1

FOURTH EDITION

FOR GRADE 1

KEYBOARD

Computer Science with
Application Software

TEACHING GUIDE

Introduction

Keyboard: Computer Science with Application Software teaching guide is designed to empower educators and engage young learners, providing a valuable tool for teaching computer concepts to students in grades 1-5.

Features

Scheme of Work

This is a comprehensive curriculum outline that ensures a structured and coherent learning journey. It provides a detailed breakdown of the number of lessons for each chapter and topic and the core competencies and digital content mapped for teachers' convenience.

Sample Lesson Plan

This instructional sequence outlines teaching strategies through sample lesson plans with clear learning objectives for students and teachers. It highlights core competencies and includes measures of success, like formative assessments and performance indicators, to help teachers track student progress effectively.

Engagement Activities

Additional exercises to reinforce core lessons are designed to be engaging and interactive. These activities may include hands-on projects, problem-solving tasks, research assignments, and group work. It offers alternative explanations and additional practice opportunities that allows students to succeed, regardless of their current performance level.

This collaborative guide compiles insights from educational experts and the latest teaching methods to offer a comprehensive resource for computer education. It serves to create an engaging and effective learning environment that promotes their students' curiosity, creativity, and critical thinking in computer science and technology.

CONTENTS

Scheme of Work

Chapter	No. of Periods	Core Competencies	Learning Objectives	Teaching Objectives	Additional Resources	
What are Computers?	3	Digital Literacy, Problem-Solving	Understand the basic concepts of computers and their types.	Introduce different types of computers, their uses, and their impact on daily life.	Images, videos of different computer devices	
Parts and Uses of Computers	6	Digital Literacy, Problem-Solving	Identify the basic parts of a computer and their functions. Understand how computers are used in various fields.	Explain the function of each computer component. Demonstrate how to use a computer for various tasks.	Diagrams of computer components, real computer hardware	
Let's Explore: Keyboard and Mouse	6	Digital Literacy, Creativity and Innovation	Learn to use a keyboard and mouse effectively. Develop creativity and innovation through computer use.	Introduce the layout of a keyboard and the functions of different keys. Demonstrate basic mouse actions.	Keyboard and mouse, computer lab	
Creating Worlds with MS Paint	6	Digital Literacy, Creativity and Innovation	Learn to use basic image editing tools to create digital art.	Introduce the MS Paint interface and its tools. Guide students in creating simple drawings and paintings.	MS Paint software, digital images	
Exploring Notepad and WordPad	6	Digital Literacy, Communication and Collaboration	Learn to use basic text editing tools to create and edit documents. Use digital tools to communicate and collaborate with others.	Introduce Notepad and WordPad as text editing tools. Guide students in creating and formatting simple documents.	Notepad and WordPad software, sample documents	
Patterns Around Us	4	Digital Literacy, Critical Thinking	Understand the concept of patterns and their role in computing.	Introduce the concept of patterns in nature and everyday life. Explain how computers can recognise and analyze patterns.	Images of patterns in nature and art, coding activities	

	Reasoning	Communication	Connection	ICT Activities	Additional Strategies
	Explain the purpose of different computer devices.	Discuss the advantages and disadvantages of different computer devices.	Relate the use of computers to real-life situations.	Create a digital collage of different computer devices.	Additional strategies • Computer Show and Tell: Encourage students to bring in their own devices (e.g., tablets, smartphones) and share their experiences with the class. • Create a Class Computer Museum: Collect pictures and information about different types of computers throughout history, and display them in the classroom.
	Explain the importance of each computer component.	Discuss the ethical use of computers.	Relate the use of computers to different subjects like science, math, and language arts.	Create a digital presentation on computer components and their uses.	Additional Strategies: • Disassemble a Computer: (If possible) Disassemble an old computer to show the internal components. • Computer Lab Scavenger Hunt: Create a scavenger hunt for students to explore the computer lab and identify different components.
	Explain the importance of correct posture while using a computer.	Discuss the impact of excessive computer use on health.	Relate keyboard and mouse skills to other subjects like typing and gaming.	Practice typing exercises and play computer games that involve mouse and keyboard skills.	Additional Strategies: • Keyboard Olympics: Organise a typing competition to motivate students to practice their keyboard skills. • Mouse Maze: Create a maze on the computer screen and have students navigate it using the mouse.
	Explain the concept of digital art and its applications.	Discuss the importance of copyright and intellectual property rights.	Relate digital art to traditional art forms.	Create digital art projects based on different themes.	Additional Strategies • Digital Art Gallery: Create a class gallery to showcase students' digital artwork. • Digital Art Challenge: Set a weekly challenge for students to create digital art based on a specific theme.
	Explain the importance of clear and concise writing.	Discuss the proper formatting of documents.	Relate text editing skills to writing assignments in other subjects.	Create digital stories or poems using text editing tools.	Additional Strategies: • Digital Storytelling: Have students create digital stories using text and images. • Class Newsletter: Create a class newsletter using WordPad and distribute it to parents.
	Explain the significance of patterns in problem-solving and decision-making.	Discuss the ethical implications of using algorithms and AI.	Relate patterns to other subjects like math and science.	Create digital patterns and animations using accessible and age appropriate coding tools	Additional Strategies: • Pattern Hunt: Take students on a nature walk to identify patterns in the environment. • Pattern Puzzles: Create puzzles and games that involve pattern recognition.

WHAT ARE COMPUTERS?

> The world is changing due to computers. How many types are there and what can they do?

> This chapter will help you understand the marvellous machine we call a 'computer!'

Learning Objectives

Students will be able to:

- Understand what a machine is.
- Learn that a computer is a type of machine.
- Discover some fun things you can do with a computer.
- Understand the concept of applications and their role in computer usage.
- Understand that computers are electronic machines that require electricity to function.

Sample Lesson Plan

Lesson Title: The Computer—A Machine
Page numbers: 2 and 3

Core Competencies

- **Digital Literacy:** Understand the basic concepts of computers and their uses.
- **Problem-solving:** Analyse how computers can solve problems and complete tasks.
- **Communication:** Effectively communicate information about computers and their uses.
- **Creativity:** Explore the creative possibilities of using computers.

Keywords

Machine, computer, electricity, play, pause

Resources Required

- Textbook
- Whiteboard/Blackboard and markers/chalk
- Pictures of different types of computers (desktop, laptop, tablet, smartphone)
- **Optional:** Short video on the YouTube about computer as a machine (age-appropriate)

Activities

1. **Spark Curiosity:** Ask the class, 'What are some amazing things you can do with a machine?' Encourage imaginative responses like flying, talking, or creating audio visuals. Introduce the idea that computers are also amazing machines.

2. **Interactive Reading:** Read the textbook passage aloud, pausing at key sentences like "A computer is a very useful machine." Ask questions like:
   a. What are some other useful machines you know? (e.g., cars, bicycles, washing machines)
   b. Why do you think the author calls a computer a 'wonderful' machine?
   c. What does it mean that a computer is an 'electronic' machine?

3. **Turn and Talk:** After reading a section, have students turn to a partner and discuss the main idea. Encourage them to use the vocabulary from the text in their conversation. For example, 'Did you know computers need electricity to work just like your toys need batteries?'

