.

- **Right-Click and Drag:** Click and hold the left mouse button on the application name, then drag it to an empty area on your Desktop. Release the mouse button. A shortcut icon (with a small arrow) will be created.
- **Right-Click and "Send to":** Right-click on the application name in the Start Menu, hover over "More" (or a similar option), and then click "Open file location". This will open the folder where the application's main file is located. Right-click on the application's .exe file, hover over "Send to", and then click "Desktop (create shortcut)".
- **Right-Click on Desktop and "New" -> "Shortcut":** Right-click on an empty area of the Desktop, select "New", and then click "Shortcut". In the "Type the location of the item" box, browse to find the file or application you want to create a shortcut for, or type its path. Click "Next" and then give the shortcut a name. Click "Finish".

2. **Dragging Files and Folders:** You can drag files and folders from File Explorer (the program you use to browse your computer's files) directly onto the Desktop to create

shortcuts or, in some cases, move them. To create a shortcut by dragging, hold down the **Alt** key while dragging the file or folder to the Desktop.

IV. Removing Icons from the Desktop

Removing an icon from the Desktop does not usually delete the original file or application; it typically only removes the shortcut.

1. **Select the Icon:** Click once on the icon you want to remove to select it.
2. **Right-Click and "Delete":** Right-click on the selected icon. In the context menu that appears, click on "Delete". The icon will be moved to the Recycle Bin.
3. **Drag to Recycle Bin:** Click and hold the left mouse button on the icon you want to remove, drag it to the Recycle Bin icon on your Desktop, and then release the mouse button.

Important Note: Be careful when deleting icons. Make sure you understand whether you are deleting a shortcut or the original file or application. Deleting a shortcut is usually safe, but deleting the original file will remove it from your computer.

V. Guided Practice:

Your teacher will guide you to practice adding and removing icons from the Desktop. Try the following:

- Create a shortcut to a program from the Start Menu onto your Desktop.
- Create a shortcut to a file or folder onto your Desktop.
- Remove the shortcuts you created from the Desktop.
- (If instructed by your teacher) Try moving a file or folder to the Desktop and then moving it back to its original location.

Summary:

The Taskbar is a crucial element of the Windows interface, providing access to the Start Menu, pinned and running applications, and the Notification Area. You can also customize your Desktop by adding shortcuts to frequently used items and removing icons you no longer need. Understanding these basic interface elements will help you navigate and use your computer more efficiently.

Further Activities:

- Personalize your own computer (with permission) by pinning your favorite applications to the Taskbar and creating useful shortcuts on your Desktop.
- Organize your Desktop by grouping related icons together.
- Explore the options available when you right-click on an icon on the Desktop.

B4 WORD PROCESSING: MANAGING DESKTOP ICONS AND WORKING WITH FOLDERS

This note guide will teach you how to move, select, and hide multiple icons on the Desktop, as well as how to create, name, and rename folders in Microsoft Windows.

STRAND 1: INTRODUCTION TO COMPUTING

SUB-STRAND 2: INTRODUCTION TO MS-WINDOWS INTERFACE (DESKTOP BACKGROUND AND LOCATIONS OF THE COMPUTER.)

CONTENT STANDARD: B4.1.2.1: Demonstrate the use of the Desktop Background as well as working with folders.

LEARNING INDICATOR: B4.1.2.1.5: Moving, selecting and hiding multiple icons on the desktop.

SUBJECT SPECIFIC PRACTICES: Manipulating,

I. Managing Multiple Icons on the Desktop

Sometimes your Desktop can become cluttered with many icons. Here's how to manage them effectively:

1. **Moving Multiple Icons:**
    - **Select the Icons:**
        - **Using the Mouse (Dragging):** Click and hold the left mouse button in an empty area of the Desktop. Drag the mouse cursor to create a rectangle around all the icons you want to move. Release the mouse button. All the icons within the rectangle will be selected.

- **Using Ctrl Key:** Click on the first icon you want to select. Then, press and hold the **Ctrl** key on your keyboard while clicking on each additional icon you want to select. Release the **Ctrl** key when you have selected all the desired icons.

- **Move the Selected Icons:** Once the icons are selected, click and hold the left mouse button on any one of the selected icons. Drag the group of icons to the new location on your Desktop and release the mouse button. All the selected icons will move together.
- **Your Task:** Practice selecting multiple icons on your Desktop using both the dragging method and the Ctrl key method. Then, try moving the selected group of icons to a different part of the Desktop.

2. **Selecting All Icons:**
   - Press **Ctrl + A** on your keyboard. This shortcut will select all the icons on your Desktop.
   - **Your Task:** Try using the **Ctrl + A** shortcut to select all the icons on your Desktop.
3. **Hiding Desktop Icons:** If you want a clean Desktop without removing the icons, you can hide them:

- **Right-Click on the Desktop:** Click the right mouse button on an empty area of the Desktop.
- **Select "View":** In the context menu that appears, hover your mouse over the "View" option.
- **Click "Show desktop icons":** A checkmark will appear next to this option if the icons are currently visible. Click on "Show desktop icons" to remove the checkmark. This will hide all the icons on your Desktop.
- **To Show Icons Again:** Repeat the same steps: Right-click on the Desktop, select "View", and click "Show desktop icons" again to make the icons reappear.
- **Your Task:** Try hiding the icons on your Desktop using the steps above. Then, make them visible again.

LEARNING INDICATOR: B4.1.2.1.6: Creating, naming and renaming a folder.

SUBJECT SPECIFIC PRACTICES: Organizing, Managing Files

II. Working with Folders

Folders are essential for organizing your files on the computer. They help you keep related files together, making it easier to find and manage your work.

1. **Creating a New Folder:**
    - **Right-Click on the Desktop (or in File Explorer):** Navigate to where you want to create the folder (e.g., on the Desktop or inside another folder using File Explorer). Right-click in an empty area.
    - **Select "New":** In the context menu that appears, hover your mouse over the "New" option.
    - **Click "Folder":** A new folder icon will appear with the default name "New folder" (or similar), and the name will be highlighted, ready for you to type a new name.
    - **Type a Name:** Immediately type the desired name for your folder (e.g., "My Documents", "School Projects", "Pictures").

- **Press Enter:** Press the **Enter** key on your keyboard to save the new folder name.
- **Your Task:** Practice creating a new folder on your Desktop and give it a name like "Practice Folder".

2. **Naming a Folder During Creation:** As described above, after clicking "Folder", the default name is highlighted. Simply type the name you want and press Enter.
3. **Renaming a Folder:** If you need to change the name of an existing folder:
   - **Select the Folder:** Click once on the folder you want to rename to select it.
   - **Right-Click on the Folder:** Right-click on the selected folder.
   - **Select "Rename":** In the context menu that appears, click on the "Rename" option. The current folder name will become highlighted, ready for editing.
   - **Type a New Name:** Type the new name you want for the folder.
   - **Press Enter:** Press the **Enter** key on your keyboard to save the new name.

- **Alternatively:** Select the folder by clicking on it once, then press the **F2** key on your keyboard. The name will become editable. Type the new name and press Enter.
- **Your Task:** Rename the "Practice Folder" you created earlier to "My Practice Files". Then, rename it again to "Completed Tasks".

III. Hardware Manipulation Skill (NB 1):

Even without specific applications open, you can practice basic hardware manipulation skills using just the keyboard and mouse:

- **Keyboard Practice:**
  - **Typing:** Open a simple text editor (like Notepad) if available, or even just a blank document in a word processor. Practice typing letters, numbers, and symbols. Focus on using the correct fingers and improving your speed and accuracy.
  - **Keyboard Shortcuts:** Try using common keyboard shortcuts like **Ctrl + C** (copy), **Ctrl + V** (paste), **Ctrl + X** (cut), **Ctrl + Z** (undo), **Ctrl + S** (save), **Alt + F4**

(close window), **Windows key + D** (show/hide desktop), **Windows key + E** (open File Explorer).

- **Mouse Practice:**
  - **Pointing and Clicking:** Practice moving the mouse cursor accurately and clicking on different items on the screen.
  - **Double-Clicking:** Practice double-clicking on icons to open them.
  - **Right-Clicking:** Practice right-clicking to open context menus.
  - **Dragging and Dropping:** Practice dragging icons or windows from one location to another.

IV. Computer Games for Skill Reinforcement (NB 2):

Playing certain computer games can be a fun way to reinforce your keyboard and mouse skills. Games that require precise mouse movements, clicking, and keyboard controls can help improve your dexterity and coordination. Your teacher may suggest some suitable games for this purpose.

