

# SMART COMPUTING

*Teacher's Resource Book 2*



## Contents

<b>S no.</b>	<b>Title</b>	<b>Page</b>
1.	Introduction	
2.	Lesson plan 1: Parts of Computer	
3.	Lesson plan 2: Connecting the Parts of Computer	
4.	Lesson plan 3: Software, Programs and Applications	
5.	Lesson plan 4: Using a Mobile App	
6.	Lesson plan 5: Inputting Sound and Images	
7.	Lesson plan 6: Understanding Paint	
8.	Lesson plan 7: Let us get the Printouts	
9.	Lesson plan 8: Organize your Files	
10.	Lesson plan 9: Get to know the Internet	

# Introduction

In terms of machine development and application, no machine has advanced as rapidly as the computer. Not long ago, computers were massive structures with miles and miles of wiring that only performed tasks that are now considered very simple.

Computers are now an integral part of our daily lives. There is no escaping this wonderful machine, whether we are at work, on vacation, studying at school or college, or simply going to the grocery store.

It is becoming increasingly important that children learn how to use this machine at the earliest possible opportunity. That opportunity comes in the form of computer education at school. Still, any type of education provided at the early stages of learning must not only be comprehensive but also presented in a way that is simple for both the teacher to explain and the students to understand. This is where **Smart Computing** stems from.

The **Smart Computing** series comprises five books. These books provide information on the awareness of devices found in people's homes and how to use them.

## Introduction to the teaching guides

Lesson plans, useful tips, and worksheets with interesting learning activities are all included in the teaching guide. A list of goals and learning outcomes appears in each lesson. You can create your lesson plans by using the provided sample plans. The lesson plans comprise introductory activities lasting 3 to 5 minutes, which explain the concepts being taught. This is followed by 30 minutes of explanation and a 5-minute recap. Sample worksheets have been provided where need be for additional support. Answers to exercises within the lessons have also been provided.

# Lesson 1 – Parts of a Computer

## Teaching objectives

- To understand the different parts of a computer
- To understand the input devices and the output devices of the computer.

## Learning outcomes

By the end of this lesson the children will be able to understand the different kinds of input and output devices for computers.

## Lesson plan

Time period: 40 minutes

### Introduction: 5 minutes

Bring in various pictures to the classroom to begin the lesson. You can ask the students to draw and list the components of the computer that they saw.

### Main Lesson: 30 minutes

Ask the children to read the pages 4-6 with your assistance. You can ask the students the following questions.

- *Does a computer have many parts?*
- *What do you understand by input and output?*
- *Which part is used to type text?*
- *Which device is used for selecting and opening the files and folders?*
- *Which device scans a photograph?*

### Lesson wind-up: 5 minutes

Review the lessons the students were taught. The exercises on pages 6 and 7 can be completed as homework or as class work.

Sample sheets are provided for extra work.

Sample worksheet

Look at the pictures. Circle the correct name.

	scanner	printer
	monitor	mouse
	keyboard	printer
	monitor	television

## Exercise answers

### A. Are these statements true or false?

1. true
2. true
3. false
4. false
5. false

### B. Answer the following questions.

1. An input device helps us in sending data to the computer.
2. Monitor
3. **Input:** keyboard, mouse, scanner  
**Output:** monitor, printer, speaker

### C. Connect the device with its name

(From top to bottom) mouse, printer, monitor, speakers

## Lesson 2 - Connecting the Parts of Computer

### Teaching Objectives

- To understand the connecting parts of computer
- To understand the use of different ports in the CPU

### Learning Outcomes

By the end of this lesson, the students will learn how the parts of a computer are connected to the ports and for what they are used.

### Lesson Plan

Time period: 40 minutes

#### Introduction: 5 minutes

It would be a good idea to take the children to the lab and demonstrate how to connect the cables to the CPU.

#### Main Lesson: 30 minutes

Read aloud page 8 with the children. To make sure they are understanding, you can ask them questions. Some questions are given below:

- *What is the main part of a computer called?*
- *What are the connection points called?*
- *What is the monitor port called?*

Guide the children to complete the work on page 9.

#### Lesson wind-up: 5 minutes

Recap what was taught in the class. The exercises can be given as classwork and homework.

Sample worksheet

Label the ports of the CPU.