4. **Show and Tell with Pictures:** Display pictures of different types of computers in multimedia or as flashcards. Ask students to point to the computer they recognise and describe what they think it's used for.

Performance Indicators

Students can:
- ✓ define a computer in their own words.
- ✓ list at least three uses of a computer.
- ✓ explain why computers need electricity.
- ✓ identify different types of computers in pictures.
- ✓ participate actively in class discussions

Extended Activity

- Students draw their favourite machine and explain why they like it.
- Include a picture of a computer and talk about what they like to do on it.

IN THE LAB

Activity 1

Look around your house and make a list of any five machines that you see. Also, try to draw their pictures.

Instructions

1. Instruct students to observe their homes and identify five different machines they see.
2. Encourage them to think beyond obvious examples like computers and televisions. (**Examples:** Washing machine, blender, fan, refrigerator, electric kettle)
3. Have students create a simple list or draw pictures of the machines they find.
4. Guide students in drawing a picture of their favourite computer or device. Encourage them to add details like colours and buttons.
5. Allow time for students to colour and decorate their drawings.
6. Organise a 'Show and Tell' session where students present their drawings to the class.
7. Encourage them to share what they like about their chosen device and what they use it for.
8. Facilitate a brief discussion about the different devices presented.

Activity 2

Can you remember your first visit to the computer lab? How exciting was that? Can you also recall what your teacher showed you? Make a list of all the interesting things you learned.

Instructions

1. **Introduction:** You can start with a short video or story about a student's first visit to a computer lab to spark interest and memories. Ask students to think about their first visit to the computer lab. How did they feel? What were they excited about?
2. **Think-Pair-Share:** Have students think about their first computer lab visit, pair up with a classmate to discuss their memories, and then share with the class. To guide the discussion, use questions like 'What was the most exciting part of your first visit?' and 'What did your teacher show you?'.
3. **List Making:** Divide students into small groups and give each group a large sheet of paper and markers. Ask each group to list all the interesting things they learned during their first computer lab visit. Encourage them to think about specific activities, tools, and software they used. If available, use collaborative tools like Google Docs or Padlet for groups to create and share their lists digitally.
4. **Creative Expression:** Have students individually draw a picture or write a short story about their first computer lab visit. They can illustrate their favourite memory or describe what they learned. Students can use drawing apps or word processing software to digitally create their illustrations or stories.
5. **Presentation and Reflection:** Have students present their drawings or stories to the class. Encourage classmates to ask questions and provide positive feedback. Discuss how their first experiences in the computer lab have influenced their current use of technology and their understanding of digital tools.

GROUP PROJECT

Activity 1

As a group, create a paper poster outlining the computer lab's essential rules. Make sure everyone contributes and shares in the experience. Remember the following when making the poster: Use pictures, images, or cartoon figures. Use bold and bright colours for the text. Remember to follow the rules whenever you're in the lab.

Instructions

1. **Introduce the Task:** You can start with a short video or story about the importance of rules in a computer lab. Explain the importance of following rules in the computer lab and discuss digital citizenship and responsible computer use. Show examples of well-designed posters and discuss the elements that make them effective.

2. **Brainstorming Session:** Divide students into groups of 4-5. Ask each group to brainstorm key computer lab rules, considering equipment care, internet safety, respect for others, and software usage. Use collaborative tools like Google Jamboard or Padlet for brainstorming.

3. **Poster Design and Creation:** Discuss the layout of the poster. Where will the title, rules, and images go? Encourage students to use bright colours, bold fonts, and eye-catching images to make their posters visually appealing. Guide students in writing clear and concise rules. Use a mix of text sizes and styles to create visual interest. Encourage students to use clip art, drawings, or photos to illustrate the rules. Remind students to work together, share ideas, and assign tasks to different group members. Allow students to create digital posters using tools like Canva or PowerPoint.

4. **Presentation and Reflection:** Have each group present their poster to the class. Encourage classmates to ask questions and provide constructive feedback. Discuss the importance of following the rules and how these rules contribute to a positive learning environment.

Activity 2

Draw a picture of your favourite computer or device. Share it with your friends and tell them what you have learned about it.

Instructions

1. **Introduction:** You can start with a discussion or video about the various digital devices people use daily. Ask students to think about their favourite digital device, pair up with a classmate to discuss, and then share with the class.

2. **Drawing Activity:** Have students draw a picture of their favourite device, adding details like buttons, screens, and other distinguishing features. Students should label the different parts of their device. If available, allow students to use a drawing app on a tablet or computer.

3. **Sharing and Discussion:** Have students share their drawings with the class. Encourage students to explain what they like to do with the device, how it helps them learn or have fun, and important things to remember when using the device (e.g., screen time, online safety).

Engagement Activities

1. **Tech Show and Tell**
    - Ask students to bring their favourite device (like a tablet or smartphone) to share with the class.
    - Limit each student to 30 seconds to describe what the device does and how they use it for learning or play.

2. **Device Match-up**
    - Prepare cards with images of different computers and their corresponding purposes (e.g., a laptop for homework and a smartwatch for fitness tracking).
    - Quickly distribute the cards and have students find their match in pairs.

3. **Quick Draw**
    - Give students 1 minute to draw their favourite type of computer and write one sentence about what they use it for.
    - After time's up, have them share their drawings with a partner.

4. **Guess the Device**
    - Describe a device using clues (e.g., "I fit in your pocket, I help you call your friends, and I have apps for games.").
    - Students will guess which device you are describing.

5. **Speed Survey**
    - Create a quick survey with questions like "What device do you use most for learning?" or "Which device do you like to play games on?"
    - Have students answer the questions in under 2 minutes and share their answers with the class.

6. **Would you Rather Questions**
    - Would you rather have a laptop or a tablet for doing homework?
    - Would you rather play games on a smartphone or a smart TV?
    - Would you rather read a book on a Kindle or listen to an audiobook on a smartphone?

7. **Thought Experiment**
    - Imagine a world where there are no computers. How would your daily life be different? What would you miss the most?

8.   **Riddles**

- I am small and fit in your pocket. I help you talk and play games. What am I?
  Answer: A smartphone.
- I have a screen and a keyboard; I sit on a desk all day. I help you do your homework in a fun way. What am I?
  Answer: A desktop computer.
- I show you movies, and I am big and bright. You can sit on your couch and watch all night. What am I?
  Answer: A smart TV.

Answer for Exercise

1.   **Look at the animals in the zoo working hard. How many animals are using a computer?**

7.

2.   **Fill in the Blanks**

a.   Games
b.   Type
c.   Pictures
d.   Sums
e.   Music

There are so many parts of a computer! It gets confusing sometimes.

Don't worry! Let's go over the parts and uses of computers together. You'll soon get the hang of it.

Learning Objectives

Students will be able to:

- Identify the main parts of a computer: monitor, system unit, keyboard, and mouse.
- Understand the function of each computer component.
- Learn about the importance of caring for computer equipment.

Sample Lesson Plan

Lesson Title: Parts of a Computer
Page numbers: 10 and 11

Core Competencies

- **Digital Literacy:** Understand the basic components and functions of a computer.
- **Observation and Exploration:** Observe and identify the different parts of a computer.
- **Communication:** Effectively communicate their understanding of computer components.