Summary:

Managing your Desktop icons by moving, selecting, and hiding them can help keep your workspace organized. Creating, naming, and renaming folders are fundamental skills for organizing your files and data on the computer. Practicing with the keyboard and mouse, even through games, can improve your overall computer proficiency.

Further Activities:

- Create a system of folders on your computer (with permission) to organize your different types of files (documents, pictures, videos, etc.).
- Experiment with different ways to select multiple icons on your Desktop.
- Research other keyboard shortcuts that can help you work more efficiently.

B4 WORD PROCESSING: DATA, SOURCES AND USAGE (REGENERATED)

This note guide will help you understand what data is, where it comes from (sources), and how we use it.

STRAND 1: INTRODUCTION TO COMPUTING

SUB-STRAND 3: DATA, SOURCES AND USAGE

CONTENT STANDARD: B4.1.3.1: Identify Data and collect data from different sources.

LEARNING INDICATOR: B4.1.3.1.1: Use strategies for identifying data in conversation and newspapers.

SUBJECT SPECIFIC PRACTICES: Observing, Identifying, Discussing, Analyzing

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I. What is Data?

Data is essentially raw, unprocessed facts, figures, symbols, words, or measurements. Think of them as the basic building blocks of information. On their own, they might not tell a

complete story, but they are the foundation for understanding the world around us.

Examples of Data:

- The number 25
- The word "apple"
- The color blue
- A person's name: "Kwame"
- A date: "2024-03-15"
- A temperature: "30°C"

II. Strategies for Spotting Data

To find data in different places, we need to train our eyes and ears to recognize these basic pieces of factual information.

- **Look for Specific Details:** Data often provides precise details about something. Ask yourself: "What exactly is being said or shown?"
- **Identify Numbers and Measurements:** Numbers are a very common form of data. Look for quantities, percentages, scores, dates, times, and any kind of measurement.

- **Recognize Factual Statements:** Statements that can be checked for accuracy often contain data.
- **Note Down Key Identifiers:** Names of people, places, organizations, and specific events are usually important pieces of data.

III. Finding Data in Conversations

When people talk, they share a lot of data. Here's how to pick it out:

- **Listen for Explicit Facts:** People might directly state facts like, "I have three siblings," or "The meeting starts at 9:00 AM."
- **Pay Attention to Numbers and Quantities:** Listen for how many, how much, how often, and other numerical details.
- **Identify Names and Locations Mentioned:** Conversations are full of references to people and places.
- **Consider the Context of the Conversation:** The topic being discussed will give you clues about the type of data being shared.

Activity 1: Data Detective - Conversation

Imagine you hear the following conversation:

Teacher: "Class, 15 students scored above 80% on the last English exam, which took place on Tuesday. The highest score was 95%, achieved by Adwoa."

Identify at least three pieces of data in this short conversation. Write them down and explain what each piece of data represents.

IV. Uncovering Data in Newspapers

Newspapers are designed to report facts and information, making them a rich source of data:

- **Scan Headlines and Lead Paragraphs:** These often contain key data points about the main story (who, what, when, where, why, how).
- **Look for Statistics and Figures:** News articles frequently include numbers to support their reporting (e.g., crime rates, economic indicators, election results).
- **Identify Dates, Times, and Locations of Events:** News is often tied to specific times and places.

- **Note the Names of Individuals and Organizations Involved:** Who are the key players in the news story?

Activity 2: Data Detective - Newspaper Snippet

Read the following excerpt from a news report:

"A heavy rainfall yesterday caused flooding in parts of Accra, affecting an estimated 200 households. The National Disaster Management Organisation (NADMO) reported that the most affected areas were Dansoman and Kaneshie. The rainfall, which lasted for approximately four hours, began at around 11:00 AM."

Identify at least four pieces of data in this newspaper snippet. Write them down and explain what each piece of data represents.

V. Strategies for Identifying Data (Recap)

- Be attentive to specific details.
- Look for numbers, measurements, and statistics.
- Identify factual statements.
- Note names, dates, and locations.
- Consider the context.

LEARNING INDICATOR: B4.1.3.1.2: Use strategies for classifying data into information (i.e. sorting and classifying)

SUBJECT SPECIFIC PRACTICES: Organizing, Categorizing, Analyzing, Interpreting

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VI. Turning Data into Information: Sorting and Classifying

Raw data becomes useful **information** when it is organized, structured, and given context. Two important ways to do this are sorting and classifying.

- **Sorting:** Arranging data in a specific order. This could be by size, date, alphabetical order, or any other relevant characteristic.
- **Classifying:** Grouping data based on similar characteristics or categories. This helps us see patterns and understand relationships within the data.

Think of it: Imagine a list of student test scores (data). To understand how well the class performed (information), we might

sort the scores from highest to lowest or classify them into grade ranges (e.g., A, B, C).

VII. Steps to Sort and Classify Data:

1. **Collect the Data:** First, you need a set of data to work with.
2. **Choose a Sorting Criterion (if applicable):** Decide what characteristic you want to use to put the data in order (e.g., name, age, score).
3. **Sort the Data:** Arrange the data according to your chosen criterion.
4. **Identify Classification Categories:** Determine the meaningful groups or categories you want to use to organize the data (e.g., age groups, types of animals, colors).
5. **Classify the Data:** Assign each piece of data to its appropriate category.
6. **Analyze the Sorted and Classified Data:** Look for patterns, trends, and insights that emerge from the organized data. This is where data becomes information.

Activity 3: Data Organizer

Here is a list of fruits and their colors:

- Apple: Red
- Banana: Yellow
- Grapes: Green
- Orange: Orange
- Strawberry: Red
- Lime: Green

1. **Classify** these fruits by their color. Create a table or list showing the different color categories and the fruits that belong to each.
2. What **information** can you get from this classification? Write one sentence describing a pattern you observe.

VIII. Recording and Classifying Data

When you collect data, it's important to record it systematically. This often involves using tables, lists, or simple forms. Once recorded, you can then apply sorting and classification techniques.

Example:

If you are collecting data on the favorite subjects of your classmates, you might create a table like this:

Student Name	**Favorite Subject**
Aisha	Mathematics
Kwame	Science
Fatima	English
Kofi	Mathematics
Abena	Science
Yaw	Mathematics

Now, you can classify this data by favorite subject:

- **Mathematics:** Aisha, Kofi, Yaw
- **Science:** Kwame, Abena
- **English:** Fatima

This classification gives you the information that Mathematics is the most popular favorite subject in this small group.

Your Task:

Imagine you have collected data on the shoe sizes of five of your friends: 4, 5, 3, 5, 4.

1. **Record** this data in a simple list.
2. **Classify** the shoe sizes into categories (e.g., Shoe Size 3, Shoe Size 4, Shoe Size 5).
3. What **information** does this classification tell you about the shoe sizes of your friends?

LEARNING INDICATOR: B4.1.3.1.3: Identify primary sources of information (photographs, audio recordings, video recordings, film, letters and diaries, speeches, published books, newspapers and magazines, government publications, oral histories, [1] etc.)

SUBJECT SPECIFIC PRACTICES: Recognizing, Categorizing, Evaluating, Discussing

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IX. Finding Information at the Source: Primary Sources

Primary sources are original materials created during the time period or by the people involved in the event or topic you are studying. They offer a direct, firsthand perspective.

Here are some common types of primary sources:

- **Visual:**
  - **Photographs:** Capture a moment in time visually.
  - **Video Recordings and Film:** Record events in motion and with sound.
- **Auditory:**
  - **Audio Recordings:** Capture sounds, including spoken words and music.
- **Textual (Written):**
  - **Letters and Diaries:** Personal accounts and thoughts written by individuals.
  - **Speeches:** Written or recorded talks delivered to an audience.
  - **Published Books (first editions):** The original form of an author's work.
  - **Newspapers and Magazines (from the time):** Reports and articles published close to when events happened.

  - **Government Publications:** Official documents like reports, laws, and statistics.
- **Oral:**
  - **Oral Histories:** Spoken accounts of past events, usually gathered through interviews with people who experienced them.

Why are Primary Sources Important?

- They provide direct evidence without interpretation.
- They offer insights into the perspectives of people who were there.
- They can help you form your own conclusions about events.

