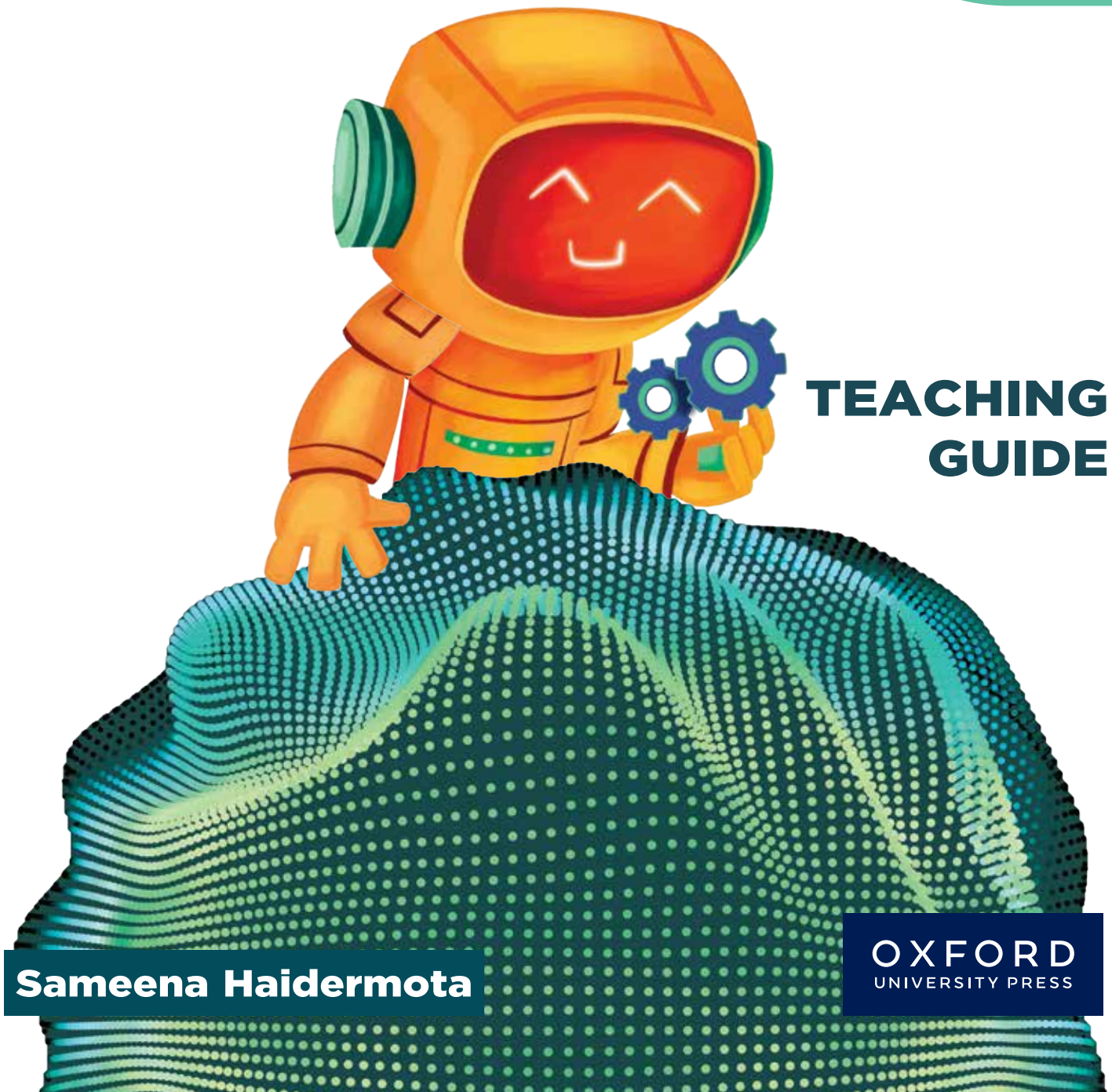
COMPUTER WHIZ 2

Fourth Edition



TEACHING GUIDE

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Introduction

Computer Whiz books 1-8 is a diligent attempt to provide the necessary knowledge, skills, and attitudes compatible with modern developments in computers and technology.

This guide is a collaborative effort, drawing insights from educational experts and the latest pedagogical approaches. It also maps the *Computer Whiz* primary series on Howard Gardner's theory of 'Multiple Intelligences'. Awareness of multiple intelligences promotes an inclusive classroom where all students feel valued and supported, regardless of their learning style.

Knowing about 'Multiple Intelligences' can significantly enhance teaching effectiveness by recognising and addressing the diverse ways in which students learn. Recognising and valuing different types of intelligence helps students feel appreciated for their unique abilities. This can boost their confidence and motivation to learn.

The content in each chapter is supported by

Vocabulary Cloud

Explains essential terminology used in the chapter

1 Vocabulary Cloud

Lesson Plan

Step-by-step and interactive lesson plans that cater to diverse pupil needs

(Depending on available time, resources, and pupils' understanding, the ideas from these lesson plans can be redistributed among lessons. It is recommended to organise the class in such a manner that pupils get some practice time at the end of the class.)

2 Lesson Plans

Concept Cloud

Delves into additional/ optional information and intriguing analogies to deepen understanding

3 Concept Cloud

Class Activity

Fosters an interactive classroom environment with our specially designed activities which are integrated into the curriculum.

4 Interactive Class Activities

Digital Resources

Lesson wise mapped digital resources provided on the Oxford University Website to enrich students' learning experience. These resources are accessible via QR codes at the back of the book.

5 Digital Resources

Homework

Suggested homework at the end of each lesson plan to reinforce the concepts.

6 Homework For Extended Learning

Answer Key

Potential responses to end-of-chapter questions, ensuring a well-rounded educational experience for your students.

7 Suggested Answers to End Of Chapter Questions

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Multiple Intelligences

Multiple Intelligences is a theory proposed by Howard Gardner in 1983, which suggests that intelligence is not a single, fixed attribute that can be measured solely by IQ tests. Instead, Gardner identified several distinct types of intelligences that individuals may possess in varying degrees.

The theory of multiple intelligences broadens the understanding of human capabilities and emphasises the importance of recognizing and nurturing diverse talents in educational settings. By acknowledging that intelligence is multifaceted, educators can create more inclusive and effective learning environments that cater to the unique strengths of each student.

Implications for education

Gardner's theory has significant implications for education. It suggests that teaching methods should be diversified to cater to different types of intelligences. Following are the types of intelligences:

Linguistic Learners might benefit from reading and writing activities.

Logical-mathematical Learners might excel with problem-solving tasks.

Spatial Learners might engage more with visual aids and diagrams.

Bodily-kinesthetic Learners might thrive in hand-on activities.

Musical Learners might enjoy learning through songs and rhythms.

Interpersonal Learners might prefer group work and discussions.

Intrapersonal Learners might benefit from self-reflective tasks.

Naturalistic Learners might enjoy learning through nature-related activites

How to assess multiple intelligence in students?

Assessing multiple intelligences in students involves using a variety of methods to identify their strengths and preferences across different types of intelligences. Here are some effective strategies:

1. Observations

- **Classroom Activities:** Observe how students engage in different activities. Note which tasks they excel in and enjoy the most.
- **Behavioural Patterns:** Pay attention to how students interact with peers, solve problems, and express themselves.

2. Surveys and Questionnaires

- **Self-Assessment Tools:** Use surveys where students can reflect on their own preferences and strengths.
- **Teacher-Designed Questionnaires:** Create questionnaires that ask about students' interests and activities outside of school.

3. Portfolios

- **Work Samples:** Collect samples of students' work across various subjects and activities.
- **Reflective Journals:** Encourage students to keep journals where they reflect on their learning experiences and achievements.

