



Let's Learn

- to define hardware and software
- to differentiate between hardware and software
- to identify the different types of software
- to use the Windows operating system
- to take care of the computer hardware



Connect

Label the different parts of the computer.



We are already familiar with the different parts of a computer. All these parts work together to make up a computer system. We know that a computer takes input from the user, processes it and gives the result as output. It can be used for various activities such as listening to music, drawing, typing and so on. While performing these activities, we use different parts of a computer that can be seen and touched. These include speakers, a keyboard and a mouse. However, we also need to give a computer instructions to make these parts perform a task.

Hardware

The physical parts of a computer that you can see and touch are called hardware. It includes all parts that are inside the CPU box, such as, the hard disk, the CD drive, and other parts that are outside the CPU such as the monitor, keyboard and mouse.

Examples of hardware include:

- input devices such as the keyboard, mouse, joystick, scanner and web camera.
- output devices such as the monitor, printer, headphones and speaker.
- processing device or the CPU.
- storage devices, such as a CD, hard disk and pen drive.

Input devices



Output devices



Storage devices



Learning by doing

Find an input device that is used to record your voice on a computer. Draw and name the device.

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Software

Software is a set of instructions that is also called a computer program. It instructs a computer hardware what to do and how to perform a particular task. It is responsible for making the hardware work. You cannot touch or feel software. You can only see it. For example, you can draw in Tux Paint using a mouse. Therefore, Tux Paint is a software. Similarly, you can listen to songs and watch videos using Windows Media Player.

There are two types of software — **application software** and **system software**.



Application Software

The software that helps you perform specific tasks on a computer is known as application software. For example, we use a calculator to carry out calculations and 'Tux Paint' to draw and colour on a computer. We cannot draw using a calculator or use Tux Paint to perform calculations.

There are different types of application software that help us perform different tasks.

Word processing applications

Word processing applications help us create documents such as letters, labels and bills very easily and efficiently. OpenOffice Writer and MS Word are two examples of word processing applications.



Spreadsheet applications

Spreadsheet applications let us organise, store and analyse data in a tabular form.

MS Excel, LibreOffice and OpenOffice Calc are commonly used spreadsheet applications.



Presentation applications

Presentation applications are used to present information in the form of a slide show.

Microsoft PowerPoint and OpenOffice Impress are examples of presentation applications.



Graphics and animation applications

Graphics and animation applications allow us to create images and animate them. GIMP, Photoshop and Scratch are some examples of the same.



Gaming applications

We can also play games using gaming application such as Subway Surfer and Purple Place.



Did you know

An **'app'** is a short form for 'application', commonly used on smart phones and tablets to refer to all application software.

System Software

System software is software that controls and manages the overall activities of a computer system. An operating system such as Windows is an example of system software.

Operating system

An operating system (OS) is a set of computer programs that acts as an interface between the user of a computer and the computer hardware. It allows the user to communicate with the hardware. It is the first software to be installed on a computer. A computer cannot work without an operating system.

Example:

Microsoft Windows, Macintosh, Linux, Ubuntu

Relationship between Hardware and Software

<p>Computer hardware only</p> 	<p>It is non-working without an operating system and application software.</p>
<p> +  + Windows Vista</p> <p>Computer hardware with an operating system</p>	<p>We can operate a computer only with the help of an operating system. e.g. Windows Vista. However, it cannot perform useful and specific tasks for a user.</p>
<p> +  +  + Office</p> <p>Computer hardware with an operating system and application software</p>	<p>A computer with an operating system and application software performs useful and specific tasks for a user. e.g. Microsoft Office application software along with Windows Vista OS helps us to use the computer.</p>

Windows 7

Windows 7 is one of the most commonly used operating system. When you turn on the computer, Windows 7 starts automatically and a Welcome Screen is displayed.





Components of the Windows 7 screen

The Windows 7 desktop is the main screen of the Windows operating system. It is similar to a table or a desk where you keep all your books, folders and other things required for your work. Let us see the main components of the Windows 7 desktop.

Desktop icons

The small pictures or graphics on a desktop that represent an application or program are referred to as icons. Any icon can be opened by double-clicking on it with a mouse.

Commonly present icons on a Desktop



The **Recycle Bin** stores files that you have removed or deleted from your computer. You can get them back if required or remove them from the computer forever.



Using the **Network** icon, you can see whether you are connected to a network, such as the internet.



You can view the different applications and files on your computer using the **Computer** icon. Clicking this icon shows you a drop-down list of different locations on your computer and the files stored in these locations.

Taskbar


The long horizontal bar at the bottom of the desktop is called the taskbar. It contains the Start button and application icons on the left, and has a notification area and icons for time, date and speaker volume on the right.



Learning by doing

- Double-click on the **Computer** icon and locate the **Document and Pictures** folder.
- Open a document stored in the Document folder and a file stored in the Pictures folder. Minimise both windows.
- Maximise the minimised windows from the taskbar and close them one by one.

Start button

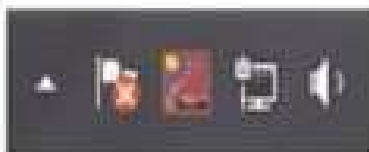
The Start button is the most important button that is present on the left of the taskbar. It is used to display the Start menu that allows you to open different applications. You can also display the Start menu from the keyboard by pressing the Windows key .

Date and time



This shows the current date and time set for your computer. You can change the date and time of the computer system by clicking here.