Keywords

Monitor, system unit, CPU, keyboard, mouse

Resources Required

- Textbook
- Whiteboard/Blackboard and markers/chalk
- Pictures of different computer components which will be discussed in the lesson

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Activities

1. **Engage through Guided Reading:** Begin by asking students, 'Imagine you're detectives investigating a mysterious machine! Let's discover the secrets of the computer together.'
2. **Read Aloud:** Read the textbook passage aloud, pausing at each component.
   a. **Monitor:** The text says the monitor is like a TV. What do you think we see on the monitor? (Encourage student responses: pictures, words, videos)
   b. **System Unit:** Wow, the system unit has a brain! What do you think the CPU does? (Guide them towards understanding it controls everything)
   c. **Keyboard**: How do we 'talk' to the computer? The keyboard helps us! Can you think of any keys you know?
   d. **Mouse:** This mouse is different from the mouse in your house. How do we use it on the computer? (Emphasise clicking, dragging, and controlling the cursor)
3. **Interactive Activity:** Provide students with cut-out images of computer components (monitor, system unit, keyboard, mouse). Have them work in pairs to assemble the "computer" by correctly placing the components on a large sheet of paper. Encourage them to explain the function of each part to their partner.
4. **Computer Care Discussion:** Read the Computer Manners section together. Discuss with students why it's important to take care of computers. Brainstorm other ways to keep computers safe and clean.

Performance Indicators

Students can:

✓   identify the main parts of a computer: monitor, system unit, keyboard, and mouse.

✓   explain the function of the monitor and the system unit.

✓   demonstrate basic keyboard and mouse usage (if applicable).

✓   participate actively in class discussions.

Activity 1

Write any three points of difference between you and a computer.

Instructions

1. **Think-Pair-Share:** Ask students what makes them different from a computer. Then, pair up with a classmate to discuss their ideas.
2. **Graphic Organiser:** Provide a simple Venn diagram where students can draw or write three differences between themselves and a computer.
3. **Class Discussion:** Have a few students share their Venn diagrams. Discuss why these differences are important and how they make us unique.

Activity 2

Take a look around your house and make a list of any five machines that you see. Also, try to draw their pictures.

Instructions

1. **Interactive Read-Aloud:** Read a short story or show a video about different machines and their uses.
2. **Scavenger Hunt:** Ask students to explore their homes and find five machines. They should draw each machine and write its name.
3. **Show and Tell:** Students share their drawings and lists with the class. Discuss the function of each machine and how it helps in daily life.

Activity 3

Write down the answers to these statements on different pieces and put them by each part.
1. I help enter information into the computer.
2. I am used to pointing at things and selecting them.
3. I help produce sound.
4. I am the brain of the computer.
5. I can help you get a printed copy.

Instructions

1. **Interactive Demonstration:** Show pictures or real computer parts and explain their functions.
2. **Matching Game:** Give students pieces of paper with the statements. They write the answers and match them to the correct computer parts on a diagram or real computer.
3. **Peer Review:** Students can check each other work to ensure correct answers. They can discuss the role of each part in a computer functioning.
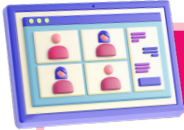
Activity 1

As a group, figure out how to use the computer for various activities such as watching cartoons and doing calculations. Work out what the steps are needed to do different tasks.

Instructions

1. **Engage:** Start with a story about a robot that can do amazing things with a computer. Ask students what they think computers can do. Introduce the lesson: "Today, we're going to be computer explorers!"

2. **Team up:** Divide students into small teams (2-3 students per team). Assign each team a special task: Cartoon Crew, Math Magicians, Creative Artists, or Game Explorers.

3. **Guided Discovery:** Provide each team with a computer or tablet. Give them picture clues to guide their task (e.g., TV screen, magnifying glass, happy child, etc.). Encourage teamwork and problem-solving.

4. **Explore:** Guide each team as they use the computer. Find cartoons on YouTube Kids (with parental controls). Use a calculator app for simple math. Explore a child-friendly drawing program. Play age-appropriate educational games.

5. **Reflection:** Have each team share their discoveries with the class. Discuss how computers are used in everyday life. Emphasise internet safety and the importance of asking an adult for help.

1. Parts Identification Relay

- Create cards with pictures of different computer parts (CPU, monitor, keyboard, etc.).
- Divide students into teams and have them race to match the cards to their corresponding parts in the classroom or on a poster.

2. Technology Scavenger Hunt

- Have students look around the classroom or school for various computer parts. It can be simply a sticky note to use limited resources or even write down where the students see the parts of a computer (e.g., "I saw a printer in the office.").
- Discuss the different uses of those computers as a class.

3. Sound Matching Game

- Play sounds associated with different computer parts (like a keyboard typing or a printer printing).
- Have students guess which part of the computer makes that sound.

4. Quick Drawing Challenge

- Ask students to draw a computer and label its parts within 3 minutes.
- Share drawings with the class and discuss the functions of each part.

5. Computer uses Brainstorm

- In small groups, have students list different places where computers are used (e.g., at home, school, restaurants).
- After 3 minutes, share lists with the class and discuss the different functions of computers in those environments.After time's up, have them share their drawings with a partner.

6. Would you Rather Questions

- Would you rather use a computer to play games or to solve math problems?
- Would you rather have a super-fast printer or a super-fast internet connection?
- Would you rather use a mouse or a touch screen to control a computer?

7. Thought Experiment

- Imagine if computers didn't have a keyboard or a mouse. How would you think we would interact with them? What other ways could we use to give commands or type?

8. Riddles

- I help you see what's on your screen, without me, things would be quite unseen. What am I?

  Answer: A monitor.
- I have keys but open no locks, I help you write without any blocks. What am I?

  Answer: A keyboard.
- I can print your pictures and words without a fuss, but I'm not a magician; I just need some trust. What am I?

  Answer: A printer.

Answer for Exercise

1. Fill in the Blanks

a. TV
b. CPU
c. Typing
d. Monitor
e. Printer

2. True or False

a. True
b. True
c. False
d. True
e. False

Hey! I want you all to meet my friend, Toggle. He knows a lot about computers.

Hi! I am Toggle. We will talk about the keyboard and mouse in this lesson.

Learning Objectives

Students will be able to:

- Identify the mouse pointer on the computer screen.
- **Perform basic mouse actions:** left-click, right-click, double-click, and drag-and-drop.
- Understand the purpose of each mouse action.
- Practice proper mouse handling and care.

Sample Lesson Plan

Lesson Title: Mouse Actions
Page numbers: 23 and 26

Core Competencies

- Digital Literacy: Develop basic computer mouse skills.
- Fine Motor Skills: Refine fine motor skills through precise mouse movements.
- Problem-Solving: Use the mouse to interact with and control the computer.
- Communication: Explain the different mouse actions and their purposes.