4. Performance Tasks

- **Projects and Presentations:** Assign projects that allow students to demonstrate their skills in different areas, such as creating a video, writing a report, or designing a model.
- **Hands-On Activities:** Use tasks that require physical manipulation, such as building, drawing, or conducting experiments.

5. Peer and Self-Evaluations

- **Peer Feedback:** Have students provide feedback on each other's work, focusing on different intelligences.
- **Self-Evaluation:** Encourage students to assess their own work and identify areas where they feel most competent.

6. Standardised Tests and Inventories

- **Multiple Intelligences Inventories:** Use standardised tools designed to measure multiple intelligences, such as the Multiple Intelligences Developmental Assessment Scales (MIDAS).

How to embed multiple intelligences in the lesson plans of Computer Whiz?

To embed multiple intelligences in the teaching and lesson plans of the Computer Whiz, you can incorporate various activities and strategies that cater to different types of intelligences. Here are some suggestions:

1. Linguistic Intelligence

- **Reading and Writing Tasks:** Include activities where students read instructions, write reflections, or create stories related to computer concepts.
- **Discussions and Debates**: Encourage students to discuss topics like the ethical use of technology or the impact of computers on society.

2. Logical-Mathematical Intelligence

- **Problem-Solving Activities:** Integrate exercises that involve coding, debugging, and logical reasoning.
- **Data Analysis:** Use tasks that require students to analyse data, such as creating graphs or interpreting computer-generated reports.

3. Spatial Intelligence

- **Drawing and Design:** Include activities that involve creating digital art using Paint or other graphic design software.
- **Visualization Tasks:** Use diagrams and flowcharts to help students understand computer processes and networks

4. Bodily-Kinesthetic Intelligence

- **Hands-On Activities:** Incorporate tasks that require physical interaction with computer hardware, such as assembling parts or using input devices.
- **Movement-Based Learning:** Use role-playing or physical games to teach concepts like network topologies or data flow.

5. Musical Intelligence

- **Sound and Music Projects:** Include activities where students create or edit audio files, or use music software to compose digital music.
- **Rhythmic Learning:** Use songs or rhythms to help students memorise computer commands or sequences.

6. Interpersonal Intelligence

- **Group Projects:** Encourage collaborative projects where students work together to solve problems or create presentations.
- **Peer Teaching:** Use activities where students teach each other about different computer concepts.

7. Intrapersonal Intelligence

- **Self-Reflection:** Include journal entries or self-assessment tasks where students reflect on their learning and set personal goals.
- **Independent Projects:** Allow students to pursue individual projects that align with their interests in technology.

8. Naturalistic Intelligence

- **Environmental Context:** Use examples of how technology is used in environmental science or agriculture.
- **Nature-Inspired Projects:** Include activities that involve creating simulations or models related to natural phenomena using computer software.

Chapter Wise Mapping of Computer Whiz 2

This is a chapter-wise mapping of the book *Computer Whiz 1* to Howard Gardner's Multiple Intelligences, highlighting which activities or content support each type of intelligence among children:

Chapter Name	Multiple Intelligences
Chapter 1 Uses of Computers	• **Linguistic Intelligence:** Writing stories, typing, and using respectful language online. • **Logical-Mathematical Intelligence:** Calculating marks, managing data, and using computers for research. • **Spatial Intelligence:** Drawing and painting pictures on the computer. • **Interpersonal Intelligence:** Virtual family meet-ups, using respectful language online. • **Intrapersonal Intelligence:** Reflecting on personal use of computers. • **Musical Intelligence:** Using music apps to create and listen to music. • **Bodily-Kinesthetic Intelligence:** Interactive games that require physical movement. • **Naturalistic Intelligence:** Exploring nature-related websites and apps.
Chapter 2 Computer Hardware	• **Logical-Mathematical Intelligence:** Understanding the functions of input and output devices. • **Spatial Intelligence:** Identifying and using different hardware components. • **Bodily-Kinesthetic Intelligence:** Hands-on activities with hardware components. • **Linguistic Intelligence:** Describing the functions of hardware components in writing. • **Interpersonal Intelligence:** Group activities to assemble and disassemble computer parts. • **Intrapersonal Intelligence:** Reflecting on the importance of each hardware component.
Chapter 3 Handling Data	• **Logical-Mathematical Intelligence:** Using the calculator app for calculations. • **Linguistic Intelligence:** Writing and saving information in the Notepad app. • **Spatial Intelligence:** Organizing data using icons and apps. • **Interpersonal Intelligence:** Collaborating on data entry projects. • **Intrapersonal Intelligence:** Personal data management and organization. • **Musical Intelligence:** Using sound files and music in data presentations. • **Bodily-Kinesthetic Intelligence:** Physical activities to represent data handling concepts.

Chapter 4 MS Paint 3D	• **Spatial Intelligence:** Creating digital art using Paint 3D. • **Bodily-Kinesthetic Intelligence:** Using drawing tools and manipulating 3D objects. • **Linguistic Intelligence:** Telling stories through digital art. • **Logical-Mathematical Intelligence:** Understanding the geometric shapes and structures in 3D art. • **Interpersonal Intelligence:** Group projects to create collaborative art pieces. • **Intrapersonal Intelligence:** Personal expression through digital art. • **Musical Intelligence:** Adding sound effects or background music to digital art projects.
Chapter 5 Simplifying Instructions	• **Logical-Mathematical Intelligence:** Understanding and creating algorithms. • **Linguistic Intelligence:** Writing clear instructions. • **Bodily-Kinesthetic Intelligence:** Following step-by-step instructions for tasks. • **Spatial Intelligence:** Visualizing the steps in a process. • **Interpersonal Intelligence:** Working in pairs to give and follow instructions. • **Intrapersonal Intelligence:** Reflecting on the effectiveness of given instructions. • **Musical Intelligence:** Creating rhythmic patterns to remember instructions.
Chapter 6 Digital Citizenship	• **Interpersonal Intelligence:** Understanding digital rights and responsibilities. • **Intrapersonal Intelligence:** Reflecting on personal behavior online. • **Linguistic Intelligence:** Using respectful language and communicating online. • **Logical-Mathematical Intelligence:** Analyzing the impact of digital actions. • **Spatial Intelligence:** Creating visual presentations on digital citizenship. • **Musical Intelligence:** Composing songs or jingles about digital etiquette. • **Bodily-Kinesthetic Intelligence:** Role-playing scenarios to practice digital citizenship.

Reflection

Reflection after chapter-wise lesson planning is vital for continuous improvement, better student understanding, personal and professional growth, and the creation of more effective and inclusive lesson plans. It transforms teaching into a dynamic and responsive practice, ultimately enhancing the overall educational experience.. Here are some key reasons why reflection is important:

Reflecting on each lesson helps teachers identify what worked well and what didn't. It provides valuable insights that can inform future lesson planning. Teachers can build on successful strategies and avoid repeating mistakes, leading to more coherent and effective lesson sequences.

Every classroom is diverse, with students having different learning styles and needs. Reflection helps teachers adapt their lessons to cater to this diversity, ensuring that all students have the opportunity to succeed.

While there are many reflection keys available online, attached here is a template that can be used with the Computer Whiz series lesson planning.

Reflection Key for Computer Studies

Chapter: _____ **Date:** _____

Key Competencies Checklist

1. Understanding Basic Concepts

- ☐ Can students explain the main concepts covered in this chapter?
- ☐ Do they understand the terminology used?

2. Practical Skills

- ☐ Are students able to perform the basic tasks and operations taught?
- ☐ Can they use the software or tools introduced in this chapter?