Activity 4: Source Sleuth

For each of the following scenarios, identify a possible primary source of information:

1. You want to learn about what daily life was like for children in Ghana 50 years ago.
2. You need to find out the exact wording of a new law passed by the government.

3. You are researching the details of a major sporting event that happened last year.
4. You want to understand the personal feelings of a famous historical figure.

X. Where to Find Primary Sources:

- **Libraries and Archives:** These often hold historical documents, photographs, and recordings.
- **Museums:** May have collections of artifacts and related primary source materials.
- **Online Digital Archives:** Many institutions are making their primary sources available online.
- **Government Websites:** Often publish official documents and reports.
- **University Research Centers:** May have specialized collections.
- **Personal Collections:** Individuals and families may possess valuable primary sources.

Group Discussion:

In small groups, discuss why it's important to consider the source of information when you are learning about something. What are some potential limitations or biases that might exist in primary sources? Be prepared to share your ideas with the class.

Summary:

Identifying data is the first step in understanding information. By using strategies to find data in conversations and newspapers, we can start to gather facts. Then, by sorting and classifying this data, we can turn it into meaningful information. Finally, understanding primary sources helps us to access firsthand accounts and evidence, providing a deeper understanding of events and topics.

Further Activities:

- Find a short news article online and highlight all the data you can identify.

- Think about a topic you are learning in another subject. Can you identify any primary sources related to that topic? Where might you find them?
- Practice sorting and classifying a simple set of data (e.g., the heights of your classmates, the types of vehicles you see on your way to school).

CONTENT STANDARD: B4.1.3.1: Identify Data and collect data from different sources.

LEARNING INDICATOR: B4.1.3.1.4: Demonstrate Sending and sharing information to and from other gadgets. e.g., radio, fax, telephones calls, SMS etc.

SUBJECT SPECIFIC PRACTICES: Identifying, Describing, Discussing

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X. Sharing Information with Other Gadgets

We use various technology tools (gadgets) to send and receive information. These methods allow us to communicate with

individuals and access information from different sources. Let's explore some of these:

- **Radio:**
  - **Sending:** Radio stations transmit audio information (music, news, talk shows) as electromagnetic waves that can be received by radio receivers.
  - **Receiving:** We use radio sets (car radios, portable radios) to tune into these waves and listen to the information being broadcast.
  - **Recall from B3:** You might remember learning about broadcasting information to a wide audience through radio.
- **Fax (Facsimile):**
  - **Sending:** A fax machine scans a document and converts it into electrical signals that are transmitted over telephone lines to another fax machine.
  - **Receiving:** The receiving fax machine converts these signals back into a printed copy of the original document.

  - **Usage:** While less common now due to digital communication, faxes are still used in some businesses for sending official documents.
- **Telephone Calls (Voice Calls):**
  - **Sending:** Your voice is converted into electrical signals by the telephone and transmitted over telephone networks to the receiver's phone.
  - **Receiving:** The receiver's phone converts the electrical signals back into sound, allowing them to hear your voice.
  - **Types:** Landline phones use physical wires, while mobile phones use radio waves to connect to cellular networks.
- **SMS (Short Message Service) / Text Messaging:**
  - **Sending:** You type a short text message on your mobile phone, which is then transmitted as digital data over the cellular network to the recipient's phone.
  - **Receiving:** The recipient's phone receives the digital data and displays it as a text message on their screen.
- **Email (Electronic Mail):**

- **Sending:** You compose a message (which can include text, images, and files) on a computer or mobile device connected to the internet. This data is sent through email servers to the recipient's email address.
- **Receiving:** The recipient accesses their email account using a computer or mobile device connected to the internet to read the message.
- **Recall from B3:** You might have started learning about basic email concepts.

- **Internet and World Wide Web:**
  - **Sending/Sharing:** Websites host vast amounts of information (text, images, videos) that are stored on servers connected to the internet. Users can also upload and share their own content.
  - **Receiving:** We use computers, tablets, and smartphones with web browsers to access and view this information from anywhere in the world with an internet connection.
  - **Recall from B3:** You likely learned about using the internet for basic information retrieval.

- **Other Gadgets:** Think about other devices you know that send and receive information, such as:
  - **Television:** Receives broadcast signals for audio and video.
  - **Computers (with internet):** Send and receive vast amounts of digital information.
  - **Smartphones (with internet and cellular):** Versatile devices for calls, texts, email, internet access, and more.
  - **Social Media Platforms:** Allow users to share text, images, videos, and interact with others globally.

Discussion:

In your own words, describe how you have used at least two of the gadgets mentioned above to send or receive information. Where do you think most people in your community get their information from? How has technology changed the way information is shared around the world?

LEARNING INDICATOR: B4.1.3.1.5: Demonstrate basic calculations on sample data e.g. sum, percentage, average etc.

SUBJECT SPECIFIC PRACTICES: Calculating, Analyzing, Interpreting

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XI. Basic Calculations on Data

Once we have collected and sometimes classified data, we can perform calculations to extract further meaning and solve problems. Here are some basic calculations:

- **Sum (Total):** Adding together all the values in a set of data.
  - **Example:** If you collected the scores of 5 students in a quiz: 7, 8, 6, 9, 7. The sum of the scores is 7+8+6+9+7=37.
- **Average (Mean):** Finding the central value of a set of data by adding all the values and then dividing by the total number of values.
  - **Example (using the quiz scores above):** The average score is 37/5=7.4.
- **Percentage:** Expressing a part of a whole as a fraction of 100.

- **To find the percentage of a part:** (Part / Whole) * 100%
- **Example:** If there are 20 students in a class and 15 are girls, the percentage of girls is

  $(15/20)*100$

  $= 0.75*100$

  $= 75\%$.

Activity 5: Data Detective - Calculations

Imagine you collected the following data on the number of rainy days in a week:

- Monday: 1
- Tuesday: 0
- Wednesday: 1
- Thursday: 2
- Friday: 0
- Saturday: 1
- Sunday: 0

1. **Calculate the total (sum) number of rainy days in the week.**
2. **Calculate the average number of rainy days per day.**
3. What percentage of the days in the week were rainy?

Your Task:

Your teacher will provide you with a small set of sample data that you might have collected earlier (e.g., ages of classmates, number of books read). Work individually or in small groups to:

1. Identify the type of data you have.
2. Decide which basic calculations (sum, average, percentage - if applicable) would be useful to perform on this data.
3. Perform the calculations and show your working steps.
4. Write one sentence explaining what the result of your calculation tells you about the data.

Note: These basic calculations are fundamental principles used in many areas of computing and data analysis to solve problems and gain insights from information.

Summary:

We share information using various gadgets like radios, telephones, and the internet, each with its own way of sending and receiving data. Performing basic calculations on collected data, such as finding the sum, average, and percentage, allows us to analyze the information and draw meaningful conclusions. These skills are important for understanding and working with data in many different contexts.

Further Activities:

- Discuss other ways information is shared in your community and around the world.
- Think about how businesses and organizations use calculations on data to make decisions.
- Practice performing these basic calculations on different sets of data you encounter in your daily life or in other subjects.

B4 WORD PROCESSING: DATA COLLECTION TOOLS AND TECHNIQUES

This note guide will explore the process of data collection, the issues involved, the tools and techniques we use, and the importance of mapping for surveys.

STRAND 1: INTRODUCTION TO COMPUTING

SUB-STRAND 3: DATA, SOURCES AND USAGE

CONTENT STANDARD: B4.1.3.2: Demonstrate data collection using Data collection tools.

LEARNING INDICATOR: B4.1.3.2.1: Identify the steps and issues involved in data collection.

SUBJECT SPECIFIC PRACTICES: Identifying, Describing, Analyzing, Problem Solving

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I. Steps Involved in Data Collection

Collecting data is a systematic process that involves several key steps to ensure the information gathered is relevant and useful.

(a) Identify the Reason(s) for Collecting Data: * **Why is this important?** Before you start collecting any data, you need to clearly understand *why* you are doing it. What problem are you trying to solve? What questions are you trying to answer? What information do you need to gather? * **Example:** You might want to collect data to find out the most popular snack among students in your class, or to understand the traffic patterns around your school.

(b) Select from the List of Reasons for Collecting the Data and Set Goals: * **Refining your purpose:** Once you know the broad reasons, you need to be more specific. What exactly do you want to achieve with the collected data? Set clear and measurable goals. * **Example (following the snack example):** The goal might be to identify the top three most popular snacks among all students in Basic 4. * **Example (following the traffic example):** The goal might be to determine the peak hours of vehicle traffic on the street in front of the school between 7:00 AM and 9:00 AM.