Keywords

Mouse, mouse pointer, click, double-click, right-click, drag-and-drop

Resources Required

- Textbook
- Whiteboard/Blackboard and markers/chalk

- Mouse for each student (in the lab)
- Optional: Interactive whiteboard or projector
- Optional: Simple mouse-controlled games or activities

Activities

1. **Engage:** Ask students, 'Have you ever seen a tiny arrow moving on the computer screen?' Introduce the concept of the mouse pointer.
2. **Guided Exploration:** Have students gently move their mouse and observe the pointer's movement on the screen. 'Wow, look! The arrow is following your hand!'
3. **Mouse Maze (Simple Version):** Draw a simple maze on the whiteboard. Guide students in navigating the mouse pointer through the maze on the screen.
4. **Discovering Mouse Actions:**
    a. **Left-Click:** Guide students to left-click on different objects on the screen (pictures, icons) and discuss the effect of the left-click.
    b. **Right-Click:** Demonstrate a right-click on a desktop icon. Explain that it shows a list of options. (You can use a simple drawing program or a desktop icon for this demonstration.) 'Look! What happens when we right-click?'
    c. **Double-Click:** 'Let's open a program!' Demonstrate double-clicking on an icon. 'See how quickly it opens?'
    d. **Drag-and-Drop Fun:** Use a simple online activity or a drawing program. "Let's move this shape to a different corner of the screen!" Guide students through the drag-and-drop process."
5. **Mouse Manners- Caring for Our Tools:** Read the 'Computer Manners' section together. Discuss the importance of handling the mouse carefully: 'Why is it important to be gentle with the mouse cord?'

Performance Indicators

Students can:

✓ identify the mouse pointer on the computer screen.

✓ perform left-click, right-click, double-click, and drag-and-drop actions accurately.

✓ explain the purpose of each mouse action.

✓ demonstrate proper mouse handling and care.

✓ participate actively in class discussions and activities.

Exercise steps

1. Briefly review the previous lesson on keyboard and mouse basics.
2. Read the Fill-in-the-blank statements (pages 26-27) aloud to the class, ensuring all students understand them.
3. Have students independently complete the exercise in their notebooks.
4. Refer to the Answer Key for correct answers.
5. Circulate the classroom to provide individual assistance as needed.
6. Review the answers together as a class.
7. Address any misconceptions or common errors.
8. Provide positive feedback and encouragement to all students.

Extended Activity

- Have students create a simple drawing or design using only the mouse and basic drawing tools.

IN THE LAB

Activity 1

Visit your school's computer lab and examine the different keyboards. Do they all look the same? Can you identify the various keys you've learned about?

Instructions

1. **Introduction:** Briefly discuss the importance of keyboards in our daily lives. Ask students if they have seen different types of keyboards (e.g., laptop keyboards, phone keyboards).
2. **Keyboard Observation:** Visit the computer lab and observe different keyboards. Ask questions:
   - Do all keyboards look exactly the same?
   - What are some similarities and differences you notice?
   - Can you identify any keys you already know? (e.g., spacebar, enter key)
3. **Discussion:** Discuss the observations made by students. Emphasise the importance of recognising common keys across different devices.
4. **Assessment:** Observe student participation and engagement during the keyboard observation activity. Assess student understanding through informal questions and discussions.
5. **Reflection:** Provide visual aids (e.g., large keyboard diagrams) for students who need additional support. If necessary, allow students to use different input methods (e.g., on-screen keyboards). This lesson can be linked to language arts by reinforcing letter recognition and the concept of symbols representing sounds.

Activity 2

Which key would you use to:

1. Type a phone number? ....

2. Delete a word to the left of the cursor? ....

3. Create a space between words? ....

4. Type words? ....

5. Move to the next line? ....

6. Delete a number to the right of the cursor?

Instructions

1. **Introduction:** Briefly review the different types of keys observed in the previous lesson. Introduce the concept of using keys to perform specific actions.

2. **Identification Quiz:** Display the following questions on the board. Have students discuss and answer the questions in pairs or small groups. Review the correct answers together as a class.

3. **Keyboard Practice:** Allow students to practice using the identified keys on the computer. Provide simple typing exercises (e.g., typing their names, practising numbers).

4. **Assessment:** Observe student participation and accuracy in answering the key identification questions. Assess the student's ability to use the identified keys correctly on the computer.

5. **Reflection:** Provide visual cues or prompts for students who need additional support. Allow students to use on-screen keyboards or other assistive technologies. This lesson can be linked to language arts by reinforcing letter recognition and spelling skills.
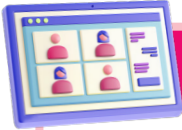
GROUP PROJECT

Activity 1

Form a group and come up with a fun name. With your teacher's help, type your group name into the computer. Each group member can then type their own name. Finally, let's print out our work together. You can even display your first printout on the wall near your computer!

Instructions

1. **Group Formation:** Divide students into small groups (2-3 students per group). Have each group come up with a fun name for their team.

2. **Typing Activity:** Guide students in typing their group name into the computer. Each student then types their own name under the group name.

3. **Printing and Display:** Print the document for each group. Have students display their printouts near their designated computer area.

4. **Discussion:** Discuss the importance of teamwork and collaboration. Emphasise the steps involved in creating and printing a document.

5. **Reflection:** Observe student participation and teamwork during the group activity. Assess student' ability to type their names and the group name correctly.

6. **Differentiation and linkages:** Help students who need help typing or navigating the computer. Allow students to use different font sizes and colours for their names. This lesson can be linked to language arts by reinforcing writing and spelling skills. It can also be linked to technology skills by introducing students to basic computer operations.

A Engagement Activities

1. Key Identification Race

- Present a keyboard image on the board.
- Ask students to identify specific keys (e.g., "Find the 'Enter' key!") and raise their hands when they spot it.

2. Mouse Movement Challenge

- Use a large paper target and have students guide a pencil (representing the mouse) to different points on the target.
- Discuss how moving the mouse helps in navigating a computer.

3. Function Key Match-up

- Create flashcards with keyboard keys on one set and their functions on another (e.g., "Ctrl" and "Copy").
- Have students match the keys to their functions in pairs.

4. Clicking Practice

- Set up a simple online game or activity that requires clicking to complete tasks.
- Allow students to take turns showing how to use the mouse to play the game.

5. Keyboard Sound Test

- Play sounds of different keyboard functions (e.g., typing, entering).
- Ask students to guess which key they think is making each sound.

6. Would you Rather Questions

- Would you rather use a mouse that always rolls away or a keyboard with keys that keep sticking?
- Would you rather type with your fingers or type with your toes?
- Would you rather play a computer game with a friend using only the keyboard or mouse?

7. Applied Scenario-based Question

- If you were helping a friend learn how to use a computer, what keyboard shortcuts would you teach them first and why?

8. Riddles

- I have many keys but open no locks. What am I?
  Answer: A keyboard.
- I help you select, click, and drag, but I'm not a hand. What am I?
  Answer: A mouse.
- I'm the key that lets you start a new line, but I'm not a pen. What am I?
  Answer: The Enter key.

1. Fill in the Blanks

a. Keyboard

b. keys

c. two

d. Spacebar

e. Enter

f. Mousepad

g. Click

h. Double click

i. Right click

j. Move

CREATING WORLDS WITH MS PAINT

Hey Toggle! I know one can draw on the computer but I don't know how.

I can help you! For drawing and coloring, you can begin from using a program called Paint.

Learning Objectives

Students will be able to:

- Identify and use the Pencil, Brush, and Line tools in Microsoft Paint.
- Select and change colours and line thicknesses in Paint.
- Create simple drawings using Paint tools.
- Understand the concept of line styles and their application.