3. Problem-Solving

- ☐ Can students apply what they've learned to solve simple problems?
- ☐ Are they able to troubleshoot common issues?

4. Collaboration and Communication

- ☐ Do students work well in pairs or groups?
- ☐ Are they able to communicate their ideas effectively?

5. Creativity and Innovation

- ☐ Have students shown creativity in their projects or assignments?
- ☐ Are they able to think of new ways to use the tools and concepts learned?

6. Digital Citizenship

- ☐ Do students understand the importance of online safety and etiquette?
- ☐ Are they aware of the ethical use of technology?

Teacher's Notes

1. What went well in this chapter?

_____

_____

2. What can be improved in the next chapter?

_____

_____

3. Additional Comments:

_____

_____

01 USES OF COMPUTERS

After completing this chapter, students should be able to:

1. identify uses of computer devices in homes, schools, offices, airports, and grocery stores,
2. compare how computers help people in different ways in each place,
3. illustrate uses of computers for entertainment, communication, research, etc.

Teaching Objectives

Lesson plan 1

Resources

- ✓ Textbook pages 1-3
- ✓ Images of computers being used in different environments on the softboard or a tablet or multimedia if available. A printed email, a computerized boarding pass

Starter activity (5 min)

- ✓ What can a computer do?
- ✓ Name the places where computers are used.
- ✓ What are they used for?
- ✓ What kinds of jobs involve greater computer use?

Reading and explanation (20 min)

Read pages 1, 2 and 3

Write the word **'COMPUTER'** on the board and ask the students what it is used for. Brainstorm with the students about what computers are used for at home.

Possible answers: They use it for entertainment, that is to watch shows and movies on smart TVs or tablets. A smartphone is a computer device and is used for video phone calls, to play games and find information on various things, to make reservations for dinner or travel or to call an uber.

WORD WHIZ	
Document	Electronic or printed matter that provides information or serves as an official record
Integral	Essential or fundamental
Organise	Arrange into a whole
Task	Work to be done

CLASS ACTIVITY

Play an I SPY game with them that allows them to understand how computers are used in school. Give them an example and then allow them to come up with their own answers that may read as following:

I spy with my little eye something:

- That helps us communicate in the classroom.
- That helps us take online tests
- That helps us take online quizzes
- That helps us research information.
- We use to write essays.
- We use to play games.
- We use to make presentations.
- That helps us with our homework.
- That helps us paint.
- That helps us work on projects together.
- That helps us learn online
- That teaches us to draw pictures,
- That allows us to type stories,
- That enables us to make calculations.
- That helps teachers check test papers of students,
- That helps teachers calculate their marks
- That helps teachers make a report card
- That helps search for new ideas
- That helps find books in the school library

Conclusion (5 min)

Ask:

- What role will computers play in the future?

Homework assignment

✓ The children are instructed to complete Whiz Tasks (Pg 3) at home.

Possible answers:

✓ List the activities that involve using computer devices:

✓ Using Paint or a drawing app to create pictures or designs.

✓ Playing interactive games on a computer or tablet that help learn math or other subjects.

✓ Watching videos that teach science, history, or languages.

What other activities are done using computers at school?

✓ Students use computers to write essays, stories, or reports.

✓ They use the internet to search for information on specific topics.

- ✓ Teachers use search engines or educational websites to support classroom learning.
- ✓ They create and deliver presentations.

CONCEPT CLOUD

What are computers used for?

A computer is a type of machine. It can't think on its own, but it can follow instructions and do lots of useful things. It helps us save information and keep in touch. Computers have become integral in everyday life, performing tasks ranging from simple calculations to complex processes:

1. **Communication:** Computers are used to send and receive emails, text and instant messages. They are used for video conferencing over the internet (e.g., Zoom, Skype) and web browsing.
2. **Content Creation and Editing:** Computers are used to write, edit, and format documents with word processing software such as Microsoft Word. They enable us to create images and graphics, using programs such as Photoshop and Illustrator and produce multimedia content.
3. **Entertainment and Media:** Computers enable us to play video games with simulation or virtual reality. Streaming services such as Spotify and Netflix are powered by computer systems.
4. **Artificial Intelligence:** Computers are used to interpret human language in applications like chatbots, translation services, and voice assistants such as Siri or Alexa.
5. **Industrial Automation:** Computers control systems in manufacturing plants, such as robots. They help power smart devices such as thermostats and home automation systems.
6. **Financial Transactions:** Computers are used for online banking and shopping transactions.
7. **Healthcare Applications:** Computers are used to analyze and process medical images such as CT scans, MRIs, and X-rays. They allow us to store and manage patient data digitally. Computers help process data from wearable devices that track heart rate and blood pressure.
8. **Education and Training:** Computers are used for e-learning, teaching online courses, interactive lessons, and virtual classrooms.
9. **Computation and Calculation:** They help perform mathematical calculations from basic math to complex calculations used in engineering, finance, and scientific research.
10. **Automation:** Computers are used in manufacturing processes and to control robots, machines, and assembly lines.

Lesson plan 2

Resources:

- ✓ Textbook pages 4-5
- ✓ Images of different machines and computers to be displayed on the softboard or a tablet or multimedia if available.

Starter activity (5 min)

- ✓ Never put your fingers in an outlet. Keep electrical equipment away from water. Unplug equipment safely.
- ✓ Describe the uses of a computer in a work setting?

✓ What precautions must you take while using computers?

✓ Possible answers:

Reading and explanation (10 min)

Read pages 4 and 5

Divide students into pairs and ask them to discuss what computers may be used for in offices and banks. Each pair will answer, discussing specific examples:

- How computers are used in offices to find and store information, keep accounts, hold meetings with people in other offices etc.
- How they are used in banks to help maintain people's accounts, ATM machines to deposit withdraw cash, check balances, transfer funds etc.

WORD WHIZ

ATM	Short for automated teller machine used for money transactions
Data	Facts and statistics collected for reference or analysis
Images	A visual representation of something
Symbols	A conventional sign used to represent something
Text	The actual words written in a post or any other written work

WHIZ TASKS

Through the activity, students are given the opportunity to identify what computers may be used for in offices. Ask the students to do this activity independently and then compare their answers. Discuss any difference of responses. Such discussions help clear any doubts that students may have.

Conclusion (5 minutes)

Ask:

- How do different industries rely on computers?
- How will the role of computers in banks and other offices revolutionize in the future?

Homework assignment

✓ Ask students to write a short description as to how they think computers will look like in the future. Ask them to research and find four pictures which show how computers have changed in the last fifty years.

Lesson plan 3

Resources

✓ Textbook pages 6-7

✓ Images of different machines and computers to be displayed on the softboard or a tablet or multimedia if available.

Starter activity (5 min)

✓ How can computers make life easier for people in different ways?

Reading and explanation (20 minutes)

Read pages 6, 7 and 8

Explain that computers play an important function in airports and railway stations. They are instrumental in making sure that all passengers board their flights and that all flights depart and arrive on time. Some students may not have visited either a railway station or an airport. Explain in greater detail what checking in and booking tickets means.

To demonstrate to the children how computers are used to solve real-world problems, ask them to imagine they are at an airport or railway station. Ask students to work in groups to brainstorm how they could use computers in different scenarios.

If a doctor has numerous patients to care for, how could a computer help? Possible answers: find patients' health records, help doctors find important information. They can also suggest treatments and track how well patients are doing.

What can computers do? (page 7)

Take your students to the computer lab. Show them how the computers are linked to the wifi station and the printer. Explain to them that the computers are interconnected through a network. The laptop and smartphones are also connected through wifi.