(c) Plan an Approach and Methods to Collecting Data: * **How will you collect the data?** This involves deciding on the best

methods and tools to use. Will you ask people questions (interviews or questionnaires)? Will you observe and record what you see? Will you use checklists? * **Who will you collect data from?** Determine your target group or sample. Will you ask all students in Basic 4, or just a few? Where will you conduct your data collection? * **What resources do you need?** Consider the time, materials (e.g., questionnaires, notebooks, pens), and people you might need for your data collection. * **Example (snack example):** Plan to use a simple questionnaire with a list of common snacks and ask each Basic 4 student to choose their favorite. * **Example (traffic example):** Plan to stand at a safe location in front of the school and count the number of vehicles passing by in 15-minute intervals between 7:00 AM and 9:00 AM.

(d) Collect the Data and Interpret the Data: * **Gathering the information:** Follow your plan and use your chosen methods to collect the data carefully and accurately. * **Organizing the data:** Once collected, you need to organize the data in a way that makes it easier to understand (e.g., in tables or lists). * **Analyzing the data:** Look for patterns, trends, and key findings in your collected

data. This might involve simple calculations like counting, finding averages, or percentages (as we learned earlier). * **Drawing conclusions:** Based on your analysis, what answers do you have to your initial questions? What did you learn? * **Example (snack example):** After collecting the questionnaires, count how many students chose each snack. The snack with the highest count is the most popular. * **Example (traffic example):** Look at your counts for each 15-minute interval. The interval with the highest number of vehicles represents the peak traffic hour.

Your Task: Think of a simple question you would like to answer about your class or school. Following the steps above, briefly outline how you would go about collecting data to answer that question.

II. Issues Involved in Data Collection

Collecting data can sometimes be challenging due to various issues that can affect the quality and accuracy of the information gathered.

(a) Unavailability of Data: * **What it means:** Sometimes, the data you need might not exist or might be difficult to access. * **Reasons:** The information might not have been recorded, it might be lost, or it might be confidential and not available to the public. * **Example:** Trying to find detailed records of rainfall patterns from 100 years ago in a remote area might be very difficult due to a lack of record-keeping.

(b) Intentional Manipulation of Data: * **What it means:** Sometimes, individuals or organizations might deliberately provide false or misleading data for their own purposes. * **Reasons:** This could be to hide negative information, to present a more favorable image, or to influence decisions. * **Example:** A company might underreport its pollution levels to avoid penalties. Students might give dishonest answers on a survey if they think their real answers will get them in trouble.

(c) Random Errors: * **What it means:** These are unintentional mistakes that can occur during the data collection process. * **Reasons:** These could be due to human error (e.g., misreading a question, recording an answer incorrectly), faulty equipment, or unexpected circumstances. * **Example:** A person conducting a

survey might accidentally skip a question, or a measuring tool might be slightly inaccurate.

(d) Bias: * **What it means:** Bias occurs when the data collection process or the people involved systematically favor certain outcomes or perspectives over others. * **Reasons:** This can happen due to the way questions are asked, the selection of participants, or the personal beliefs of the researcher. * **Example:** Surveying only students who attend a particular after-school club to find out about popular hobbies might lead to a biased result because it doesn't include the opinions of students who don't attend that club.

(e) Ethical Considerations: * **What it means:** Data collection must be conducted ethically, respecting the privacy, rights, and well-being of the people involved. * **Issues:** This includes obtaining informed consent, ensuring anonymity and confidentiality, and avoiding harm or distress to participants.

Your Task: Think of a time you tried to get some information (it doesn't have to be formal data collection). Did you face any

difficulties? Which of the issues mentioned above might have been involved?

LEARNING INDICATOR: B4.1.3.2.2: Describe various tools or techniques of data collection e.g. interview, observation, checklist etc.

SUBJECT SPECIFIC PRACTICES: Identifying, Describing, Applying

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III. Tools and Techniques for Data Collection

We use different tools and techniques to gather data depending on the type of information we need and the context of our data collection.

- **Interview:**
  - **What it is:** A method of collecting data by asking questions directly to individuals. Interviews can be structured (with a set list of questions) or unstructured (more conversational).

- **Example:** A researcher might interview community members to understand their experiences with a new road construction project.
- **Practical Example:** Your teacher might conduct a short interview with a few students to understand their favorite subjects.

- **Observation:**
  - **What it is:** Collecting data by watching and recording behavior or events as they happen. This can be done in a natural setting or a controlled environment.
  - **Example:** Observing how students interact with each other during break time.
  - **Practical Example:** You could observe the types of vehicles that pass by your school gate during a specific time.
- **Questionnaire (Survey):**
  - **What it is:** A set of written questions given to individuals to answer. Questionnaires can be distributed on paper or online.
  - **Example:** A school might use a questionnaire to gather feedback from students about school facilities.

- **Practical Example:** You could create a short questionnaire to find out your classmates' favorite colors.

- **Checklist:**
  - **What it is:** A list of items or behaviors that you check off if they are present or observed. Checklists are useful for collecting specific and consistent data.
  - **Example:** A teacher might use a checklist to record whether students have completed specific tasks during a lesson.
  - **Practical Example:** You could create a checklist of different types of birds you see in your school compound and mark each one you observe.
- **Tests and Assessments:**
  - **What it is:** Methods used to measure knowledge, skills, or abilities.
  - **Example:** A class examination is a form of data collection to assess student learning.
- **Document Review:**
  - **What it is:** Collecting data by examining existing documents, records, and reports.

  - **Example:** A historian might review old newspapers and letters to understand a past event.
- **Focus Groups:**
  - **What it is:** A discussion with a small group of people, guided by a facilitator, to gather opinions and insights on a particular topic.

Your Task: For each of the data collection tools mentioned above (interview, observation, questionnaire, checklist), think of a specific situation in your school or community where that tool could be effectively used to collect data.

LEARNING INDICATOR: B4.1.3.2.3: Draw or sketch maps of the area to be surveyed.

IV. Mapping for Surveys

When conducting surveys or collecting data that is related to specific locations, it can be very helpful to draw or sketch maps of the area you are studying.

- **Why is mapping important for surveys?**

- **Visual Representation:** Maps provide a visual overview of the area, making it easier to plan your data collection efforts.
- **Identifying Locations:** You can mark specific locations where you need to collect data (e.g., households to visit, points of interest to observe).
- **Spatial Organization:** Maps help you understand the spatial relationships between different elements in the area.
- **Navigation:** They can guide you as you move through the survey area.
- **Data Recording:** You can sometimes record data directly on the map, linking information to specific locations.

- **How to sketch a map for a survey:**

1. **Identify Key Features:** Start by drawing the main boundaries of your survey area (e.g., the edges of a school compound, the streets surrounding a market). Include important landmarks like buildings, roads, rivers, or significant trees.
2. **Add Details:** Include the elements that are relevant to your survey. For example, if you are surveying households, draw the

outlines of the houses. If you are studying traffic, draw the roads and intersections.

3. **Label Important Locations:** Clearly label key landmarks, streets, or areas on your map.

4. **Mark Sampling Points (if applicable):** If you have a specific plan for where you will collect data (e.g., visiting every third house), mark these points on your map.

5. **Use Symbols and a Legend (optional but helpful):** You can use different symbols to represent different features (e.g., a square for a building, a line for a road) and create a legend to explain these symbols.

6. **Keep it Simple and Clear:** Your map doesn't need to be a professional drawing, but it should be clear enough for you and others to understand the layout of the area.

Your Task:

Imagine you are going to conduct a survey of the different types of trees found in your school compound.

1. On a piece of paper, sketch a simple map of your school compound. Include the main buildings, pathways, and any significant open areas you know.
2. On your map, try to mark where you think you might find different groups of trees.
3. How would this map help you in your tree survey? Write one or two sentences explaining the benefits of having this map.

Your Teacher might:

- Bring diagrams or pictures of areas that have been surveyed to show you examples of survey maps.
- Guide you in a practical exercise of sketching a map of a familiar area (like a part of the school or the neighborhood around it) in preparation for a hypothetical survey.

Summary:

Data collection is a multi-step process that requires careful planning and execution. It's important to be aware of the various issues that can arise during data collection and to use appropriate

tools and techniques to gather accurate information. Mapping is a valuable skill for surveys that involve geographical areas, helping with planning, navigation, and data recording.