Sample Lesson Plan

Lesson Title: Using Paint Tools
Page numbers: 30 and 32

Core Competencies

- **Digital Literacy:** Develop basic image editing software (MS Paint) skills.
- **Creativity and Innovation:** Explore and express creativity through digital art.
- **Problem-solving:** Experiment with different tools and settings to achieve desired artistic effects.
- **Fine Motor Skills:** Refine fine motor skills through precise mouse movements and drawing.

Keywords

Pencil tool, brush tool, line tool, colour thickness, line style, drawing area

Resources Required

- Textbook
- Whiteboard/Blackboard and markers/chalk
- Access to MS Paint on a computer/tablet for each student (in the lab)
- Optional: Projector to demonstrate on a larger screen

Activities

1. **Engage:** 'Imagine you're artists! Today, we're going to explore some amazing tools in Microsoft Paint.' Open Paint on the projector.
2. **Guided Exploration:**
   a. **Pencil Tool:** Let's start with the Pencil Tool. Notice how it draws smooth lines.' Guide students to select the Pencil Tool, choose colours, and experiment with different line thicknesses. 'Try drawing a simple shape like a square or a circle.'
   b. **Brush Tool:** Now, let's try the Brush Tool. Look at the different brush styles! Which one looks like a paintbrush?' Guide students to experiment with varying styles of brush and create interesting textures.
   c. **Line Tool:** 'The Line Tool helps us draw straight lines.' Demonstrate using the Line Tool, emphasising the SHIFT key for perfect horizontal and vertical lines.
3. **Show and Tell:** Have students share their initial explorations with their partners. 'What did you create with the Pencil Tool?'
4. **Guided Practice:**
   a. **Challenge 1:** Let's create a rainbow road! Use the Line Tool with different colours to draw a colourful path.
   b. **Challenge 2:** Use the Brush Tool to create a beautiful flower with fuzzy petals.
   c. **Challenge 3:** Use the Pencil Tool to draw a robot's body, and then use the Line Tool to add straight lines for its arms and legs.
5. **Sharing and Reflection:** Display student creations on the screen or create a virtual gallery. Encourage students to share their artwork with the class and explain the tools they used. Discuss the different artistic styles made using the Paint tools.

Performance Indicators

Students can:
- ✓ identify and select the Pencil, Brush, and Line tools in Microsoft Paint.
- ✓ adjust color, line thickness, and line style using the Paint interface.
- ✓ create simple drawings using the Pencil, Brush, and Line tools.
- ✓ demonstrate proper mouse control while using Paint tools.
- ✓ participate actively in class discussions and share their creations.

Extended Activity

- Have students create a digital artwork based on a theme (e.g., My Favourite Animal, Under the Sea) using the Paint tools.

IN THE LAB

Activity 1

Hammad wants to draw a similar boat as shown on the right in Paint. He also wants to write the text 'BOAT' on it. Can you help Hammad in this task?

Instructions

The Boat Challenge - Guided Creation:

1. Engage by saying, 'Imagine you're helping Hammad build a boat in Paint!'
2. Demonstrate drawing the main shape of the boat using the Line Tool.
3. Now, let's add some details. Select the Pencil Tool and draw windows and a flag.
4. Select the Fill Tool, choose a colour, and fill the inside of the boat.
5. Finally, add the word 'BOAT'! Select the Text Tool, type 'BOAT', and choose a colour for the text.
6. Guide students to follow along on their computers/devices, providing individual assistance as needed.

Activity 2

Maham saw balloons of different colors at her friend's party. She wants to draw the same in Paint. Can you help her? Also write down the steps you will follow. Write the names of the tools used to draw the picture.

Instructions

Colorful Balloons - Creative Exploration:

1. Engage by making a story around the activity; for example, 'Maham saw beautiful balloons at her friend's party. Let's help her recreate them in Paint!'
2. Encourage students to experiment with different Brush styles and colours to draw the balloons.
3. Have students reflect on the steps they followed with the class to draw their balloons, including the tools they used.

Activity 3

Maham's mother wants her to make an Eid card. She has first drawn it in Paint. Can you do the same task? Save the drawing with the name.

Instructions

Dream Castle - Imagination and Colour:

1. Engage by asking students to design their dream castle on MS Paint.

2.   Encourage students to experiment with different colour schemes; for example, ask them to:

    a.   create a castle with just shades of blue

    b.   create a castle with only two colours, but in different ways

Activity 4

Maham's mother wants her to make an Eid card. She first drew it in Paint. Can you do the same task? Save the drawing with the name.

Instructions

Show students a sample Eid card or a picture of an Eid celebration.

1.   Discuss: What are some things we see on Eid? (e.g., crescent moon, stars, Eid Mubarak)

2.   Explain that they will create digital Eid cards using a computer program.

3.   Open the drawing program.

4.   Demonstrate how to use basic tools (e.g., shapes, colours, lines).

5.   Guide students to draw simple elements for their Eid card (e.g., a crescent moon, stars, colourful balloons).

6.   Encourage students to be creative and add their own unique touches to their cards.

7.   Allow time for students to freely explore the drawing program and experiment with different colors and shapes.

8.   Guide students on how to save their drawings.

9.   Instruct them to name their files (e.g., "MyEidCard," "Eid_Drawing").

GROUP PROJECT

Activity 1

Imagine you are with your friends at a big event such as a cricket match or a religious festival like Eid. Plan how you can recreate the scene using Paint.

Instructions

1.   Ask students to think about a fun event, such as a cricket match or an Eid celebration.

2.   Have them work in pairs to discuss what they would see at the event (e.g., people, flags, food, decorations).

3.   Instruct them to plan their drawing by deciding which colours they will use and how they will arrange the people and objects in the picture.

4.   Have students open the Paint software and use shapes (rectangles for flags, circles for people, etc.) to create their artwork.

5.   Encourage them to add colours and details to enhance their picture.

Engagement Activities

1. Quick Draw Challenge:

- Ask students to quickly draw an object using one specific tool (like the pencil or brush). Set a timer for 2 minutes, and when time is up, have them show their drawings.

2. Tool Guessing Game:

- Display a picture of a tool from Microsoft Paint (like the eraser or color bucket) on the board. Have students guess what the tool does and how it might be used.

3. File Opening Race:

- Show students how to open a file in Microsoft Paint. Then, ask them to pretend to open a file on their desks as fast as possible and raise their hands when they finish.

4. Save it!:

- After a short demonstration on how to save a file, have students mimic saving their artwork by pretending to click the save button while counting down from 5.

5. Colour Hunt:

- Give students a few different colours and ask them to find objects around the classroom that match those colours. Afterwards, discuss how to use the colour picker tool in Paint.

6. Would you Rather Questions

- Would you rather draw a picture of your favourite animal using the pencil tool or paint it using the brush tool?
- Would you rather open a file with a silly drawing or a beautiful landscape?
- Would you rather use the eraser tool to fix a mistake or start a new drawing from scratch?

7. Applied Scenario-based Question

- If you wanted to share a drawing you made in Microsoft Paint with your friend, what steps would you take to save it and send it to them?

8. Riddles

- I help you save your work, so it doesn't go to waste. Without me, your drawing might vanish without a trace. What am I?
  Answer: The save function.
- I can be round or square; I help you draw without a care. What am I?
  Answer: The brush or pencil tool.