WORD WHIZ

Schedule	Arrange or plan an event to take place at a particular time
Update	Make something more modern or up to date

WHIZ TASKS

Answers to Whiz Tasks: a. 3; b. 1; c. 2

1. How many computers can you see in the picture? Answer: 3 monitors and a tablet
2. What are they being used for? The monitors are being used to view the patient's health statistics and her x-rays.

DIGITAL RESOURCES

1. Worksheet - Uses of computers

Conclusion (5 minutes)

- Ask the students to explain the concepts of memory and data as they relate to computers.

Homework assignment

CLASS ACTIVITY

Begin by discussing how computers are used in shopping malls. Use the following cloud concept to explain.

CONCEPT CLOUD

What are computers used for in shopping malls?

- **Find the Best Deals:** Computers in a mall can show you a list of the best deals on a screen or in an app. They can even send messages to your phone about discounts or special offers.
- **Help Shoppers Navigate:** Computers use digital maps or apps to show shoppers where the stores are located and help them find the quickest way to get there.
- **Self-Checkout Systems:** Help shoppers scan their items, pay for them, and even print receipts without waiting in line to see a cashier. This saves time and makes shopping faster.
- **Track Inventory:** Computers help stores track what items are in stock and send alerts so they can reorder items before they run out. They can also show the store manager which products are selling best.
- **Personalise Shopping Experiences:** Computers use shopping history to recommend products, send discounts, or create a personalized shopping experience just for their clients.

CLASS ACTIVITY

The class is instructed to design a virtual shopping mall to help children understand how computers are used in malls, including inventory management, self-checkout systems, and personalized shopping experiences, making shopping easier, faster, and more organized.

Divide the class into 3-4 students per group. Give each group a large sheet of paper. Ask them to design their own shopping mall:

- Have students draw or create a digital map of their mall, showing where different stores are located (e.g., bookstore, games arena, food court).
- Ask them to include digital screens where shoppers can check for sales or find information about the stores.
- Instruct them to include self-checkout stations where customers can scan items and pay with computers.
- Tell them to create a simple chart or system showing how the store can track popular items and make sure that they are in stock.

Each group is required to present their shopping mall design to the class and discuss the following:

- How computers help to find stores
- How computers are used to enhance the shopping experience
- How computers can alert customers when their favorite store has a sale
- Other ways that computers can be used to create a better shopping experience.
- The group presentations must be followed by a class discussion: **What would happen in a scenario where computers were not used to facilitate shopping in a mall?**

Suggested answers to end-of-chapter Workstation (page 9)

1. Explore With Whiz

1. Store and find information
2. Mark attendance
3. Generate bill
4. Schedule appointments
5. Draw and edit pictures

2. Whiz Quiz

1. Identify at least five uses of a computer.

   They are used:

   a. To communicate through emails, instant messaging, and video calls

   b. For educational research, online courses, and virtual classrooms

   c. To play games, watch movies, and listen to music

   d. To process large amounts of data

   e. For graphic design, 3D modeling, and animation

2. What are words and numbers that are fed into the computer called? They are called data.
3. What is an ATM machine used for? An ATM or Automated Teller Machine is used to withdraw money, check bank account balances, transfer funds, and perform other banking transactions.
4. How do teachers use computers at hospitals? Teachers use computers in hospitals to train medical staff, create educational materials, conduct online medical education programs, and access healthcare-related research and data.
5. Write any one use of computers.

   Computers may be used to store and organize data for easy retrieval and management.

02 COMPUTER HARDWARE

After completing this chapter, students should be able to:

1. identify common input and output devices,
2. understand and use input devices as tools that display information from the computer,
3. understand and use output devices as tools that show us what the computer is working on or play sounds.

Teaching Objectives

Lesson plan 1

Resources

- ✓ Textbook pages 11-12
- ✓ Images of internal and external hardware to be displayed on the softboard or a tablet or multimedia if available.

Starter activity (5 min)

- ✓ Which parts of the computer can you touch and see?
- ✓ Which part of the computer looks like a musical instrument? (Possible answer: keyboard)

Reading and explanation (10 min)

Read pages 11 and 12

Explain that hardware refers to all the parts of a computer device that you can touch and see. It helps the computer device to work.

There are two types of computer hardware: Internal hardware and External hardware. Explain the difference between internal hardware (parts inside the computer, like the CPU or RAM) and external hardware (parts outside the computer, like the monitor or keyboard).

Those parts of a computer that they cannot see from the outside are known as its internal hardware. For example, CPU. External Hardware are the devices that you can see and touch. There are two types of external hardware: Input devices such as the keyboard, game console, stylus, mouse, scanner, microphone, touchscreen lets you put information into the computer. They tell the computer what to do. Output devices such as monitors, printers, speakers, headphones are things that show or give back information from the computer. They allow you to see or hear what the computer does.

WORD WHIZ	
Hardware	Other physical components of a computer.
Interact	Using and communicating with electronic gadgets like computers, tablets, or smartphones.

CLASS ACTIVITY

The objective of this sorting game is to help students identify and differentiate between internal and external hardware of a computer. Print several pictures of different computer hardware (e.g., keyboard, mouse, CPU, monitor, RAM, motherboard, hard drive, speakers, printer, etc.) so that every child receives a card. Give each student a card containing a picture of computer hardware. On the whiteboard, create two sections labeled Internal Hardware and External Hardware. Have each student come up and place their cards in the correct section on the board. Use tape or thumb tacks to attach the cards to the board.

Conclusion (5 min)

Ask:

- Why each picture of the part attached on the whiteboard was considered internal or external hardware and why.

Homework assignment

✓ Research and provide a list of internal and external hardware items with pictures.

Lesson plan 2

Resources

✓ Textbook pages 13-16

✓ Images of different machines and computers to be displayed on the softboard or a tablet or multimedia if available.

Starter activity (5 min)

✓ Would you be able to function without a brain?

✓ Is a computer able to function without a brain?

✓ What are the different devices that enable a computer to function?

Reading and explanation (15 min)

Read pages 13, 14, 15 and 16

Show them a picture of a CPU. Explain that the Central Processing Unit is an internal hardware unit which interacts with different devices to process and organise information. When you press a key on the keyboard, the CPU gets the message and sends it to the screen. Then, the screen displays the letter that is being pressed.

External hardware consists of input and output devices.

Draw two columns on the board with the following captions: Input Devices and Output Devices. Ask your students to name and identify a device that belongs to each category. Write them down in the correct column. Discuss why each one identifies as an input or output device.

Possible answers:

✓ **Input devices:** Keyboard, game console, stylus, mouse, scanner, microphone, touchscreen

✓ **Output devices:** Monitor, printer, speaker, headphones

Input devices: Allow users to enter data or commands into computer devices so they can control or provide information for processing.

- You press the keys on the keyboard to type words or numbers and give instructions.
- Illustrate the use of the different keys on the keyboard: alphabet and number keys, spacebar, enter key, cursor control keys.
- You use the arrows on the game console to make the characters in the game move etc.
- A stylus is a tool used to write, draw, or interact with touch-sensitive devices.
- The mouse allows you to point and click on things. It helps you tell the computer what to do.
- A scanner is used to convert documents, images, or objects into digital format.
- When you speak into the microphone, the computer can hear your voice and do things, like record your words or talk back to you.
- A touchscreen allows users to interact directly with the displayed matter by touching the screen with a finger or a stylus.

Output devices display information from the computer.

- The monitor screen is the computer's window where you can view things. You look at it when you play games or watch videos.
- A printer takes data from the computer and prints the information on paper.

Speakers and headphones enable you to hear sounds from the computer, like music or someone talking.

