Coding Insight 5

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Introduction

Welcome to Coding Insight 5!

This book is designed to introduce the foundations of coding to primary school students in a simple and engaging way. Coding Insight 5 combines computational thinking with creative activities to build problem-solving, sequencing, and logical reasoning skills.

Each chapter is supported by stories, puzzles, and activities that link coding concepts to daily life. Teachers will find a balance of structured lessons and interactive tasks that nurture both collaboration and independent learning. Coding Insight 5 aims to make coding approachable, enjoyable, and relateable for young learners, while equipping them with essential skills for the future.

— The Publisher

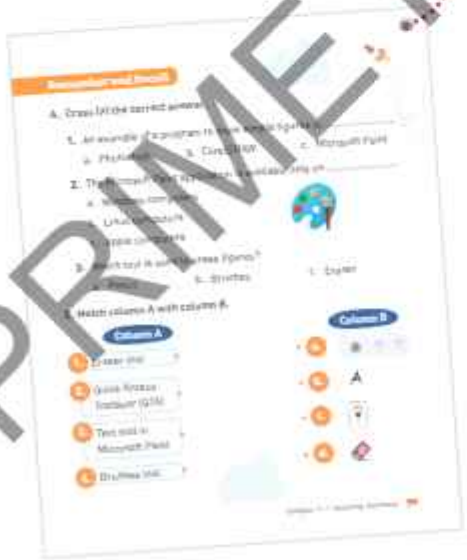
Key Features of the Series

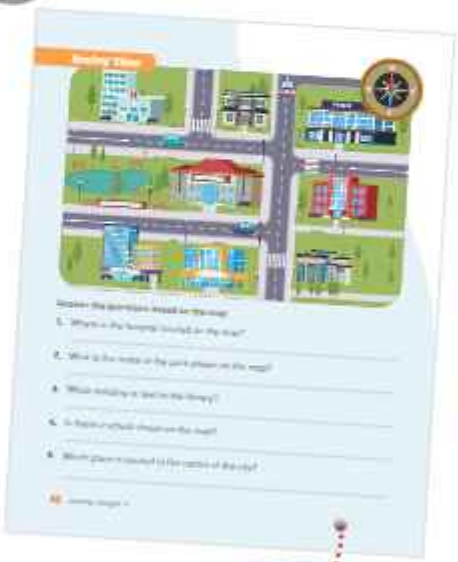
Warm-Up

Introduces the lesson with a simple, engaging activity like picture spotting, short questions, or discussions to activate preknowledge and connect learning to daily life.

Remember and Recall

Review exercises to check understanding that reinforce key concepts.





Brainy Time

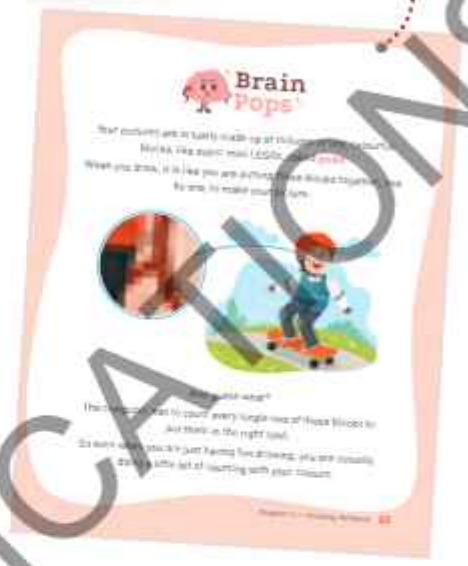
Helps students think more deeply and creatively as they apply their knowledge in practical ways.

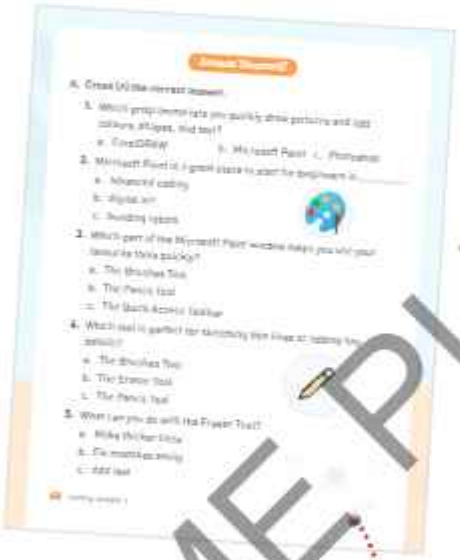
Think and Share

It encourages imagination, reflection, and discussion by asking students to share ideas or pretend to be experts, helping them build creativity and communication.