Notification Area



It has small icons that inform you about the status of various tasks running on your computer. For example, if your printer runs out of paper while printing, a message will appear here to notify the same.



Explore

Find out how you can

- change the speaker's volume on your computer.
- view the calendar on your computer.



Taking care of a computer

Taking care of your computer is just as important as taking care of your books. You must handle the computer and its parts carefully and gently to avoid damage. You can take the following measures to keep your hardware in good condition for a longer time.

Fight dust

Dust is a major enemy of a computer. It causes heating up of hardware that can cause failure or problem when starting a computer. So, clean your computer gently with a dry soft cloth, regularly. Cover your computer when it is not being used to keep it dust free.

Use clean hands

Make sure your hands are clean and dry before you type on a keyboard or click a mouse. Dirty or wet hands can result in sticky keys on a keyboard and cause stains on the display screen.

No food or drinks

Do not keep food or drinks near your computer, as it can spill on it accidentally. This can damage the hardware, and it may not work as expected.

Handle with care

The way you handle your hardware devices will determine how long they will last. Always hold the CD correctly by holding it at its edges as shown in the picture. Press the keys of the keyboard softly and handle the mouse gently.



Word Galaxy

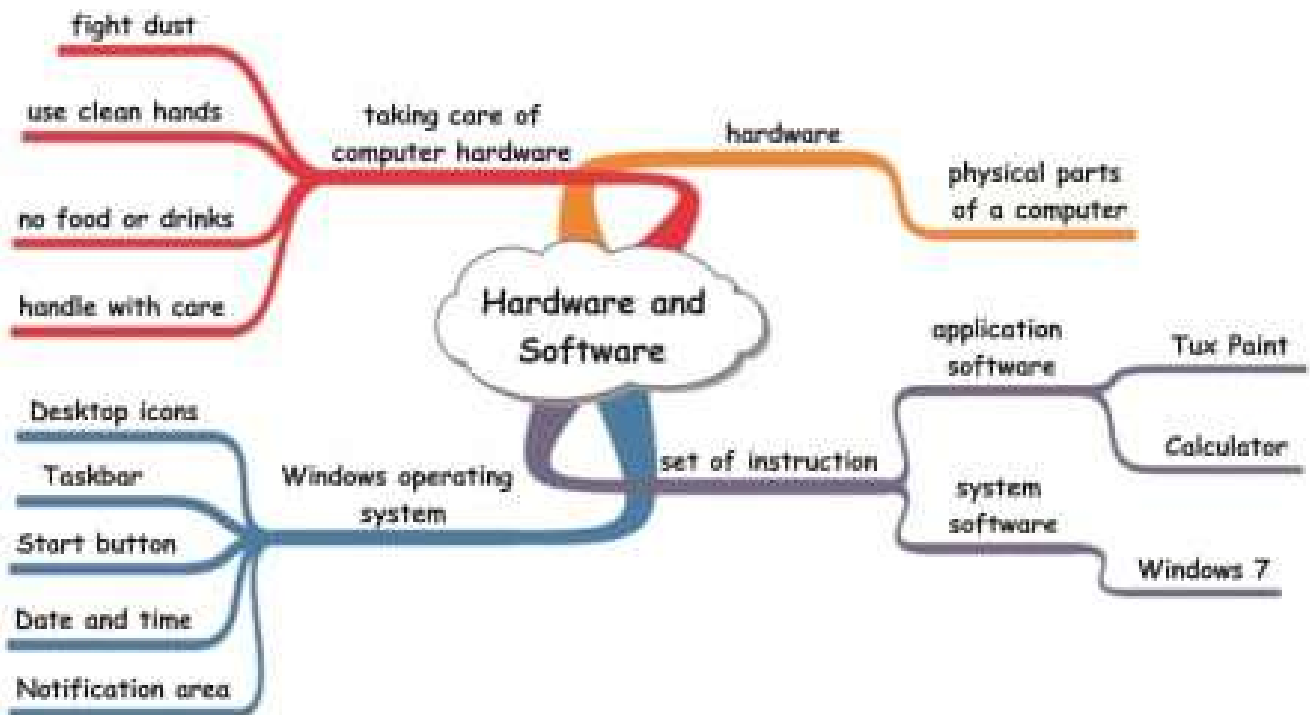


interface

physical

animate

Mind Map



Let's Exercise



Q.1. Name the following.

- All physical parts that are attached to a computer. _____
- The software that allows users to perform specific tasks. _____
- The small pictures or graphics on a desktop that represent an application.

- The long horizontal bar at the bottom of the desktop. _____

Q.2. Categorise the following as hardware or software.

a.



hardware



software

b.



hardware

software

c.



hardware

software

d.



hardware

software

Q.3. Fill in the blanks.

- Windows is an example of software.
- The stores files that you have deleted from your computer.
- is the first software to be installed on a computer.
- is an example of a word processing software.

Q.4. Answer the following questions.

- What is hardware? Give some examples of the same.
- What is the role of software? List two types of software.
- Name any three components of the Windows 7 desktop.
- Explain any three ways to take care of your computer.

Lab Activity

- Q.1. Make a list of the hardware devices that you have seen in your computer lab.**
- Q.2. Make a list of the application software available on your computer and specify its type.**

HOTS

You have learnt to use the Windows operating system on your computer. Find out the names of at least one operating system used on a smartphone.



Web Links

www.ictspecialist.com/io-facts.html

www.ictspecialist.com/hardsoft.html

www.ictspecialist.com/peripherals.html

As on 02.05.2019