Concept Cloud

A computer keyboard consists of various keys, each designed for specific tasks:

- **Letter keys:** Used to type text in lowercase and uppercase letters.
- **Number keys:** Used to type numbers.
- **Shift keys:** Used to type capital letters and access the upper characters on keys (e.g., !, @, #, etc.). It can also be used in combination with other keys for shortcuts.
- **Caps Lock key:** Type in uppercase letters without holding the Shift key.
- **Ctrl (Control) key:** Used with other keys for different commands or shortcuts (e.g., Ctrl + C to copy, Ctrl + V to paste).
- **Alt key:** Similar to Ctrl, used for shortcuts or in combination with other keys (e.g., Alt + Tab to switch between open apps).
- **Fn (Function) key:** Found on laptops, used to access secondary functions of other keys, such as to adjust volume or brightness.
- **Arrow Keys (Up, Down, Left, Right):** Used to move the cursor around the screen or in a document.
- **Home:** Moves the cursor to the beginning of a line or document.
- **End:** Moves the cursor to the end of a line or document.
- **Page Up:** Scrolls up a page at a time.
- **Page Down:** Scrolls down a page at a time.
- **Insert:** Toggles between Insert mode (where text is inserted at the cursor) and Overtype mode (where text replaces the existing text).

- **Delete:** Removes the character to the right of the cursor or deletes the selected item.
- **Backspace:** Deletes the character to the left of the cursor or deletes the selected item.
- Enter Confirms a command or input or creates a new line in text.
- **Escape (Esc):** Cancels a task or closes a menu.
- **Spacebar:** Adds a space between words or characters.
- **Print Screen (Prt Sc):** Captures a screenshot of the screen to the clipboard (combine with other keys for specific functions, such as Ctrl + Prt Sc to capture the whole screen).

WORD WHIZ

Command	An instruction given by a user to a computer or software to perform a specific task. it can be a single word, a line of code, or a series of instructions that tell the computer what to do.
Delete	To remove or erase content from a file, app or device.

WHIZ TASKS

These functions?

What keys will be used to perform

1. To type a comma
2. To type the name of your school LETTER KEYS
3. To move to the next line ENTER
4. To delete a mistake DEL or BACKSPACE key

Which output device in your view is the most important? Give a reason for your answer.

(Answer for this question can differ from student to student. This is an example answer)

The monitor is the most important output device because it provides a visual interface between the user and the computer. Most interactions such as browsing the web, reading emails, working on documents, or using software applications, rely on a visual display. Without a monitor, it will be difficult to see the result of their actions. The monitor is essential to watch videos or for gaming, word processing, spreadsheets, video calls and browsing. It is the primary device that displays detailed images, graphics and helps with any work that requires visual detail.

DIGITAL RESOURCES

1. Worksheet - Functions of output and input devices

Conclusion (5 min)

Ask:

- What devices may be invented in future years?

Homework assignment

The digital worksheet can be given to students as homework.

Suggested answers to end-of-chapter Workstation (page 17)

Explore With Whiz

1. Which keys perform the following functions?
    a. The Enter or Return key is used to input data.
    b. When the Caps Lock key is turned on, all letters are typed in capitals.
    c. The Shift key allows you to type symbols that are on the upper part of a key (like @, #, $, etc.) when used in combination with another key.
    d. The Backspace key deletes the character to the left of the cursor, allowing you to erase mistakes.
2. Underline the correct answers.
    a. Mouse
    b. Pointer
    c. TV d. scanner
    d. Processing

Whiz Quiz

1. How do input devices differ from output devices?

    Input devices allow users to send data or commands into the computer, such as a keyboard or mouse. Output devices, on the other hand, present data from the computer to the user, such as a monitor or printer.

2. What is the function of the CPU?

    The CPU or Central Processing Unit is the brain of the computer and is responsible for executing instructions and performing calculations. It processes data and controls the operations of all other hardware components.

3. Define soft copy.

    A soft copy is a digital version of a document or image that is viewed on a screen. It is not a physical copy and exists only electronically.

4. Differentiate between a monitor and a printer.

    A monitor is an output device that displays visual information on a screen. A printer, on the other hand, is an output device that produces a physical hard copy of documents or images.

03 HANDLING DATA

After completing this chapter, students should be able to:

1. understand how data is entered into computers,
2. add events on a calendar app,
3. make calculations using the calculator app,
4. enter data in the Notepad app through lists and texts

Teaching Objectives

Lesson plan 1

Resources

- ✓ Textbook pages 19-22.
- ✓ Images of different icons on a monitor to be displayed on the softboard or a tablet or multimedia if available.

Starter activity (5 min)

- ✓ Have you seen small pictures on a phone, tablet or computer?
- ✓ Do you know what these pictures are for?

Reading and explanation (15 min)

Read pages 19, 20, 21 and 22

Explain to the children that data is obtained through input devices. Stress the importance of icons which are in the form of little pictures and represent different apps.

If you want to listen to music, you click on the music app. If you want to write an essay, you click on the word document app.

Introduce the calendar app. Ask the students if they have ever used a calendar.

The calendar app on a computer, phone or tablet allows them to:

- Check what day and date it is.
- Mark important days such as when there's a football game, a field trip, or a class outing.
- Set reminders for appointments or activities they may have on different days.

Illustrate the use of this app on a device with the calendar app; show them how to open it, find a day, and add an event or reminder.

Explain to your students that the calculator app on a phone or tablet is just like the one you see in class, but it is either on a computer, tablet or phone. Show them the different buttons on the calculator app:

CE means Clear Entry. This removes the last number you have entered.

C means Clear. This removes the entire display. If you press C, the entire display will be deleted.

deletes the last digit of the number you have entered

MR means Memory Recall

M+ means add an entry to the memory

M- means remove an entry from the memory

WORD WHIZ

App	A software program that can be installed and run on a computer, tablet or smartphone.
Icon	A small graphical representation of a program or file that helps users navigate the computer

WHIZ TASKS

Solve the following word problems using the Calculator app:

1. A class is doing an activity in groups. There are 5 groups of 4 students. How many students are there in a class?

   To find the total number of students in the class, multiply the number of groups by the number of students in each group:

   5 groups × 4 students = 20 students

   So, there are 20 students in the class.

2. The school is being decorated for the new school year. There are 19 classrooms in the school. On the ground floor, there are 8 classrooms and the rest are on the first floor. How many classrooms are on the first floor?

   To find the number of classrooms on the first floor, subtract the number of classrooms on the ground floor from the total number of classrooms:

   19 total classrooms − 8 classrooms on ground floor = 11 classrooms

   So, there are 11 classrooms on the first floor.

DIGITAL RESOURCES

1. Video - on-screen tutorial: Open calendar app on Windows 10 and add events on a Calendar app
2. Video - on-screen tutorial: Make calculations using a calculator on Windows 10

Conclusion (5 min)

Ask:

- What will you find on a calendar?
- Who can think of something fun or important they would put on the calendar?
- What would you use the calculator app for?

Homework assignment

✓ Look up the meanings of the words in Word Whiz on Pg 20 and 21.

Possible answers:

WORD WHIZ	
Event	An action or occurrence that can be recognised by software
Notification	A message that indicates an event has occurred
Prompt	A message or text displayed to the user to solicit input or provide instructions.
Reminder	A written or spoken message that reminds someone to do something
Recheck	To check something again
Recall	the action of bringing a fact back to one's mind

Lesson plan 2

Resources

✓ Textbook pages 22 - 24

✓ Images of Notebook app and screenshots displayed on the softboard or a tablet.

Starter activity (5 min)

✓ Do you jot down points in class when I speak?

✓ How is taking notes helpful?

✓ Do you use a computer device to take notes? How do you think that this may be beneficial?

Reading and explanation (20 min)

Read page 22 starting from Notepad to page

Why is the Notepad app considered so important? Explain this to the students with reference to the concept cloud which describes the significance of the app.