Brain Pops

A fun fact or short "Did you know?" moments that shares history, science, or surprising insights.



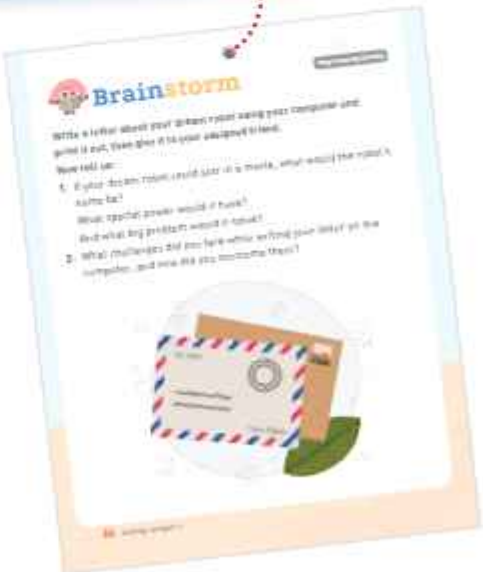


Assess Yourself

A self-assessment section with more structured and extended exercises where students test their mastery independently, often combining different types of questions.

Brainstorm

Open-ended deep learning, creative, and critical thinking tasks where students design, create, or reflect in ways that apply knowledge to real or imaginative contexts.



Meet Our Friends!

Johan

is always curious and loves learning new things. He is cheerful and enjoys figuring things out with his friends. His positive attitude often helps the group stay on track.

Pascal

is adventurous and loves sports. He is always ready for a game or an outdoor adventure. Brave and energetic, he encourages his friends to explore and have fun.

Robin

is creative and loves making things. She always has fun ideas for crafts or activities and thinks outside the box. Her playful and imaginative spirit makes her a joy to be around.

Indy

is kind and polite, always helping others. She is calm and thoughtful, but also a little clumsy, which leads to funny moments with her friends. Her caring nature brings the group together.

Mika

is quiet and shy, but she is very careful and thoughtful. She thinks things through before speaking or acting, and she is always there to offer advice when her friends need it.

Edison

is the smart one, always reading and sharing interesting facts. He loves solving problems and helping his friends understand things. Though serious at times, he has a playful side too.

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Chapter

1 Digital Wellbeing

New topic alert!
How do you feel?