Further Activities:

- Discuss the ethical considerations involved in a data collection scenario (e.g., surveying people about their opinions).
- Choose a simple topic and plan a mini data collection project, including identifying the reason, setting goals, choosing a method, and outlining the steps.
- Practice sketching maps of familiar areas in your notebook.

B4 WORD PROCESSING: TECHNOLOGY IN THE COMMUNITY (COMMUNICATION)

This note guide will explore how technology is used in our homes, schools, and communities, focusing on communication and energy efficiency.

STRAND 1: INTRODUCTION TO COMPUTING

SUB-STRAND 4: TECHNOLOGY IN THE COMMUNITY (COMMUNICATION)

CONTENT STANDARD: B4.1.4.1: Demonstrate the use of technology in the community

LEARNING INDICATOR: B4.1.4.1.1: Describe how digital systems are used and could be used at home, in school and the local community.

SUBJECT SPECIFIC PRACTICES: Identifying, Describing, Discussing

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I. Digital Systems in Our Lives

Digital systems are electronic devices that use digital data (information represented as numbers, usually 0s and 1s) to perform various tasks. These systems are increasingly common in our homes, schools, and communities, playing a significant role in communication and other activities.

(a) Digital Systems at Home:

- **How they are used:**
  - **Communication:** Mobile phones for calls, SMS, and internet-based messaging apps to connect with family

and friends. Computers and tablets for email, video calls, and social media.

- **Entertainment:** Televisions for watching programs and movies. Gaming consoles for playing video games. Music players and streaming services for listening to music.
- **Information Access:** Computers, tablets, and smartphones connected to the internet for browsing websites, reading news, and learning.
- **Home Management:** Smart home devices like smart speakers, smart lights, and smart thermostats for controlling various aspects of the home.

- **How they could be used further:**
  - **Education:** Online learning platforms and educational apps for homework and extra learning.
  - **Health:** Telemedicine consultations with doctors online.
  - **Accessibility:** Devices and software to assist family members with disabilities.
  - **Security:** Smart security systems with cameras and sensors to monitor the home.

(b) Digital Systems in School:

- **How they are used:**
  - **Learning:** Computers and tablets for research, typing assignments, and accessing educational software. Projectors and interactive whiteboards for presentations and engaging lessons.
  - **Communication:** School websites and email for communication between teachers, students, and parents. School management systems for sharing grades and announcements.
  - **Administration:** Computers for managing student records, attendance, and finances.
  - **Library:** Digital catalogs and online resources for finding books and information.
- **How they could be used further:**
  - **Personalized Learning:** Software that adapts to individual student needs.
  - **Virtual Field Trips:** Experiencing places and events remotely.

- **Collaborative Projects:** Online tools for students to work together on assignments.
- **Digital Portfolios:** Showcasing student work and progress online.

(c) Digital Systems in the Local Community:

- **How they are used:**
  - **Communication:** Mobile phone networks for widespread communication. Public announcement systems (megaphones) for community announcements. Internet access in libraries and community centers.
  - **Information Dissemination:** Community websites and social media pages for sharing news and events. Digital billboards and signs for public information.
  - **Services:** Digital payment systems in markets and shops. Mobile banking services. Online platforms for local businesses.
  - **Security and Safety:** CCTV cameras for monitoring public spaces. Emergency alert systems via mobile phones.
- **How they could be used further:**

- **Community Engagement Platforms:** Online forums for residents to discuss local issues.
- **Digital Literacy Training:** Programs to help community members develop digital skills.
- **Local E-commerce:** Platforms for local artisans and businesses to sell their products online.
- **Smart City Initiatives:** Using technology to improve public services like transportation and waste management.

Discussion:

Think about your own home, school, and community. Can you name one specific digital system you use in each place? Describe how it helps with communication or another task. Can you think of one way a digital system could be used even more effectively in each of these settings?

LEARNING INDICATOR: B4.1.4.1.2: Identify and list common examples of energy-efficient gadgets and techniques used in homes, in schools and in the local communities e.g. using the appropriate energy-efficient gadgets - energy saving bulbs …, choosing the right appliances, cleaning your stove often (soot removal), reducing overall cooking time etc.

SUBJECT SPECIFIC PRACTICES: Identifying, Listing, Discussing

II. Energy-Efficient Gadgets and Techniques

Using energy efficiently is important for saving money, conserving resources, and protecting the environment. Here are some examples of energy-efficient gadgets and techniques used in different settings:

(a) At Home:

- **Energy-Efficient Gadgets:**
  - **Energy-saving light bulbs (LEDs, CFLs):** Use significantly less electricity than traditional incandescent bulbs.
  - **Energy-efficient appliances (refrigerators, washing machines, air conditioners) with high energy star ratings:** Designed to consume less power.
  - **Solar chargers:** Use sunlight to charge small electronic devices.
  - **Energy-saving shower heads:** Reduce water flow, which also reduces the energy needed to heat the water.
- **Energy-Efficient Techniques:**
  - **Turning off lights and appliances when not in use.**

- **Unplugging devices that draw standby power (phantom load).**
- **Using natural light whenever possible.**
- **Washing clothes in cold water.**
- **Drying clothes on a clothesline instead of a dryer.**
- **Cooking efficiently:** Using the right size pot for the burner, covering pots while cooking, cleaning your stove often (soot removal on gas stoves improves efficiency), reducing overall cooking time.
- **Insulating your home to reduce the need for heating and cooling.**

(b) In School:

- **Energy-Efficient Gadgets:**
  - **Energy-saving light bulbs (LEDs).**
  - **Computers and monitors with power-saving modes.**
  - **Motion sensor lights in hallways and restrooms.**
  - **Solar panels for generating electricity (if available).**
- **Energy-Efficient Techniques:**
  - **Turning off lights and equipment when classrooms are empty.**

- **Using projectors and interactive whiteboards efficiently.**
- **Opening windows for ventilation instead of relying solely on air conditioning.**
- **Educating students and staff about energy conservation.**

(c) In the Local Community:

- **Energy-Efficient Gadgets:**
  - **Solar-powered streetlights.**
  - **Energy-efficient traffic lights (LEDs).**
  - **Public transportation with fuel-efficient or electric vehicles.**
  - **Smart grids for efficient distribution of electricity.**
- **Energy-Efficient Techniques:**
  - **Promoting the use of public transportation, cycling, and walking.**
  - **Implementing waste reduction and recycling programs (reduces energy needed for new materials).**

- **Supporting local renewable energy projects (solar farms, wind turbines).**
- **Encouraging energy-efficient building designs.**

Activity:

Your teacher will show you pictures of different energy-efficient gadgets. In small groups, discuss each gadget and explain how it helps save energy. Then, brainstorm at least two additional energy-efficient techniques that could be used in your home, school, or community. Present your ideas to the class.

LEARNING INDICATOR: B4.1.4.1.3: Describe how a range of digital systems (hardware and software) and their peripheral devices can be used for different purposes in the community.

SUBJECT SPECIFIC PRACTICES: Identifying, Describing, Discussing

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III. Uses of Digital Systems and Peripherals in the Community

Digital systems (the main computer or device) and their peripheral devices (equipment connected to the main system) have a wide range of uses in our communities:

- **Hardware:** The physical parts of a digital system (e.g., computer case, monitor, keyboard, mouse, printer, scanner, speakers, microphone, camera, projector, network cables).
- **Software:** The programs and instructions that tell the hardware what to do (e.g., word processing software, web browsers, communication apps, operating systems).

- **Peripheral Devices:** Additional hardware that expands the functionality of the digital system.

Examples of Uses in the Community:

- **Communication:**
  - **Hardware:** Mobile phones, computers, internet modems, routers, public address systems (megaphones).
  - **Software:** Calling apps, messaging apps, email clients, social media platforms, video conferencing software.
  - **Peripherals:** Microphones for public announcements, speakers for broadcasting information.
- **Information and Education:**
  - **Hardware:** Computers in libraries and community centers, projectors for public presentations, digital displays for community information.
  - **Software:** Web browsers for accessing online resources, educational software in community learning centers.
  - **Peripherals:** Printers for printing documents, scanners for digitizing information.