Explain that Notepad is a simple program perfect for writing stories, making lists, or taking notes. Show students the Notepad icon on the screen, which looks like a small notepad or a blank page. Discuss the features and functions of this app:

Features:

1. The top part of the Notepad is called Title bar. This shows the name of the file.
2. The part below the Title bar is called the Menu Bar.
3. The Menu bar has five menus: a. File b. Edit c. Format d. View e. Help

Functions of Menus:

1. The File menu is used to open, save, and print a file.
2. The Edit menu is used find or replace a word.
3. The Format menu is used to change the font or to wrap the text.
4. The View menu is used to zoom in or zoom out.
5. The Help menu is used to access online help about Notepad.

Teach them how to open the Notepad app and use it:

If you're using a computer with Windows:

- Click on the Start button
- Type Notepad in the search box.
- Click on the Notepad app when it appears.
- Once the app opens, they can start typing right away.

Explain that saving work is very important. If they don't save it, it might disappear if they close the app.

To Save your work:

- Click on File in the top left corner of the Notepad window.
- Select Save As from the drop-down menu.
- Choose a folder on the computer device to save it.
- Name the file.
- Click Save.

To Open a Saved File:

Click on File at the top left of Notepad.

Select Open from the menu.

Find the file you saved earlier

Double-click to open it.

To Close Notepad:

- Click the X at the top-right corner of the Notepad window.
- If you haven't saved your work, Notepad will ask if you want to save it before closing.
- Click Yes or No if you want to save your work or not save it.

WHIZ TASKS

1. Answers will vary.

   a. 542 + 383 = 925 b. 256 – 39 = 217 c. 12 × 13 = 156 d. 256 ÷ 4 = 64

Concept Cloud

What is the Notepad app used for?

The Notepad app is useful for writing, storing, and organizing simple text documents. It is a simple text-editing tool that enables you to:

- Type and edit text. You can jot down ideas, write stories, or take notes quickly.
- Create, save, and open text files on your computer device so you can keep documents safely for later.
- Organize thoughts or tasks by writing them in a clear and simple manner.

- Make lists, plan projects, or write reminders.
- Write quick notes or things you want to remember.
- Format so you can focus on your writing.

Why is the Notepad app considered so important?

The Notepad app is considered important for several reasons:

1. It is simple and easy to use.
2. It opens quickly and allows you to create and edit text files in seconds.
3. It offers a clean distraction-free workspace.
4. Notepad files are lightweight and in plain text, so they are easy to transfer across different platforms and devices.

DIGITAL RESOURCES

1. Worksheet: Notepad interface and features
2. Worksheet: Opening Notepad and saving a file in Notepad

Conclusion (5 min)

Ask:

- What are some fun things you want to create using Notepad?
- How did the Notepad help you organize your thoughts?

Homework assignment

✓ Write about your favourite activity using Notepad. Save it. Share with a classmate.

Suggested answers to end-of-chapter Workstation (page 25-26)

Explore With Whiz

1. Input
2. Icons
3. Plan
4. Recheck
5. Lists, writing
6. Information
7. Programs
8. Chart
9. Date
10. Notepad

Whiz Quiz

1. Typing text into a Notepad or Word document is a way to enter data into computer devices..
2. Icons represent applications, files, or folders on your computer.
3. The Calendar app is used to organize and schedule events, appointments, and reminders.
4. The Calculator app is used to perform mathematical calculations.
5. Some uses of the Notepad app are to make notes, create lists, and store ideas.

04 MS PAINT 3D

Teaching Objectives

After completing this chapter, students should be able to:

1. open and close the Paint 3D program on the computer,
2. use drawing tools in Paint 3D,
3. use Paint 3D to tell a story from their imagination,
4. see art in 3D view,
5. save their artwork in the computer system.

Lesson plan 1

Resources

- ✓ Textbook pages 28-29
- ✓ Images of Paint 3D program and its labelled interface to be displayed on the softboard or a tablet or multimedia if available.

Starter activity (5 min)

- ✓ What is the difference between a flat picture and one that looks like it is 3D?
- ✓ What would you like to create when using a paint app on the computer?

Reading and explanation (25 min)

Read pages 28 and 29

Explain that Paint 3D is a drawing program that lets you make both 2D pictures and 3D objects.

Show them the icon of Paint 3D and click it to open the app. Briefly explain that 3D objects are things that we can turn around because they have depth versus 2D drawings which are flat. Preferably, this class should be conducted in a computer lab so it is easy to demonstrate the use of the app practically.

The Interface:

1. Canvas: the work area where they create their drawings.
2. Toolbar on the left: Tools for drawing, shapes, and brushes.
3. Top menu bar: Options for file, undo/redo, and more settings.
4. 3D shapes and stickers: For adding 3D objects and cool effects.

How to Draw in Paint 3D:

- Click the Brush tool.
- Demonstrate how to draw freehand.

- Discuss how to change colors with the color palette.
- Use the Shapes tool to create a rectangle, square, or circle.
- To add 3D Shapes, click the 3D Shapes button on the toolbar.
- Show them how to add basic 3D shapes like cubes, spheres, and cones.
- Show them how to click and drag the shapes to change their size.
- Show them how to rotate a 3D shape using the mouse.
- Teach them how to resize the shape by dragging the corners.
- Select a 3D shape, then click on the Fill tool to color it.
- Let them choose different colors to fill their shapes.

WORD WHIZ

Canvas	A window that holds various drawing elements
Digital art	A tyçpe of art that uses digital technology in the creative process
Imagination	The faculty or action of forming new ideas, images or concepts
Texture	The feel, appearance, or consistency of a surface or substance

DIGITAL RESOURCES

1. Video - on-screen tutorial: Open and discuss the interface and tools of the Paint 3D program.

Conclusion (5 min)

Ask:

- What do you like about Paint 3D?
- What did you find most challenging?

Homework assignment

Create a 3D Scene: a house, a tree, or a car, using the 3D shapes and drawing tools. Add multiple shapes such as squares for the house and spheres for trees. Use the Stickers tool to decorate your 3D objects with windows, doors, or patterns.

Computer Lab Activity (40 minutes)

Divide the class into small groups depending on the availability of computers.

WHIZ TASKS

Use a mix of 2D and 3D shapes to create a geometrical design.

Launch Paint 3D.

Click on New to start a fresh project.

Select the 2D Shape Tool by clicking on the 2D Shapes button.

Select the Rectangle tool and click-and-drag on the canvas to create a rectangle.

Adjust its size by dragging the corners.

Choose the Circle tool; click and drag to draw an oval or circle.

Use the Line tool to draw straight lines.

Resize or reposition the shapes by clicking and dragging the corners or edges of the shapes.

To change the Fill Color and Outline Color, select the shape and use the color options in toolbar.

Click on the 3D Shapes button in the toolbar.

Choose Your 3D Shape. They could be cubes, spheres, pyramids, cones or cylinders.

Add the 3D Shape to the canvas.

Click and drag to place the shape on the canvas.

To rotate the shape, select the 3D shape; there will be a white ring around it.

Use the rotate ring to turn the shape around.

Rotate it in 3D space to give your design depth.

Combine 2D and 3D Shapes for the design

Position the 2D Shapes.

Place your 2D shapes where you want them on the canvas.

Arrange them to create patterns.

To resize the shapes, click and drag the edges or corners to make them bigger or smaller.

Select a 2D or 3D shape and use Fill Color to change the shape's colour.

Use contrasting colors to make the 2D and 3D shapes stand out.

Apply textures or stickers to shapes by clicking on the Stickers button.

Use the Arrange tool to send shapes backward or bring them forward.

To bring a shape to the front, right-click on it and select Bring to Front.