Excited


Nervous

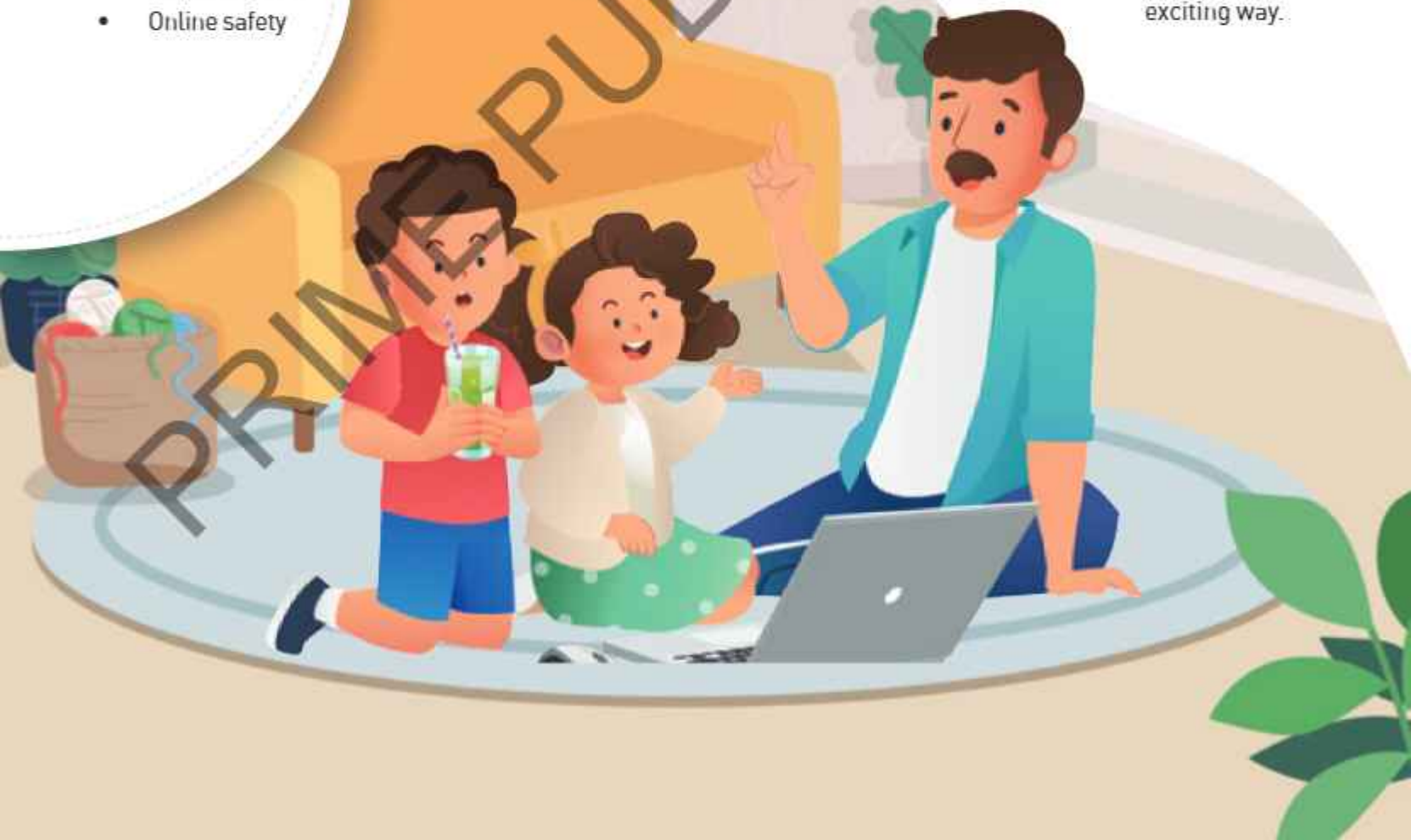
Are you ready to explore the digital world wisely?

Today, the internet is part of our everyday life. We use it to learn new things and to enjoy our favourite activities. We also use something called Artificial Intelligence (AI), maybe without even realising it!

We will explore how to use the internet and technology wisely and safely. We will also discover how AI works in a simple and exciting way.

Coding Lingo

- Artificial Intelligence (AI)
- Online safety



Warm-Up

Imagine the internet and technology as a huge amusement park filled with many rides, like a carousel, a Ferris wheel, and swings. But this park is not only for us, teenagers and adults are there too. So, we need to know the rules so we can enjoy it safely.

Then, there is a guide in the park, who suggests which rides based on what we like. If we enjoy seeing the view from up high, the guide might suggest the Ferris wheel. If we like animals, the guide might suggest the carousel with cute animal shapes. The guide works like an Artificial Intelligence (AI) that suggests things we might enjoy.

Here, like playing in an amusement park, we will learn how to use the internet and technology safely, and we will also explore how AI works. Remember, digital wellbeing means using technology in a healthy and balanced way, and we are the ones in control!

Think and Share!

Think of one gadget you would like to have. Then, **share** with your classmates how that gadget could help you learn and enjoy fun entertainment!