PS/2 ports

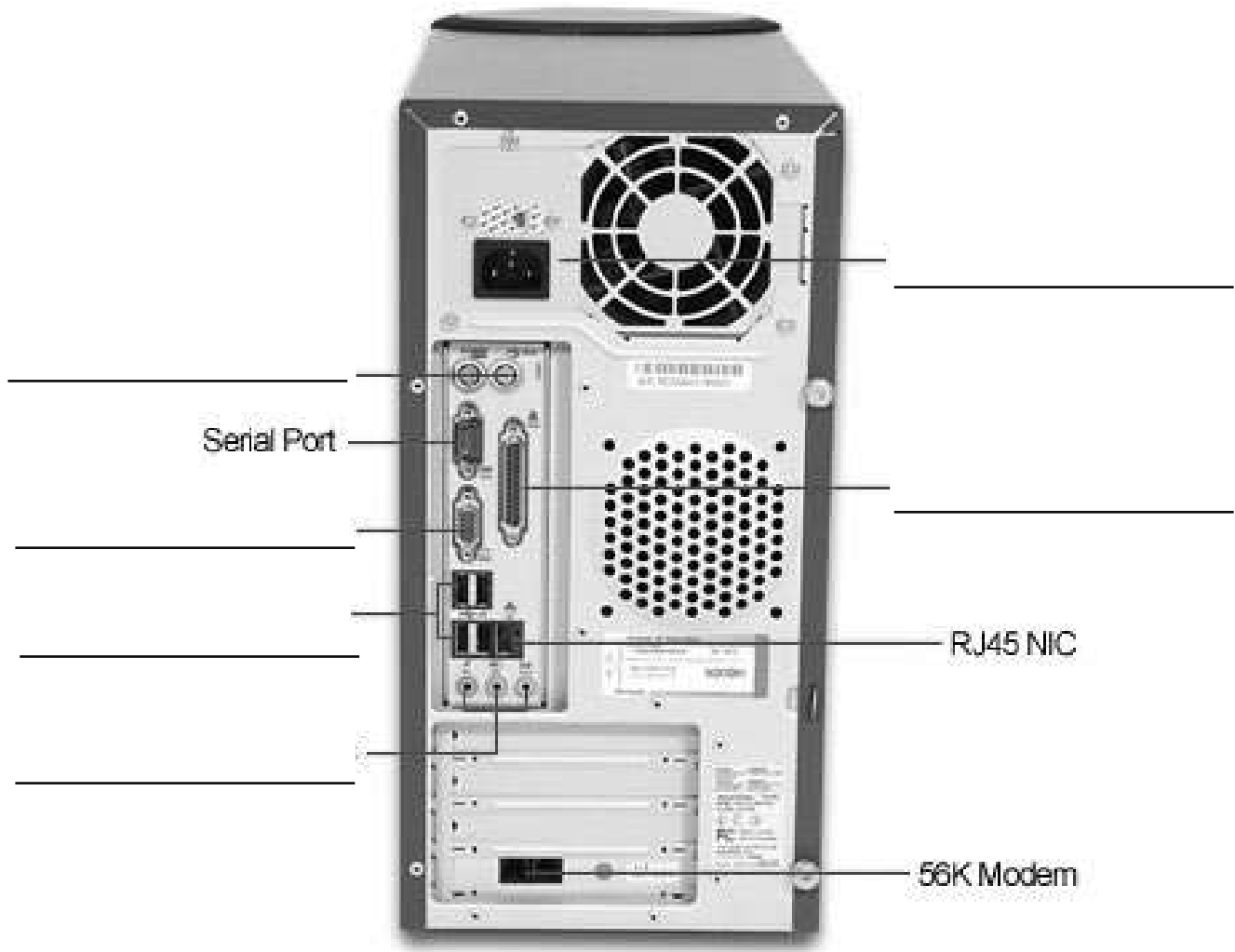
power supply

parallel port

USB ports

audio jacks

VGA video





## **Exercise answers**

**A. Which device should these children use to complete their task on computer? Also state the type of devices.**

1. Printer – output
2. Monitor – output
3. Keyboard – input
4. Speaker – output
5. Scanner – input

**B. Give answers to the following questions.**

1. The monitor port is called a VGA port.
2. The ports are located at the back of the CPU.

**C. Rearrange the following letters.**

1. Ports
2. Mouse
3. Plug
4. Cable

## Lesson 3 – Software, Programs and Applications

### Teaching objectives

- To understand what an operating system is
- To learn the programs and applications that are used for different purposes

### Learning outcomes

By the end of this lesson, the students will learn about the operating system and applications used in a computer.

### Lesson plan

Time period: 40 minutes

#### Introduction: 5 minutes

Discuss with your students in class how to play a board game by following instructions. If they do not follow instructions, will they still be able to play it?

Ask the students to write the word instructions and provide you with suggestions. Their responses could take the form of instructions, commands, or steps.

Explain to them that just as humans require instructions to carry out tasks in an orderly manner, computers also require instructions in order to function properly.

#### Main Lesson: 30 minutes

Ask a student to read out pages 10 and 11.

Write the following words on the board and ask them to make a list of each word.

operating system

programmes and applications

You can take the students to the lab and demonstrate the programmes that are used for typing a document or doing a mathematical calculation. Have students take turns at the computer and practise.

#### Lesson wind-up: 5 minutes

Recap what was taught in the class. The exercises can be done as classwork and homework.