Select all the objects in your design by holding Shift and clicking each shape.

Use the grouping tool to group all objects together.

Your geometric design is ready.

Save Your Project.

Lesson plan 2

Resources

✓ Textbook pages 29-32

Starter activity (5 mins)

✓ The objective of this portion of the chapter is to teach how to do storytelling with Paint 3D. Tell your students that you are going to teach them how to construct a story using Paint 3D. Ask them to create their own story.

- ✓ Who is in the story?
- ✓ Where does the story happen?
- ✓ What happens in the story?

Reading and explanation (30 mins)

Read pages 29-32

Explain to them how the Dolphin Story has been created. The following instructions were followed to create this story on Paint 3D.

1. Open Paint 3D on your computer.
2. Select 3D Shape: Click on 3D shapes to view objects and models. Choose the Fish model and place it on the canvas by clicking on the desired spot.
3. Resize and Rotate: Adjust the size of the fish by dragging the corners and rotate it to the desired angle.
4. Change Colour: To change the fish's colour, click on Edit color and select a colour. Choose other colors by clicking Add color.
5. Create Water Waves: Click on Brushes and choose the Oil brush. Select blue from the color palette and draw waves to create a water effect.
6. Use Undo and Redo: To undo a step, click Undo, or click Redo to repeat a step.
7. Add Stickers: Click on Stickers and select Textures. Choose pebbles, then click on the canvas to place them. Resize them by dragging the corners.
8. View in 3D: Click on 3D view to see your creation in three dimensions. Use the zoom bar to adjust the view.
9. Save Your Work: Click on Menu, then Save as. Choose to save as an image, 3D model, or video. You can also save as a 3D project to work on later.

DIGITAL RESOURCES

1. Video - on-screen tutorial: Making a project on MS Paint 3D

Conclusion (5 min)

Ask:

- What part of creating your storyboard in Paint 3D was the most fun?
- What was your favorite 3D object that you used in creating a storyboard?

Homework assignment

- ✓ Complete the exercises in the workstation: Explore with Whiz and Whiz Quiz.

Suggested answers to end-of-chapter Workstation (page 33-34)

Explore With Whiz (Answers)

1. What tools will you use in Paint 3D?
    a. 2D Shapes tool (select a star shape).
    b. Brushes tool (choose a soft brush to draw clouds).
    c. Fill tool or Brushes (choose the color and paint the house).
    d. Text Tool (either 2D text or 3D text, depending on how you want the text to appear).
    e. 3D View (zoom in or out to adjust the level of detail visible).
2. Tick the correct answer:
    a. ii
    b. ii
    c. ii

Whiz Quiz (Answers)

1. Paint 3D is used to create and edit both 2D and 3D artworks. It allows users to draw, paint, design 3D objects, and add textures, text, and stickers to their creations.
2. A 2D image is flat and has only width and height while a 3D image has depth in addition to width and height.
    a. Use the Brushes tool to draw, or 3D shapes to create objects.
    b. Use the Text Tool (either 2D text or 3D text).
    c. Use the Stickers tool to add images or textures.

Computer Lab Activity (40 minutes)

Demonstrate to the children as to how they can create a basic storyboard on paper. Explain to them that based on the storyboard they create they can develop a story using tools from Paint 3D.

It would be ideal to hold this class in the computer lab. Divide the class into small groups depending on the availability of computers.

The basic Paint 3D tools to be used will comprise:

- Brushes: to draw characters and backgrounds.
- 3D Shapes: To create characters, objects, and backgrounds.
- Text: To add speech bubbles and titles.
- Stickers: To add characters or add textures to objects

Suggest a simple story to get started such as: A Day at the Zoo. Help students create characters using 3D shapes or stickers.

Encourage students to use 3D shapes and objects from the Paint 3D library to create the setting of their story. Ask them to create different scenes that follow the story's flow. Each scene can be a different image. Students can make each scene using a combination of shapes and backgrounds.

Show students how to use the text tool to add simple dialogue or speech bubbles. Teach them how to add speech bubbles and place them near the characters to represent conversations in the story.

Encourage students to add colour and texture to the scenes to make them visually interesting. For example, they can add stickers to create a pattern or textures such as grass or clouds or change the colour of the sky.

Have the students share their stories with the class. They can explain the story they created, show their scenes and talk about the characters and plot.

After the presentations, have a brief discussion:

What part of the story was easy to create?

How did pictures add to the story?

05 SIMPLIFYING INSTRUCTIONS

Teaching Objectives

After completing this chapter, students should be able to:

1. define algorithms as sequence of instructions,
2. understand that missing a sequence leads to errors,
3. identify errors in sequences.

Lesson plan 1

Resources

✓ Textbook pages 36-38

Starter activity (5 min)

✓ Why are instructions that I give you in class important?

✓ Why do we need to have routine in our lives?

Reading and explanation (15 min)

Read pages 36, 37 and 38.

Explain to your students that instructions are important in any activity, even a game like Ludo. Games can become confusing without clear instructions. Instructions tell us what to do in a sequence or an organized pattern.

Routine means doing something in a sequence. If they miss a step, it means that they will have made a mistake. Stress the importance of routine in people's lives as it creates discipline.

Explain that the textbooks they use have so many instructions for the following reasons: They help understand what to do, like solving math problems or doing science experiments correctly.

Instructions guide and help students learn safely.

An organised set of instructions is called an algorithm. Demonstrate to them as to how they can make French toast by writing simple instructions for it on the board. Then ask your students to write an organized set of instructions of how to make a cheese sandwich.

WORD WHIZ	
Instructions	Detailed information about how something should be done or operated.
Routine	A sequence of actions regularly followed
Sequence	A particular order in which related things follow each other.

WHIZ TASKS

What would happen if you skip the step 'brush your hair'?

Suggested answer: Morning routine is essential as getting ready for school in the morning follows a sequence of instructions. If she skips the step 'brush your hair', she will go to school in a disheveled state and be in trouble because her hair does not look presentable.

Conclusion (5 min)

Ask:

- What will happen if all the instructions are jumbled?

Homework assignment

✓ Create a sequence of actions for a daily routine or task and then perform them in order.

Lesson plan 2

Resources

✓ Textbook pages 39-41

✓ Images of different simple roadmaps to be displayed on the softboard or a tablet or multimedia if available.

Starter activity (5 mins)

Ask:

✓ What are instructions?

✓ Why is it important to follow instructions in a sequence?

✓ Can you give an example of instructions you follow at home or school?

Reading and explanation (20 mins)

Read pages 39, 40 and 41

Explain the concept of instructions. Instructions tell us how to do something step by step. For example, when Samra goes to the store, she always follows the same path. This path can be written down as a series of instructions, such as "Move 1 block down," "Move 1 block right," etc.

Introduce the concept of location when you are using a grid. Show students how different places are located in relation to each other. For example:

The pharmacy is in the top area.

Grandmother's house is in the bottom area.

The house is in the top-right area.

The hospital is in the bottom-left area.

The shop is in the top-left area.

The park is in the bottom-left area.

It's essential to follow instructions in the correct order, like steps in a recipe or directions on a map. If you miss a step or do something out of order, it can lead to mistakes or confusion.

For example, getting ready for school: you wake up, brush your teeth, put on your uniform, and wear your shoes. If you skip any part of this, your activity will be incomplete.

Show them the grid. Explain that a grid is like a map made of lots of little squares. It helps organize things and find places easily. To demonstrate, create a grid on the board or paper with labels for each place like the pharmacy, house, park, etc. Explain that directions can help someone find their way from one place to another using a series of steps. Show students how instructions are written for Mr. Whiz to go from the starting point to the park.