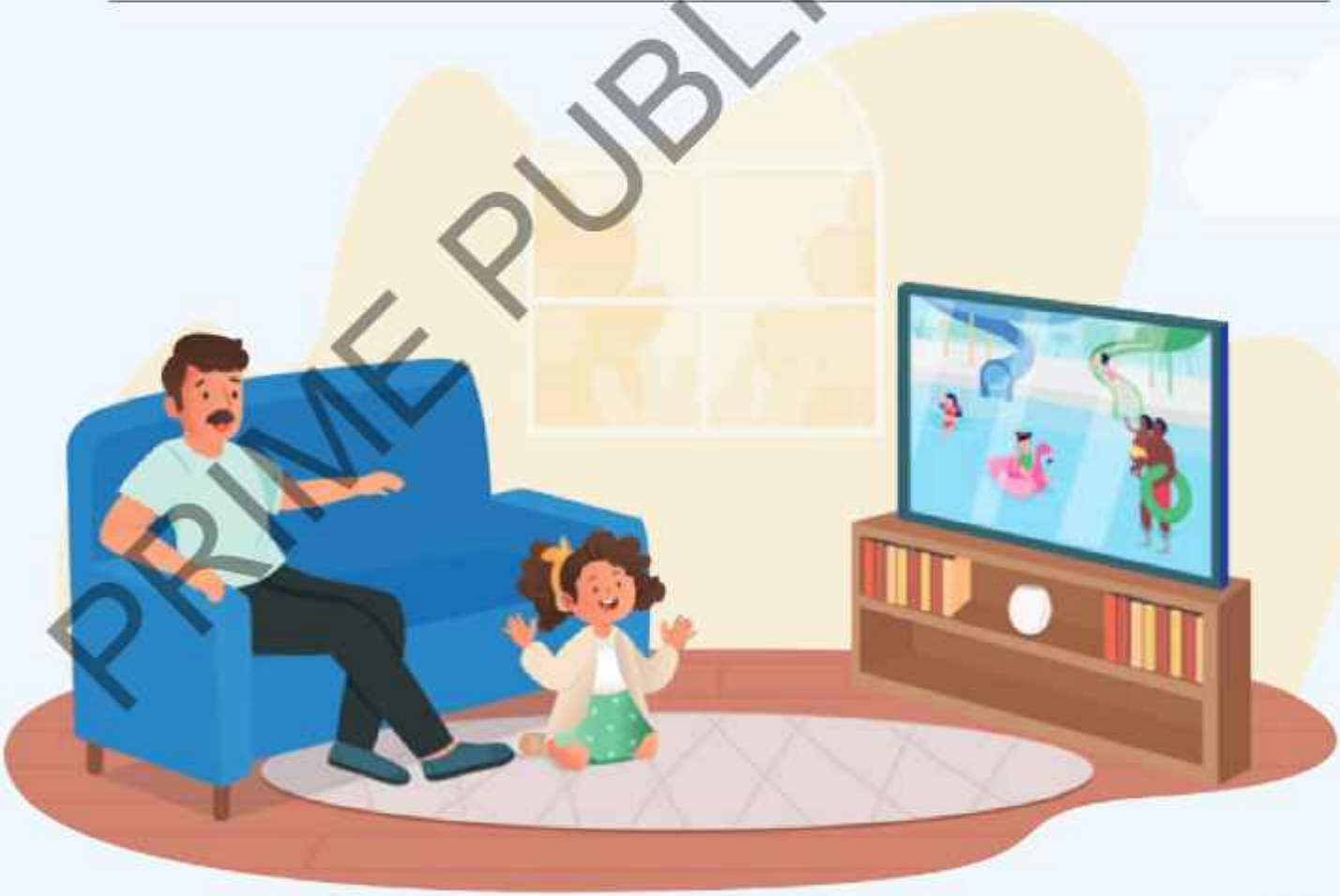
To use the internet, we need a gadget, right? So, choose one gadget that you use often every day. It might be a smartphone or tablet (if your parents allow it), a computer, or even a smart TV.

Then, answer the questions below.

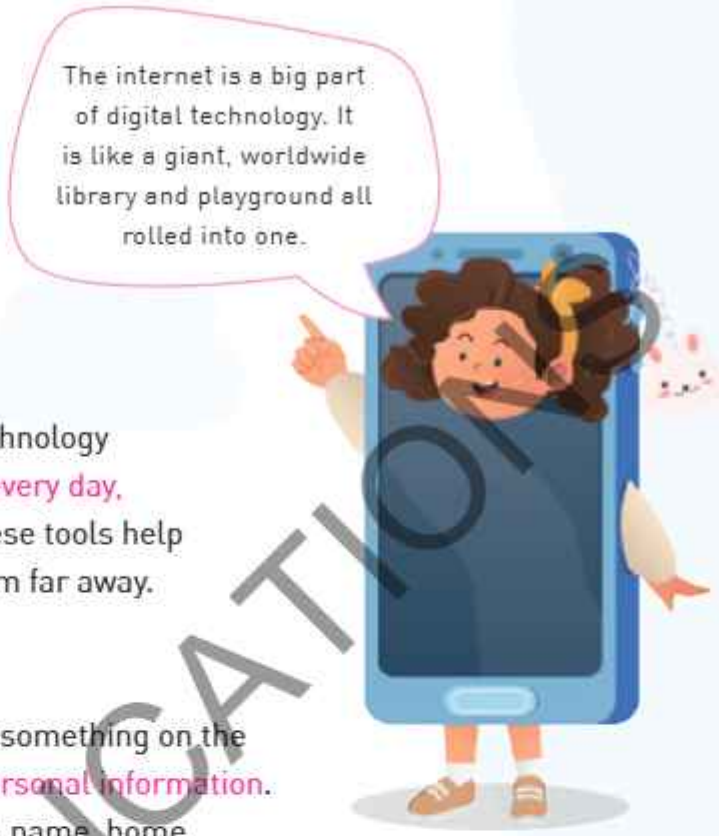
1. What do you usually do with the gadget?