1. Fill in the Blanks

a. Brushes
b. Colour
c. Size
d. Straight
e. Save

2. Choose the Correct Option

a. Ribbon and drawing area
b. All of these
c. Exit
d. Size
e. Shapes

3. Answer the Questions

a. The Line tool is used to draw straight lines, while the Curve tool is specifically used to draw curved lines.

b. You can select a background colour by clicking on the 'Colour' option and then choosing the colour you want to use for the background.

c. You can change the thickness of the line by clicking the 'Size' button and selecting the desired thickness from the options presented.

d. The Pencil, Brush, and Line tools are all used for drawing in Paint; they allow you to create lines and shapes on your canvas.

e. Yes, it is a good idea to give appropriate names to your files so you can find them easily later. I would name the file 'My Classroom Drawing' for a drawing of my classroom.

EXPLORING NOTEPAD AND WORDPAD

I've heard you can use your computer as a notebook!

Yes, Computers are so cool!
You can use apps such as Notepad and WordPad to make notes just like you do on a notebook!
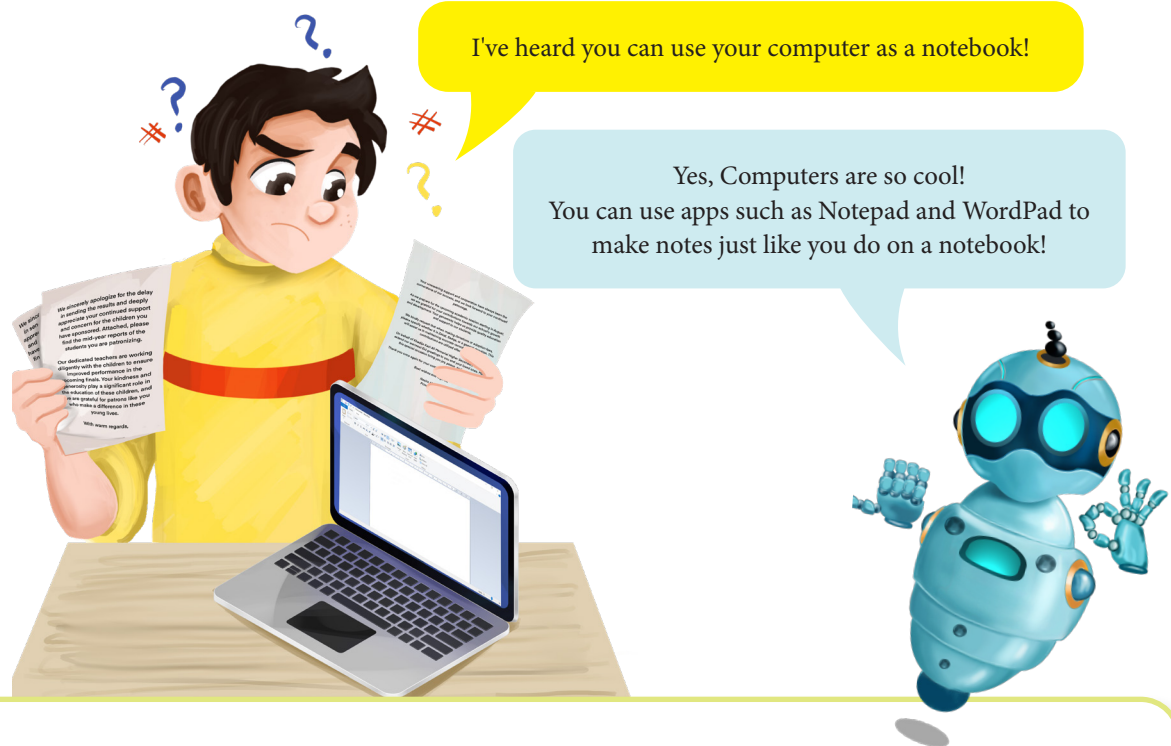
Learning Objectives

Students will be able to:

- open and close the Notepad application.
- type and edit text in Notepad.
- understand the concept of Word Wrap and its use.
- use the scroll bars to navigate within a document.
- change the font style in Notepad.
- save a document in Notepad.

Sample Lesson Plan

Lesson Title: Notepad
Page numbers: 39 and 42

Core Competencies

- Digital Literacy: Develop basic skills in using text editing software.
- Communication and Collaboration: Effectively use text-based communication tools.
- Problem-solving: Troubleshoot basic issues related to text editing.
- Information Literacy: Create and save simple text documents.
- Critical Thinking: Analyze the features and functions of a basic text editor.

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Keywords

Notepad, text editor, word wrap, font, scroll bar, save, exit

Resources Required

- Textbook
- Whiteboard/Blackboard and markers/chalk
- Access to Windows Notepad on a computer/tablet for each student (in the lab)
- Optional: Projector to demonstrate on a larger screen

Activities

1. Introducing Notepad: Explain that Notepad is a simple program for writing and editing text.
2. To help students open Notepad, Click the 'Start' button and type 'Notepad' in the search bar. Click on the Notepad application.
3. Read the 'The Hungry Wolf' story aloud from the textbook. Guide students to type the story in Notepad, emphasising proper typing techniques and the importance of accuracy. Remind students to check their spelling as they type.
4. Understanding Word Wrap: Guide students to locate and uncheck the 'Word Wrap' option in the 'Format' menu. Explain that without Word Wrap, the text continues on one long line. Explain that Word Wrap automatically moves the text to the next line, making it easier to read. Have students re-enable Word Wrap and observe the change.
5. Exploring Font Styles: Guide students to select a portion of the text and then select the 'Font' option in the 'Format' menu. Encourage students to experiment with different font styles (e.g., Arial, Times New Roman, Comic Sans).
6. Navigating and Saving: Demonstrate how to use the scroll bars to move up and down the document. Guide students through the 'Save As' process, emphasising the importance of choosing a meaningful file name.
7. Closing Notepad: Guide students to click 'File' and 'Exit' to close Notepad.

Performance Indicators

Students can:
- ✓ successfully open and close the Notepad application.
- ✓ type and edit text accurately in Notepad.
- ✓ understand the concept of Word Wrap and can enable/disable it.
- ✓ use the scroll bars to navigate within a document.
- ✓ change the font style of text in Notepad.
- ✓ save a document in Notepad.

Extended Activity

- Encourage students to experiment with different font styles and colors (if available) to make their text more creative.
- Have students share their work with classmates and provide constructive feedback.

IN THE LAB

Activity 1

The Computer Science teacher has asked the students to write a paragraph on 'My family' in Notepad. What steps should they follow?)

Instructions

1. **Brainstorming and Planning:** Explain that students will write a paragraph about their families using Notepad. Ask students to think about their family members (parents, siblings, grandparents) and what they like to do together. Allow students for a few minutes to brainstorm ideas and jot down notes on paper.
2. **Opening Notepad and Starting to Type:** Guide students to open the Notepad application. Instruct students to start typing their paragraphs, reminding them to use capital letters and punctuation marks at the beginning of sentences. Encourage students to use descriptive words and phrases to make their paragraphs interesting.
3. **Editing and Refining:** Guide students to review their work for any spelling or grammatical errors. Encourage students to add more details or make their sentences more descriptive. Suggest adding a sentence about something special they enjoy doing with their family.
4. **Formatting and Saving:** Guide students to experiment with different font sizes and styles (if available in Notepad) to make their paragraphs look neat. Instruct students to save their work with a meaningful file name (e.g., "MyFamily_MyName").