- **Business and Commerce:**
  - **Hardware:** Point-of-sale (POS) systems in shops, computers for managing inventory, digital payment terminals.
  - **Software:** Accounting software, e-commerce platforms, mobile payment apps.
  - **Peripherals:** Barcode scanners, receipt printers.
- **Healthcare:**
  - **Hardware:** Computers in clinics and hospitals for patient records, telemedicine equipment.
  - **Software:** Electronic health record systems, appointment scheduling software.
  - **Peripherals:** Printers for prescriptions and reports, cameras for remote consultations.
- **Security and Safety:**
  - **Hardware:** CCTV cameras, alarm systems, emergency communication devices.
  - **Software:** Surveillance software, emergency dispatch systems.
  - **Peripherals:** Monitors for viewing camera feeds, sirens and alarms.

- **Transportation:**
  - **Hardware:** GPS devices for navigation, digital displays for public transport schedules.
  - **Software:** Mapping apps, ride-sharing apps.
- **Entertainment and Culture:**
  - **Hardware:** Public screens for displaying movies or events, sound systems for community gatherings.
  - **Software:** Media players, streaming services.

Group Activity:

In groups of three to five, choose one specific area of the community (e.g., a local market, a community health center, the local government office). Discuss how different digital systems (hardware and software) and their peripheral devices are currently used in that setting. Then, brainstorm one or two ways these technologies could be used even more effectively for different purposes in the same setting. Present your findings to the class.

Summary:

Digital systems are integral to communication and various other aspects of our lives at home, in school, and in the community. Using energy-efficient gadgets and techniques is crucial for sustainability. Understanding how different hardware, software, and peripheral devices work together allows us to utilize technology effectively for a wide range of purposes in our communities.

Further Activities:

- Observe the different ways technology is used in a specific public place in your community (e.g., a post office, a bank). Make a list of the hardware and software you see being used.
- Research a new energy-efficient technology that could be beneficial for your home, school, or community.
- Discuss the potential benefits and challenges of increased technology use in your community.

B4 WORD PROCESSING: TECHNOLOGY IN THE COMMUNITY (ADVANCEMENTS) & INTRODUCTION TO MS-POWERPOINT

This note guide will explore technological changes happening in our communities and introduce you to the basics of using Microsoft PowerPoint.

STRAND 2: PRESENTATION SOFTWARE

SUB-STRAND 1: INTRODUCTION TO MS-POWERPOINT

CONTENT STANDARD: B4.2.1.1: Demonstrate the use of MS- PowerPoint

LEARNING INDICATOR: B4.2.1.1. Demonstrate the use of MS- PowerPoint

SUBJECT SPECIFIC PRACTICES: Exploring, Creating, Presenting

I. Introduction to MS-PowerPoint (Covered in the Next Sub-strand)

We will begin learning about Microsoft PowerPoint in the next sub-strand. This software is a powerful tool for creating visual presentations.

I. Getting Started with MS-PowerPoint

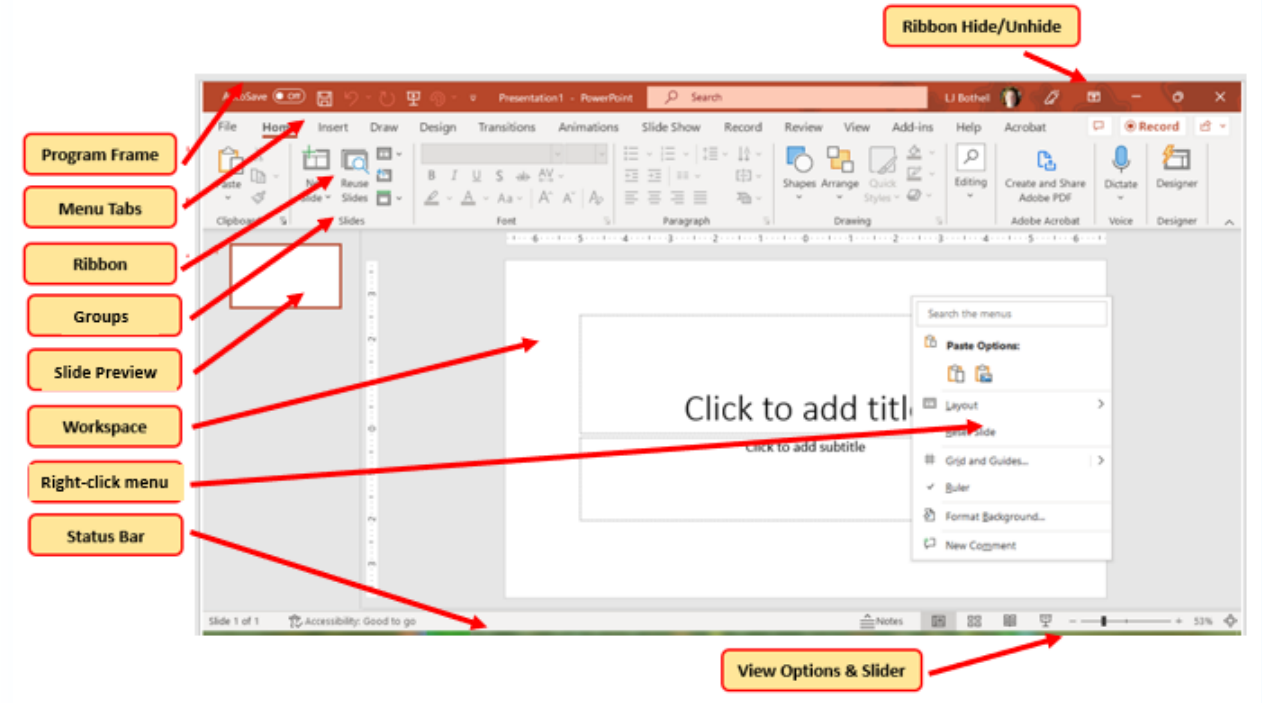
Microsoft PowerPoint is a powerful software program used to create presentations. Presentations are a way to share information visually, often using slides that contain text, images, charts, and other multimedia elements.

(a) Opening PowerPoint:

1. **Click the Start Button:** Usually located in the bottom-left corner of your screen.
2. **Find PowerPoint:** Look for "Microsoft PowerPoint" in the list of programs. You might need to scroll through the list or search for it.
3. **Click to Open:** Once you find it, click on "Microsoft PowerPoint" to open the program.

(b) The PowerPoint Interface (Basic Elements):

When you open PowerPoint, you will see a window with several key parts:



- **Title Bar:** At the very top, showing the name of the presentation (usually "Presentation1" until you save it) and the name of the program.
- **Ribbon:** Located below the Title Bar, this is the main set of tools organized into tabs (e.g., File, Home, Insert, Design, Transitions, Animations, Slide Show, Review, View). Each tab contains groups of related commands.
- **File Tab (Backstage View):** Clicking "File" opens a menu with options for saving, opening, printing, and other file-related tasks.

- **Quick Access Toolbar:** Usually above or below the Ribbon, this customizable toolbar contains shortcuts to frequently used commands like Save, Undo, and Redo.
- **Slide Pane:** Usually on the left side, this area shows thumbnail views of all the slides in your presentation. You can click on a thumbnail to work on that specific slide.
- **Slide Area (Work Area):** The large central area where you create and edit the content of your current slide.
- **Notes Pane:** Located below the Slide Area, this is where you can add notes for yourself that the audience won't see during the presentation.
- **Status Bar:** At the very bottom, it displays information about the presentation, such as the current slide number and the language.
- **View Buttons:** In the bottom-right corner, these buttons allow you to switch between different views of your presentation (e.g., Normal view, Slide Sorter view, Slide Show view).

(c) Creating a New Presentation:

When you open PowerPoint, you are usually presented with options:

- **Blank Presentation:** Starts you with an empty presentation containing a title slide.
- **Templates:** Pre-designed presentations with different layouts, colors, and fonts that you can customize.

To start a blank presentation, click on "Blank Presentation".

(d) Understanding Slides and Layouts:

- **Slides:** The individual pages of your presentation.
- **Layouts:** Pre-defined arrangements of placeholders (boxes) on a slide where you can insert content like titles, subtitles, text, images, charts, and videos. PowerPoint offers various slide layouts (e.g., Title Slide, Title and Content, Section Header, Two Content, Blank). You can choose a layout when you create a new slide or change the layout of an existing slide using the "Layout" button in the "Home" tab.

(e) Adding Your First Slide:

By default, a new blank presentation opens with a "Title Slide" layout. This usually has placeholders for a main title and a subtitle.

1. **Click in the "Click to add title" placeholder** and type the main title of your presentation (e.g., "My First Presentation").
2. **Click in the "Click to add subtitle" placeholder** and type a subtitle or your name (e.g., "Introduction by [Your Name]").