**Extra task:** Write a set of instructions on how to make a greeting card.

## **Exercise answers**

### **A. Guess the type of computer software.**

1. Operating system
2. Microsoft Word

### **B. Following programmes are used for**

1. Mathematical calculations
2. Presentations
3. Making changes in photographs

### **C. Answer the following questions.**

1. An operating system is a software that runs hardware of a computer.
2. The computer cannot work if it doesn't have an operating system.
3. Adobe Photoshop

## Lesson 4 – Using a Mobile App

### Teaching objectives

- To understand different types of mobile applications and their uses

### Learning outcomes

By the end of this lesson, the students will know what mobile applications are and their uses.

### Lesson plan

Time period: 40 minutes

#### Introduction: 5 minutes

Start the lesson by asking the students the following questions.

- *What is good about smartphones?*
- *How does it help us?*
- *What do we use them for?*

You can tell them that many years ago, a phone was just used to make calls but today it has many other uses.

#### Main Lesson: 30 minutes

Begin the lesson by reading pages 12 and 13 with the students. Group the children in pairs. Discuss and ask them to write different types of uses of smartphones on the board. Their answers may include taking photos, making phone calls, using the Internet, playing games, listening to music, downloading apps, watching videos, etc.

#### Lesson wind-up: 5 minutes

Recap what was taught in class. The exercises can be done as classwork and homework.

### Exercise answers

#### A. Give answers to the following.

1. A mobile app is a software that we can use on a smartphone.
2. Answers depend on the students.

## Lesson 5 – Inputting Sounds and Images

### Teaching objectives

- To understand the use of app or software for sound recording
- To understand transferring images to the computer through a wire.
- To understand the use of a scanner.

### Learning outcomes

By the end of this lesson, the students will understand how to record sounds and transfer images to the computer.

### Lesson plan

Time period: 40 minutes

#### Introduction: 5 minutes

Take the students to the lab and let them speak into a microphone so they can see how it works. Ask them where and how microphones are used.

#### Main Lesson: 30 minutes

Ask students to read pages 14 to 16 with your assistance. You can ask them the following questions to see if they are understanding.

- *What is a sound recorder?*
- *Is it an input device or an output device?*
- *How do we transfer images and sounds to a computer?*
- *What is a data cable?*
- *What is a scanner?*

Let the children come in groups, follow the steps in recording their voices and save it on the computer.

#### Lesson wind-up: 5 minutes

Recap what was taught in the class. The exercises can be done as homework or and classwork.

### Exercise answers

#### A. Give answers to the following.

1. Yes
2. We use a data cable to transfer images from a camera or mobile phone to a computer.
3. Yes
4. We use a webcam to take pictures on a computer.
5. The microphone is used to record our voice in a computer.

**B. Write true or false.**

1. True
2. True
3. True
4. False
5. True

## Lesson 6 – Understanding Paint

### Teaching objectives

- To understand the different tools of MS Paint

### Learning outcomes

By the end of the lesson, students will know how to use the different tools in MS Paint.

### Lesson plan

Time period: 40 minutes

#### Introduction: 5 minutes

Take the children to the lab. Open the programme MS Paint and let them explore the application. Allow them to click on the different tools and see what each does.

#### Main Lesson: 30 minutes

Ask the students to read pages 18 to 20. Open the MS Paint programme on a computer. It will take you to a blank window with a ribbon containing various tools used for drawing and painting. Show them that the paint window has different types of bars on it. There is a Quick Access Toolbar, Title bar, Menu bar, Ribbon, Drawing Area and a Status bar. Discuss each feature by demonstrating what they can do. Ask them questions to ensure comprehension:

- What is a drawing area?
- What is a clipboard?
- What are the different types of tools in the brush section?
- What are shapes for?
- Which feature did you like most? Why?

Allow the children to draw whatever they desire using the different tools of MS Paint.

#### Lesson wind-up: 5 minutes

Recap what was taught in the class. The exercises can be done as classwork and homework.

**Extra task:** Ask the students to draw a house using different tools in MS Paint.

### Exercise answers

#### A. Answer the following questions

1. The undo or redo buttons allow us to recall our last few actions.
2. Ribbon is the area where all the tools, the colour palette and most commands are grouped together.
3. Paint is a programme that allows us to draw or paint.
4. The Menu bar has three tabs: File, Home and View.

**B. Name the indicated tools.**

From left to right: Quick Access Toolbar, Title bar, Ribbon, Menu bar, Drawing area, Status bar



## Lesson 7 – Let us get the Printouts

### Teaching objectives

- To understand how to use the printer.
- To understand the terms hard copy and soft copy.

### Learning outcomes

By the end of this lesson, the students will understand how the printer works and also the difference between a hard copy and soft copy.