Activity 2

Write the names of five fruits and five vegetables in WordPad. Give the same colours to the text as those of the fruits and vegetables you have chosen.

Instructions

1. Show students the pictures of the fruits. Ask them to imagine they are making a delicious fruit salad. Discuss the colours of each fruit.
2. Open WordPad. Guide students to type the name of each fruit in the colour that matches the fruit. Example: "Apple" in red, "Banana" in yellow.
3. Encourage creativity in colour choices.
4. Allow students to draw simple decorations around their fruit salad using the WordPad drawing tools (e.g., add a bowl and sprinkle "sugar" with the drawing tool).
5. Have students share their "fruit salad" with the class.
6. Discuss the different colour combinations and the creative decorations.

Activity 3

Choose Notepad or WordPad. Using different fonts for each item, create a list of different birds, animals, trees, and flowers—and if you are really clever, you might be able to do it as an alphabet list: A – Ant; B- Butterfly; and so on. Try using different colours for each item on the list.

Instructions

1. Tell students they are zookeepers and need to create a special zoo guide.
2. Discuss the importance of organising animals alphabetically for easy finding.
3. Open Notepad or WordPad. Guide students to type the names of different zoo animals in alphabetical order. Encourage them to use different fonts and sizes for the animal names.
4. Have students present their zoo guides to the class. Encourage them to "narrate" their zoo guide, pointing out the animals alphabetically.
5. For students who need additional support, provide pre-made lists of animals. Encourage them to draw simple pictures of the animals next to their names.

Activity 4

Time to write your story! Will you use Notepad or WordPad? If you are unsure what to write about, consider any places you have visited recently. Have you been to a zoo? Did the animals or birds do anything really funny? What made you laugh? Have you visited a beautiful or unusual place? What made it beautiful or unusual? Did anything mysterious happen? Enjoy telling your story to your computer as you type!

Instructions

1. Show students pictures of different places and discuss memories of past visits.
2. Ask questions: What did you see? What did you do? How did you feel?
3. Encourage students to think of a funny, exciting, or interesting story about a place they visited.
4. Open Notepad or WordPad.
5. Guide students to type their story.
6. Encourage them to use descriptive words and add details to their story.
7. Allow time for students to freely express their imagination and creativity.
8. Have students share their stories with the class. Encourage active listening and respectful feedback.
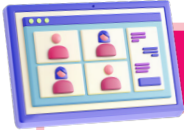
GROUP PROJECT

Activity 1

Together, you are going to create your very own poem! It can be funny, serious, descriptive, or action-packed. Choose a simple topic, like 'cat,' and write your poem in Notepad or WordPad. Once your poem is finished, let's format it:

1. Make all nouns bold, larger, and red.
2. Make all verbs italic, in a different font, and in a different colour.

Instructions

1. Discuss the concept of a poem with students - a short piece of writing that creatively uses language. Choose a simple topic for the poem, such as "cat," "dog," "sun," or "rain." Encourage students to brainstorm ideas and words related to the chosen topic.
2. Guide students to open Notepad or WordPad. Encourage students to write a short poem about the chosen topic.
3. Discuss the concepts of nouns (naming words) and verbs (action words). Guide students to identify the nouns and verbs in their poems.
4. Instruct students to make all nouns bold, larger, and red and make all verbs italic, in a different font (e.g., Arial), and in a different colour (e.g., blue).
5. Guide students on how to use the formatting tools in Notepad or WordPad.

Engagement Activities

1. **Quick Show and Tell**

   - Show students a short video (1-2 minutes) comparing Notepad and WordPad.
   - Ask them to raise their hands when they see a feature they recognise.

2. **Tool Hunt**

   - Provide a printed image of a Notepad and a WordPad interface.
   - Ask students to point out or circle specific tools (like the text colour or font size) they see in each.

3. Mini Quiz

- Ask a series of rapid-fire questions about the functions of Notepad and WordPad.
- For example, "Which one can change the text colour?" or "Which is better for simple notes?"

4. Drawing Tools

- Have students draw a picture of what they think a Notepad and WordPad would look like if they were characters.
- They can share their drawings and explain one function of each.

5. Would you Rather Questions

- Would you rather use Notepad to write a story or WordPad to make a list?
- Would you rather write a poem in WordPad with fancy fonts or in Notepad with plain text?
- Would you rather save your work in Notepad or WordPad if you could only choose one?

6. Applied Scenario-based Question

- If you wanted to write a letter to your friend with colorful words and different sizes, which program would you choose and why?

7. Thought Experiment

- Imagine if Notepad and WordPad were people. What would their personalities be like based on the features they have?

8. Riddles

- I'm a simple tool, with no frills or flair. I hold your text, but I don't care. What am I?

  Answer: Notepad.
- I have colors, fonts, and styles galore, but I can still keep your text at my core. What am I?

  Answer: WordPad.
- I can save your thoughts in plain black and white, but I can't make them bold or bright. What am I?

  Answer: Notepad.

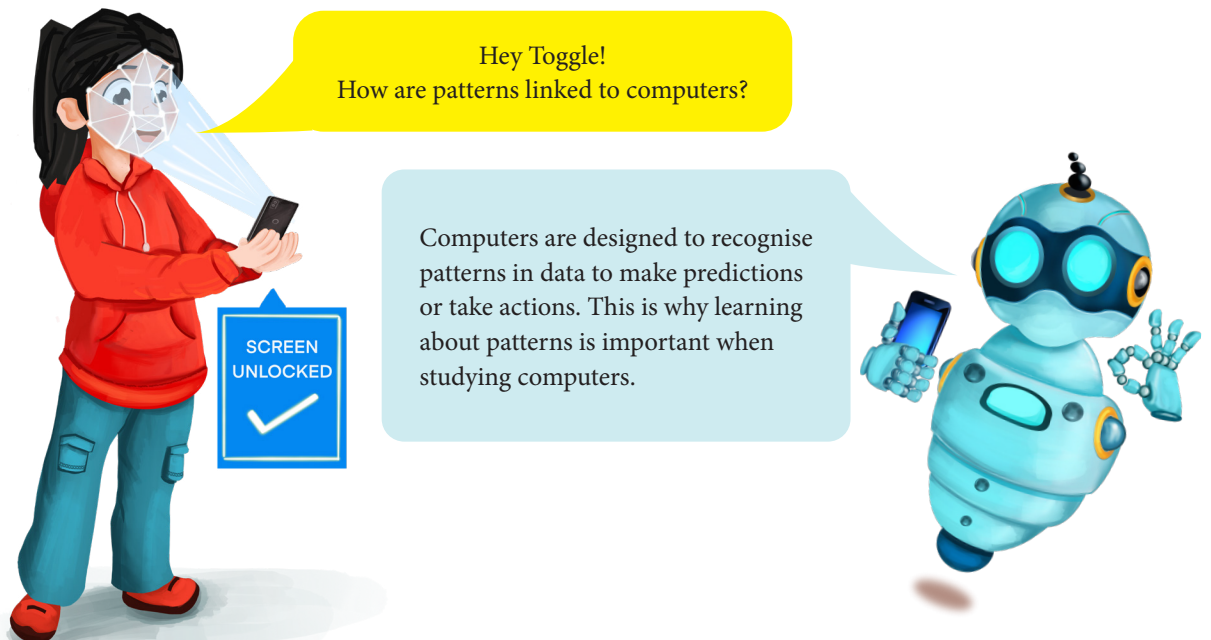## Answer for Exercise

1. Fill in the Blanks

    a.   Notepad

    b.   File

    c.   Cursor

    d.   Underline

    e.   Quick access

2. True or False

    a.   True

    b.   True

    c.   False

    d.   True

    e.   True

Hey Toggle!
How are patterns linked to computers?