Instruct them to write the instructions and then go back and see if any steps can be simplified. For example, instead of writing "Move 1 block down, 1 block down, 1 block down," they can write "Move 3 blocks down." This makes the instructions shorter and easier to follow.

Guide students through simplifying instructions. Use Mr. Whiz's battery charger instructions and simplify the steps together as a class. Practice simplifying other instructions together on the whiteboard. Discuss that combining steps makes directions easier to follow.

(Answers for Pg 41)

1. Start on green flag
2. Move 3 blocks down
3. Move 4_ blocks right
4. Move _2_ blocks down
5. Move 3_ blocks left
6. Stop

DIGITAL RESOURCES

1. Worksheet: Maze activity

Conclusion (5 min)

Ask:

- How did simplifying the instructions make your tasks easier?
- How can you apply this to other areas like schoolwork, games, or daily routines?

Homework assignment

✓ Ask students to tackle the Explore with Whiz, Whiz Quiz and Whiz through Lab exercises on Pg 42 and 43.

Suggested answers to end-of-chapter Workstation (page 42-44)

Explore With Whiz

Try to simplify these instructions for Mr Whiz.

Start on Green Flag

Move 2 blocks right

Move 2 blocks down

Move 1 block left

Move 2 blocks down

Move 3 blocks right

Move 3 blocks up

Stop

Whiz Quiz

1. Instructions are step-by-step directions that tell us how to do something.
2. It is important to follow instructions in the right order because if you skip a step or do things out of order, it can lead to mistakes or confusion.

Whiz through Lab (Suggested Answer)

Write instructions to draw a star:

1. Start by drawing a small dot in the middle of your paper.
2. Draw a straight line from the dot going up.
3. From the end of that line, draw a diagonal line to the left.
4. Draw a line from that point going down to the right.
5. From there, draw a diagonal line to the right.
6. Draw another line going straight down.
7. Finally, draw a line from the bottom to the top to complete the star.

06 DIGITAL CITIZENSHIP

Teaching Objectives

After completing this chapter, students should be able to:

1. define digital citizenship,
2. write and simplify instructions,
3. understand the importance of safety while using the Internet,
4. use respectful language when addressing people on the Internet,
5. exercise caution when posting their personal information.

Lesson plan 1

Resources

- ✓ Textbook
- ✓ Images of online posters showing rights and responsibilities of digital citizens to be displayed on the softboard or a tablet or multimedia if available.

Starter activity (5 min)

- ✓ Can you think of a time when you saw something online that wasn't nice? What did you do?
- ✓ Why is it important to be kind and respectful when you are online?

Reading and explanation (15 min)

Read pages 46 and 47

Define digital citizenship. Discuss the similarities between how we should treat friends in person and how we should treat them online. Discuss how things said online can still hurt others. Use scenarios where kids are asked to decide if a comment is kind or hurtful and ask them how to handle such situations. Emphasize that when they say something online, they should think about how it will make the other person feel.

Ask students to discuss what they should be careful of when using the Internet. What are their rights and responsibilities? Ask each student for an example of how they can be responsible when using the Internet.

WORD WHIZ

Community	A group of people living in the same place or sharing particular characteristics.
Technology	The application of scientific knowledge for practical purposes

CONCEPT CLOUD

Digital citizens are people who use the Internet and digital technology responsibly and ethically. They have specific rights that entitle them to a safe, respectful, and inclusive online environment:

Rights

- Digital citizens must keep their personal information private and secure including control over what information is shared, how it is shared, and who can access it.
- They may express themselves online through social media, blogs, forums, or other digital platforms. However, they must respect others.
- They can access and share information freely.
- They should be protected from cyberbullying, harassment, identity theft, and scams. This includes the right to report abuse and seek support.
- Digital citizens can engage in online communities, networks, and platforms by contributing to discussions, collaborating, and sharing content.
- They have the right to education and the tools to learn how to use digital technologies effectively, responsibly, and safely.

Responsibilities

Digital citizens must be responsible and ensure that others are safe and respected in the online environment in which they interact:

- They must treat others with respect and kindness online by avoiding cyberbullying, harassment, and hate speech.
- They must safeguard their privacy and the privacy of others. They must be careful of the data they share.
- It is important to use strong passwords.
- Digital citizens must ensure that all sources are credible; they must verify facts and avoid the spread of misinformation or fake news.
- They should avoid plagiarizing. This includes respecting copyright laws.
- They must understand that their digital footprint can have long-term consequences.
- They should collaborate with others and participate in online learning.
- They should not engage in or support cyberbullying, online harassment, or spreading malware.

WHIZ TASKS

How should you treat your friends at school? List the ways in which you would treat your friends with kindness and respect online.

Possible answers:

- Be kind and respectful when you send messages.
- Do not share any private information about them with others.
- Encourage your friends and give them compliments.
- Do not post anything that could hurt their feelings.
- Tell an adult if you see something unkind online.
- Respect your friend's feelings and opinions, even if they are different from yours.

WHIZ TASKS

1. Responsibility
2. Right
3. Right
4. Right
5. Responsibility

Conclusion (5 min)

Ask:

- Now is it clear to you as to what you should do if you see something on the internet that makes you feel uncomfortable or scared?
- What information will you not share online?

Homework assignment

✓ Instruct the children to create a poster citing rights and responsibilities of a digital citizen with pictures.

Lesson plan 2

Resources

✓ Textbook pages 48-50

✓ Images of dos and donts on the Internet to ensure safety to be displayed on the softboard or a tablet or multimedia if available.

Starter activity (5 min)

Ask:

What should you do if you see something on the internet that makes you feel uncomfortable or unsafe?

Reading and explanation (15 min)

Read pages 48, 49 and 50

Ask your students what personal information is (e.g., full name, address, phone number, school name) and why it should be kept private. Explain to them that their name and email address are private and should not be shared with strangers. Passwords help protect accounts, and they should never be shared with anyone, not even friends. Just like in real life, there are strangers online who might not be safe to talk to. Hence, they should not answer if someone they don't know online asks them questions. Emphasize that if something feels wrong or scary online, they should always tell a trusted adult, such as a parent, teacher, or school counselor as they can help them stay safe. Show students examples of safe and unsafe sharing of images. Discuss why it's important to keep pictures private, especially when sharing them online. Teach them the importance of balancing screen time with other activities like playing outside, reading, and spending time with family.

WORD WHIZ

Lifestyle	The way in which a person lives
Screen time	Time spent using a computer device

WHIZ TASKS

1. Raza sleeps more.
2. Raza spends more time on screen.
3. Both play outdoors.
4. Musab spends more time with family.
5. Raza has a healthier routine.

DIGITAL RESOURCES

1. Worksheet: Screen time tracker

Conclusion (5 min)

Ask:

- What information is safe to share online, and what should you keep private?
- What should you do to ensure that you have a healthier life?

Homework assignment

✓ Explore With Whiz (Answers)

✓ What should you do to keep yourself safe online?

a. No
b. Yes
c. No
d. Yes
e. Yes

Suggested answers to end-of-chapter Workstation (page 51)

Whiz Quiz (Answers)

1. A digital citizen is someone who uses the internet safely and treats others kindly online. They follow rules and protect their personal information.
2. You need to be careful online to keep your information safe and avoid dangerous people. It's important to be kind and not share too much personal stuff so as to avoid scams and maintain your privacy.
3. A healthy lifestyle means eating good food, staying active, and getting enough sleep. It also means taking care of your mind by being happy and stress-free.
4. Yes, computers can affect mental health and make people unhappy if they spend too much time on them or see hurtful things. It is important to take breaks and not have too much screen time.
5. To stay healthy, you can play outside, eat fruits and vegetables, and get enough sleep. You can also talk to friends and family, engage in hobbies and do things you enjoy.