### Lesson plan

Time period: 40 minutes

#### Introduction: 5 minutes

Take the student to the school computer lab. Show them a printer in the lab and also ask them to look at the way it is connected to the computers.

#### Main Lesson: 30 minutes

Ask the students to read pages 22 and 23. While reading ask the students what a printer is used for. You can give them a demonstration on using a printer. Refer to the printouts as hard copy. Tell them the difference between a hard copy and softcopy. Hard copy is something that can be touched. Soft copy is what you see on the computer screen. Tell the children that we should take a printout only when we need it. Otherwise we would be wasting paper.

#### Lesson wind-up: 5 minutes

Recap what was taught in the class. The exercises given in your book can be done as classwork and homework.

**Extra task:** Ask the children to take a printout of any saved document that they have on their computers for practice.

### Exercise answers

#### A. Answer the following.

1. Before taking a print out, make sure that there are blank papers in paper tray.
2. Soft copy is a copy of a document that you see on the screen.
3. Hard copy is what is printed on paper and you can touch it.

## Lesson 8 – Organise your Files

### Teaching objectives

- To understand what are files and folders
- To understand how to save a file on a computer

### Learning outcomes

By the end of this lesson, the students will be able to create, save and name a file. They will also be able to create folders.

### Lesson plan

Time period: 40 minutes

#### Introduction: 5 minutes

This is another lesson that needs to be done in the computer lab. Take the children in groups and let them try to save a file, name it and place it in a folder.

#### Main Lesson: 30 minutes

Ask the following questions:

- *Have you seen your mother/father arrange things in their drawers/cupboards/shelves? Why do they do so?*
- *Why do you need to carry a school bag/pencil case?*
- *Why do we need to keep things in an orderly manner?*

Read pages 24 and 25 with your students. Explain to the children that just as we keep ourselves organized, the computer is also able to store files in an organized manner.

Explain why we need to save our work on a computer. We need to save it so that we can use it in future if we have to. It is always good to keep our work organized in the form of files and folders on a computer. This way we will not have to search for them in a haphazard manner.

Ask them questions to test their understanding.

- *How do we save a file on a computer?*
- *Do we name the file or do we leave it blank?*
- *How do you create a folder?*

You can ask the students to come in pairs and try to follow the instructions given in the lesson.

#### Lesson wind-up: 5 minutes

Recap what was taught in the class. The exercises can be given as homework or classwork.

**Extra task:** Ask the children to create a file and save it in a folder.

## Exercise answers

### A. Answer the following.

1. You can name your files in the file name box. Click the save button after you have given the name.
2. In the File menu, there is a Save option. When you click on it, the Save As dialogue box appears. You can type the name of your file and then click OK to save the file.

### B. Fill in the blanks.

1. Menu
2. File
3. folder
4. files

## Lesson 9 - Get to know Internet

### Teaching objectives

- To know about the Internet
- To understand how to send messages to other computers across the world
- To learn about different types of websites for different purposes

### Learning outcomes

By the end of this lesson, the students will know about Internet and its different uses like sending messages, shopping, keeping in touch with friends and families and reading news. They will also learn about different websites and what they are used for.

### Lesson plan

Time period: 40 minutes

#### Introduction: 5 minutes

Write the word 'Internet' on the board. Ask students if they have heard about it. Allow them to share their knowledge. Ask them the following questions:

- *Why do people use the Internet?*
- *Have you seen your parents use the Internet? What were they using it for?*

#### Main Lesson: 30 minutes

Take responses for the above questions from the children and write them on the board:

- People use it for sending messages/emails
- Playing games
- Searching for information
- Watching movies/programmes
- Watching the news, etc.
- Shopping online
- Making calls

Take each response one at a time and elaborate on it. Read pages 26 to 29 with the children. Tell the children that in order to access different websites on the Internet, we need a special application called a web browser such as Google Chrome or Internet Explorer.

Ask students if they have ever used or seen someone use Google to search for information. Inform them that Google, Yahoo etc. are known as search engines and that they are used to look up information.

#### Lesson wind-up: 5 minutes

Recap what was taught in the class. The exercises in the book can be given as classwork and homework.

**Extra task:** Ask children to select a country that they would like to visit. Ask them take help from an adult to collect information about that country using the Internet.

### **Exercise answers**

#### **A. Answer the following.**

1. The Internet is connected through telephone lines or various wireless systems like Wi-Fi or mobile devices.
2. People place pictures and descriptions of products they want to sell on their website. Other people visit those websites and if they like a certain product, they place an order. Within a few days the product is sent to them in exchange for money.
3. World Wide Web
4. Email is the system to send pictures and messages.

#### **B. Match the following**

Email – Yahoo, Gmail

Websites – Google

News website – Express, Samaa TV

Social networking – Facebook, Youtube

Online shopping – Daraz, Amazon

Internet telephone – Skype