(f) Saving Your Presentation:

It's important to save your work regularly.

1. **Click the "File" tab.**
2. **Click "Save As".**
3. **Choose a location** where you want to save your file (e.g., Desktop, Documents).
4. **In the "File name" box,** type a name for your presentation (e.g., "First Presentation").
5. **Click "Save".** The title bar will now show the name you have given to your presentation.

Your First Task:

1. Open Microsoft PowerPoint on your computer.
2. Start a new blank presentation.
3. On the first slide (Title Slide), add a title like "Our School" and a subtitle like "Presented by [Your Name]".
4. Save your presentation as "Our School Presentation" in a location you can easily find.

We will explore more features of PowerPoint in the upcoming lessons.

Summary:

Technology is constantly evolving and bringing significant changes to various aspects of our communities and the world. Recognizing these advancements is important for understanding the future. Microsoft PowerPoint is a valuable tool for creating visual presentations, and learning its basic interface and functions is the first step in effectively communicating information visually.

Further Activities:

- Continue to observe and learn about new technologies being introduced in your community and around the world.
- Familiarize yourself with the basic parts of the PowerPoint interface on your computer. Try opening and saving a blank presentation.

B4 WORD PROCESSING: INTRODUCTION TO WORD PROCESSING (TABS AND RIBBONS)

This note guide will introduce you to the basics of word processing using a word processing application like Microsoft Word, focusing on the Home Tab and its essential features.

STRAND 3: WORD PROCESSING

SUB-STRAND 1: INTRODUCTION TO WORD PROCESSING (TABS AND RIBBONS OF WORD PROCESSING)

CONTENT STANDARD: B4.3.1.1: Demonstrate understanding of the use of word processing application

LEARNING INDICATOR: B4.3.1.1.1: Demonstrate how to use the clipboard, styles, fonts, paragraph and editing.

SUBJECT SPECIFIC PRACTICES: Exploring, Applying, Creating

I. Getting Started with a Word Processing Application

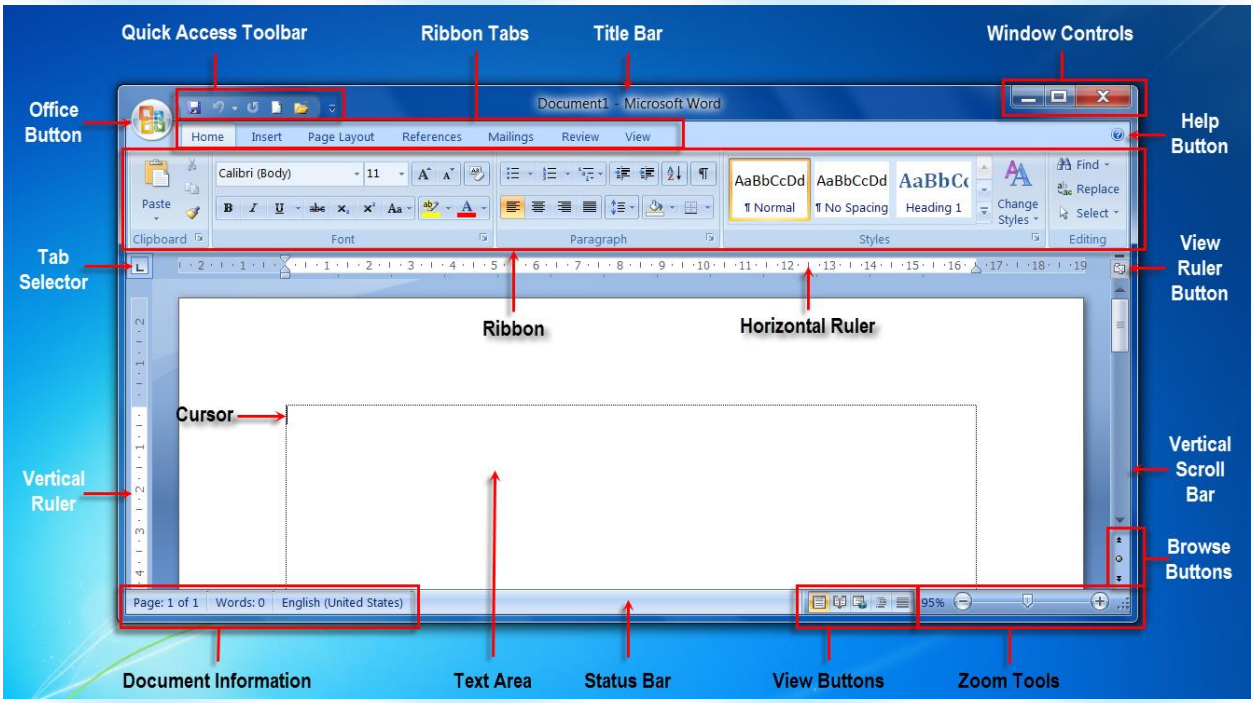
A word processing application is a software program used to create, edit, format, and print text-based documents. Examples include Microsoft Word, Google Docs, LibreOffice Writer, etc.

(a) Opening a Word Processing Application:

1. **Click the Start Button:** (Usually in the bottom-left corner of your screen on Windows).
2. **Find the Application:** Look for the name of your word processing application (e.g., "Word", "Google Docs" in your web browser, "LibreOffice Writer") in the list of programs. You might need to scroll or search.
3. **Click to Open:** Click on the application name to open it.

(b) The Basic Interface:

When you open a word processing application, you will typically see a blank document area and a set of tools organized in a **Ribbon** at the top of the window. The Ribbon is divided into **Tabs**, each containing groups of related commands.



II. Exploring the Home Tab

The **Home Tab** is usually the default tab that opens and contains some of the most frequently used tools for basic document creation and formatting. We will focus on the following groups within the Home Tab:

1. **Clipboard:**
   - **Features:**
     - **Cut:** Removes the selected text or object and places it on the clipboard (temporary storage). (Icon often looks like scissors)

- **Copy:** Creates a duplicate of the selected text or object and places it on the clipboard. (Icon often looks like two overlapping pieces of paper)
- **Paste:** Inserts the content of the clipboard at the current cursor position. (Icon often looks like a clipboard with a piece of paper)
- **Format Painter:** Copies the formatting (font, size, color, etc.) from one piece of text or object and allows you to apply it to another. (Icon often looks like a paintbrush)

- **How to Use:**

1. **Select** the text or object you want to cut or copy.
2. Click the **Cut** or **Copy** button in the Clipboard group.
3. Move the cursor to where you want to insert the text or object.
4. Click the **Paste** button.
5. To use **Format Painter**, select the text with the formatting you want to copy, click the Format Painter button, and then drag the paintbrush cursor over the text you want to format.

- **Your Task:** Open a new blank document and type a short sentence. Practice cutting and pasting parts of the

sentence to different locations. Then, type another sentence with different formatting (e.g., bold, different color). Use the Format Painter to apply this formatting to the first sentence.

2. **Font:**
    - **Features:** This group allows you to change the appearance of your text characters.
        - **Font:** The typeface or design of the letters (e.g., Arial, Times New Roman). (Drop-down menu showing the current font)
        - **Font Size:** The height of the characters. (Drop-down menu with numbers)
        - **Grow Font:** Increases the font size. (Icon often looks like a large 'A' with an upward arrow)
        - **Shrink Font:** Decreases the font size. (Icon often looks like a small 'A' with a downward arrow)
        - **Bold (B):** Makes the selected text thicker.
        - **Italic (I):** Slants the selected text.
        - **Underline (U):** Draws a line beneath the selected text. (Often has a drop-down for different underline styles)

- **Strikethrough (abc):** Draws a line through the selected text.
- **Subscript (x_2):** Makes the selected text appear smaller and below the baseline.
- **Superscript (x^2):** Makes the selected text appear smaller and above the baseline.
- **Text Effects and Typography (A with effects):** Adds visual effects to the text (e.g., shadows, outlines).
- **Text Highlight Color (ab with a color underneath):** Adds a background color to selected text to make it stand out.
- **Font Color (A with a color underneath):** Changes the color of the selected text.
- **Clear All Formatting (A with an eraser):** Removes all formatting from the selected text, returning it to the default.

- **How to Use:**

0. **Select** the text you want to format.
1. Click the desired buttons or use the drop-down menus in the Font group to apply the formatting.