Computers are designed to recognise patterns in data to make predictions or take actions. This is why learning about patterns is important when studying computers.

SCREEN UNLOCKED

Learning Objectives

Students will be able to:

- identify and describe patterns in everyday life.
- understand the concept of repeating patterns.
- recognise and explain patterns in simple sequences.
- understand the importance of pattern recognition in computer science.

Sample Lesson Plan

Lesson Title: What are Patterns
Page numbers: 39 and 42

Core Competencies

- Computational Thinking: Understand the role of pattern recognition in computer science.
- Critical Thinking: Analyse and identify patterns in different contexts.
- Observation and Exploration: Observe and identify patterns in the environment.
- Communication: Effectively describe and explain patterns.

Keywords

Pattern, repeat, sequence, predict, computer science

Resources Required

- Textbook
- Whiteboard/Blackboard and markers/chalk
- Pictures or images of patterns (e.g. stripes, checkerboard, flower petals, musical notes)
- Optional: Pattern blocks, beads, or other manipulatives for hands-on activities

Activities

1. **Introducing Patterns:** Read the story about Maham and her blocks aloud. Guide students to identify the repeating pattern of colours (e.g., red-blue-yellow-red-blue-yellow). Discuss the concept of repetition in the pattern.
2. **Pattern Hunt:** Show students pictures or real-life examples of patterns (e.g., stripes on clothes, tiles on the floor, patterns in nature). Encourage students to identify and describe the patterns they observe. Guide students to find patterns in the classroom, on their clothes, or in the wallpaper.
3. **Shape Patterns:** Ask students to look at the image of the patterns on page 52. Guide students to identify the repeating sequence of shapes. Help students predict the next shape in the sequence.
4. **Patterns in Computing:** Read the dialogue between Maham and Toggle on page 51. Explain how computers can see patterns in pictures, just like we can see patterns in our clothes or toys. Show pictures of different animals (e.g., cats and dogs). Ask students to sort the images into two groups: cats and dogs. Explain that computers can do the same thing by recognising picture patterns.

Performance Indicators

Students can:
- ✓ identify and describe simple patterns in everyday life.
- ✓ recognise and predict the next element in a repeating pattern.
- ✓ explain the importance of pattern recognition in computer science.

Exercise Question 1

Refer to the Answer key for correct responses.
1. Briefly review the previous lesson.
2. Read the questions aloud to the class, ensuring all students understand them.
3. Have students independently complete the exercise in their notebooks.
4. The teacher can refer to the Answer Key for correct answers.
5. Circulate the classroom to provide individual assistance as needed.
6. Review the answers together as a class.
7. Address any misconceptions or common errors.
8. Provide positive feedback and encouragement to all students.

Extended Activity

- Have students create a 'Pattern Book' showcasing their observations and creations.
- Explore patterns in music and movement through simple rhythms and dances.

IN THE LAB

Activity 1

Make a list of the steps needed to turn on or shut down a computer. Do you consider this a pattern? If so, how?

Instructions

1. **Introduction and demonstration:** Briefly explain the importance of turning on and shutting down a computer. Show a computer and point out the power button. Demonstrate the steps to turn on the computer:
   - Locate the power button.
   - Press the power button.
   - Wait for the computer to boot up.
   - Log in if necessary.

Demonstrate the steps to shut down the computer:
   - Click on the start menu.
   - Select the shut down option.
   - Wait for the computer to power off completely.

2. **Guided Practice:** Divide students into small groups or pairs. Provide each group with a computer and a printed step-by-step guide. Have students practice turning on and shutting down the computer, following the guide.

3. **Independent Practice:** Ask students to individually write down the steps for turning on and shutting down a computer on chart paper. Encourage them to use drawings or symbols to represent each step.

4. **Discussion:** Collect the charts and display them in the classroom. Discuss with students if they noticed a pattern in the steps. Recap that a pattern is a sequence that repeats predictably.

GROUP PROJECT

Activity 1

Explore nature! Step outside and look for patterns in the world around you. Pay attention to leaves, the playground, and even the words you see. How many repeating patterns can you find? Write a list of your discoveries in your notebook.

Instructions

1. **Pattern Hunt:** Divide students into small groups. Provide each group with a clipboard and pencils. Guide students on a 'pattern hunt' around the schoolyard or a designated outdoor area. Encourage them to look for patterns in:

a. **Nature:** Tree bark, leaves, flowers, clouds, fences.

b. **Built environment:** Buildings, sidewalks, playground equipment, bricks

c. **Everyday objects:** Clothes, shoes, toys

2. **Recording Observations:** Have students record their findings in their notebooks. Encourage them to draw simple sketches of the patterns they observed. Guide them in writing a short description of each pattern.

3. **Hands-on Activity:** Provide students with art supplies (construction paper, crayons, markers, natural materials). Have students create their patterns using the materials provided. Encourage them to use different shapes, colours, and textures to create interesting designs.

4. **Group Presentation:** Have students share their observations and creations with the class. Encourage them to explain the patterns they found and how they created their designs.

Engagement Activities

1. **Nature Pattern Hunt**

   • Have students look around the classroom or outside for natural patterns (e.g., leaf shapes, flower arrangements). Ask them to point out any patterns they see and describe them.

2. **Pattern Drawing**

   • Provide students with coloured markers and a sheet of paper. Ask them to create their own patterns using different colours and shapes. Afterwards, they can share their patterns with a partner.

3. **Sound Patterns**

   • Clap a rhythm and ask students to repeat it back. After a few rounds, encourage them to create their own sound patterns using claps, taps, or vocal sounds.

4. **Pattern Observations**

   • Show students a short video or slideshow of patterns in everyday objects (like tiles, fabrics, or nature). Ask them to identify any patterns they notice and discuss where they see these patterns in real life.

5. **Coding with Patterns**

   • Introduce a simple coding app or game that uses patterns (like a grid where they must repeat a sequence). Let them explore for a few minutes, then discuss how patterns help in coding.

6. Would you Rather

- Would you rather find a pattern in a rainbow or a spider's web?
- Would you rather create a pattern with your toys or food?
- Would you rather see a pattern in the stars or in the leaves of a tree?

7. Applied Scenario-based Question

- If you were designing a new playground, what patterns would you include to make it fun and safe?

8. Riddles

- I have stripes and spots, but I'm not a tiger. I come in many colours and can be found in your closet. What am I?

    Answer: A patterned shirt.

- I can go up and down, but I'm not alive. I can be straight or curved, but I always follow a line. What am I?

    Answer: A pattern.

- I am invisible but can be seen in shapes and sounds. I help computers think and make sense of the world. What am I?

    Answer: A pattern.

Answer for Exercise

1. Choose which shape comes next for each of the following sequences.

a. Triangle
b. Square
c. Star
d. Circle