- **Your Task:** Type a few words or sentences. Experiment with different fonts, font sizes, bold, italic, underline, and font colors. Try using subscript and superscript (e.g., for chemical formulas like H_2O or exponents like 2^3). Use the Text Highlight Color to emphasize a word. Finally, use "Clear All Formatting" to remove all the changes you made.

3. **Paragraph:**
   - **Features:** This group controls the alignment and spacing of paragraphs.
     - **Bullets (•):** Starts a list with bullet points. (Often has a drop-down for different bullet styles)
     - **Numbering (1, 2, 3):** Starts a numbered list. (Often has a drop-down for different numbering styles)
     - **Decrease Indent:** Moves the paragraph closer to the left margin.
     - **Increase Indent:** Moves the paragraph further from the left margin.
     - **Sort (A-Z↓):** Arranges selected text alphabetically or numerically.

- **Show/Hide ¶ (pilcrow):** Displays or hides paragraph marks and other hidden formatting symbols.
- **Align Left:** Aligns the paragraph to the left margin.
- **Center:** Centers the paragraph between the left and right margins.
- **Align Right:** Aligns the paragraph to the right margin.
- **Justify:** Aligns the paragraph to both the left and right margins by adding extra space between words.
- **Line and Paragraph Spacing:** Controls the vertical space between lines of text within a paragraph and between paragraphs. (Often has a drop-down menu with different spacing options)
- **Shading (paint bucket):** Adds a background color to the selected paragraph(s).
- **Borders (window pane):** Adds borders around the selected paragraph(s) or table cells. (Often has a drop-down for different border options)

- **How to Use:**
  0. **Select** the paragraph(s) you want to format.
  1. Click the desired buttons or use the drop-down menus in the Paragraph group to apply the formatting.
- **Your Task:** Type a list of three to five items. Format it as a bulleted list and then as a numbered list. Indent one of the items. Experiment with left, center, right, and justify alignment for different paragraphs. Change the line spacing of a paragraph. Add shading to one of the paragraphs and a border around another.

4. **Styles:**
   - **Features:** Styles are predefined sets of formatting options (font, size, color, paragraph spacing, etc.) that you can apply to text with a single click. Using styles helps to create consistent and professional-looking documents and makes it easier to make global formatting changes.
     - The Styles group usually shows a gallery of commonly used styles (e.g., Normal, Heading 1, Heading 2, Title, Subtitle).

        - Clicking the arrow in the bottom-right corner of the Styles group opens a Styles pane with more options.
    - **How to Use:**
        0. **Select** the text you want to format.
        1. Click on a style in the Styles gallery to apply it.
        2. To see more styles, click the arrow to open the Styles pane.
    - **Your Task:** Type a title and some headings and subheadings for a short imaginary report. Select the title and apply the "Title" style. Select the main headings and apply the "Heading 1" style. Select the subheadings and apply the "Heading 2" style. Observe how the formatting changes with each style.

5. **Editing:**
    - **Features:** This group provides tools for finding and replacing text, and for selecting parts of your document.
        - **Find:** Allows you to search for specific text within your document. (Often opens a navigation pane)

- **Replace:** Allows you to find specific text and automatically replace it with other text. (Opens a Find and Replace dialog box)
- **Select:** Provides options for selecting specific parts of your document (e.g., Select All, Select Objects).

- **How to Use:**
  0. To **Find**, click the "Find" button and type the text you are looking for in the navigation pane or dialog box.
  1. To **Replace**, click the "Replace" button. In the "Find what" box, type the text you want to replace. In the "Replace with" box, type the new text. You can choose to replace all occurrences or one at a time.
  2. To **Select All**, click the "Select" button and choose "Select All" (or use the keyboard shortcut Ctrl + A).
- **Your Task:** Type a short paragraph with a word repeated several times (e.g., "The cat sat on the mat. Another cat was sleeping nearby. The black cat woke

up."). Use the "Find" tool to locate all instances of the word "cat". Then, use the "Replace" tool to change all instances of "cat" to "dog". Finally, use "Select All" to select the entire paragraph and change its font color.

III. Exploring on a Simple Word Document

Your teacher will guide you to open a simple word document or create a new one and practice using the features of the Clipboard, Font, Paragraph, Styles, and Editing groups under the Home Tab. Take your time to explore each button and option to understand what it does. Don't be afraid to experiment!

Remember: These basic tools in the Home Tab are fundamental for creating and formatting documents in any word processing application. Mastering them will make your work much easier and more efficient.

SUB-STRAND 4: TECHNOLOGY IN THE COMMUNITY (COMMUNICATION)

CONTENT STANDARD: B4.1.4.1: Demonstrate the use of technology in the community

LEARNING INDICATOR: B4.1.4.1.4: Identify technological changes in the community (e.g. Using automated irrigation for farming, eco-friendly pesticides and manure, etc.)

SUBJECT SPECIFIC PRACTICES: Observing, Identifying, Discussing, Researching

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II. Technological Changes in the Community and the World

Technology is constantly evolving, leading to significant changes in how we live, work, and interact with our environment. Let's explore some examples of these technological changes in our communities and the wider world:

(a) Agriculture:

- **Automated Irrigation:** Instead of manual watering, systems use sensors and timers to automatically deliver water to crops when and where needed, saving water and labor.
- **Eco-friendly Pesticides and Manure:** Development and use of natural or biological pesticides and organic manure reduce harmful chemicals in the environment and improve soil health.
- **Precision Farming:** Using GPS, sensors, and data analytics to optimize planting, fertilizing, and harvesting, leading to increased efficiency and reduced waste.
- **Drones for Crop Monitoring:** Drones equipped with cameras and sensors can fly over fields to assess crop health, identify pests or diseases early, and monitor irrigation.

(b) Environmental Sustainability:

- **Renewable Energy Sources:** Increased use of solar panels, wind turbines, and other renewable energy technologies to generate electricity with lower carbon emissions.

- **Electric Vehicles (EVs):** Cars, buses, and motorcycles powered by electricity instead of gasoline or diesel, reducing air pollution.
- **Waste Management Technologies:** Automated sorting systems for recycling, technologies for converting waste to energy.
- **Water Conservation Technologies:** Smart irrigation systems (as mentioned above), water-efficient appliances, rainwater harvesting systems.

(c) Healthcare:

- **Telemedicine:** Using video conferencing and other digital tools to provide medical consultations remotely, improving access to healthcare, especially in rural areas.
- **Mobile Health (mHealth):** Using mobile apps and devices to monitor health conditions, track fitness, and provide health information.
- **Advanced Medical Imaging:** Technologies like MRI and CT scans provide detailed images of the inside of the body for better diagnosis.

- **Robotics in Surgery:** Robots can assist surgeons with complex procedures, often leading to greater precision and faster recovery times.

(d) Communication and Information Access:

- **Faster Internet and Mobile Networks (e.g., 5G):** Enabling faster data transfer, improved connectivity, and new applications like the Internet of Things (IoT).
- **Smartphones and Mobile Apps:** Providing access to information, communication tools, and various services on the go.
- **Online Education Platforms:** Making learning resources accessible to a wider audience.
- **Social Media and Online Communities:** Connecting people across geographical boundaries.

(e) Transportation:

- **High-Speed Rail:** Faster and more efficient train travel connecting cities.

- **Autonomous Vehicles (Self-Driving Cars):** Vehicles that can operate without human intervention (still under development and testing in many areas).
- **Ride-Sharing Services:** Using apps to connect passengers with drivers, potentially reducing the number of private cars on the road.

(f) Manufacturing and Industry:

- **Automation and Robotics:** Using robots and automated systems to perform tasks in factories, increasing efficiency and precision.
- **3D Printing:** Creating objects layer by layer from digital designs, allowing for rapid prototyping and customized manufacturing.

Activity 1: Community Tech Spotting

Think about your own community. Can you identify any examples of these technological changes in action? For example, are there solar panels on buildings? Do people use smartphones for mobile money? Are there any changes in farming practices you've noticed? Share your observations with the class.

Activity 2: World Tech Exploration

In small groups, research one of the areas of technological change listed above (e.g., automated irrigation, electric vehicles, telemedicine). Find one specific example of this technology being used somewhere in the world. Prepare a short presentation to explain the technology and its impact.

Presentation Guidelines:

- **Name of the Technology:**
- **How it Works (briefly):**
- **Where it is Being Used (example location):**
- **Benefits of this Technology:**
- **Potential Challenges or Considerations:**

Remember to be curious and explore the exciting ways technology is shaping our world!