2. How do you make sure you use the gadget safely and wisely?

3. Are there any rules you follow to keep a balance between using your gadget and doing other activities?



Being Safe and Smart Online



Let us start with digital literacy. **Digital literacy** is about knowing the rules we should follow when we use gadgets or the internet. When everyone follows them, we can play safely and happily. Now, let us see what these rules look like online.

First, we need to understand what digital technology is. **Digital technology** includes the tools we use every day, such as computers, tablets, and the internet. These tools help us learn, play games, and even talk to people from far away.

Protecting Private Information

When we use digital tools, like searching for something on the internet with a computer, we must protect our personal information. Personal information includes things like our full name, home address, phone number, school name, and passwords.

Our personal information is like a key to our house. We would never give our house key to someone we do not know, right? So, we should never share our personal information with anyone online, except our parents or trusted adults.

How to Use the Internet safely

Look at Pascal, he is using his laptop with his dad. This shows that when we need to look something up on the internet, it is best to have a parent or another trusted adult with us. They can help keep us safe and guide us if we are not sure what to do.

If you see anything online that makes you feel uncomfortable or worried, the most important rule is to tell a trusted adult immediately.

Then, before we post a comment or share something, always T.H.I.N.K.

Brain Pops

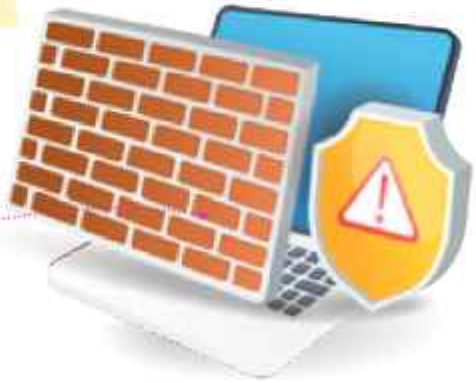
A Firewall Is Based on a Real Thing

Have you ever heard about the word firewall? On a computer, a firewall is a system that helps block anything unsafe from getting in. But did you know that firewalls actually exist in real life, too? In the real world, a firewall is a strong wall built between buildings to stop a fire from spreading if there is an accident. It keeps the flames from moving from one place to another.

A computer firewall works in a similar way. It acts like a protective wall between our home internet and the big, public internet. It watches all the information that goes in and out. If it sees something suspicious, it blocks it straight away to keep our device safe!

A firewall between two houses prevents fire spreading from one house to another.

A digital firewall protects our computer from virus that might come from wider network.



Remember and Recall

A. Cross (X) the correct answer.

1. Which of these is private information we should **NEVER** share with a stranger online?
   a. Our favourite video game
   b. Our home address
   c. Our favourite food
   d. Our favourite film

2. If an online message makes us feel worried or uncomfortable, what is the most important thing to do?
   a. Write an angry message back
   b. Tell a trusted adult
   c. Delete the message and pretend it did not happen
   d. Ask the stranger why they sent it

3. In the T.H.I.N.K. test, the letter "K" reminds us to ask ourselves if our post is _____.
   a. knowledgeable
   b. known
   c. kind
   d. keen

4. Which of these is the most "private" and should be kept secret like a key?
   a. Your username
   b. Your game score
   c. Your password
   d. Your favourite emoji

5. What is the main job of a digital "firewall"?
   a. To make our internet connection faster
   b. To help us find new websites
   c. To block dangerous data and keep hackers out
   d. To check our spelling before we post something

B. **Answer the following questions.**

1. In your own words, what does it mean to be a good netizen?

2. What does the "T" in the T.H.I.N.K. test stand for, and why is it important to check for it?

3. A password is like a "secret key" for your "online house." What is this "online house" actually mean for you?

4. Where did the computer term "firewall" get its name from?

5. Besides telling an adult, what are two other actions you can take if a stranger in a game chat makes you feel uncomfortable?

Brainy Time

You are playing your favourite online game. Then, a player you do not know sends you a private message:

"Hey! You are really good at this. What school do you go to? My password is 'BlueDragon123', what is yours?"

What are the things you should do immediately?

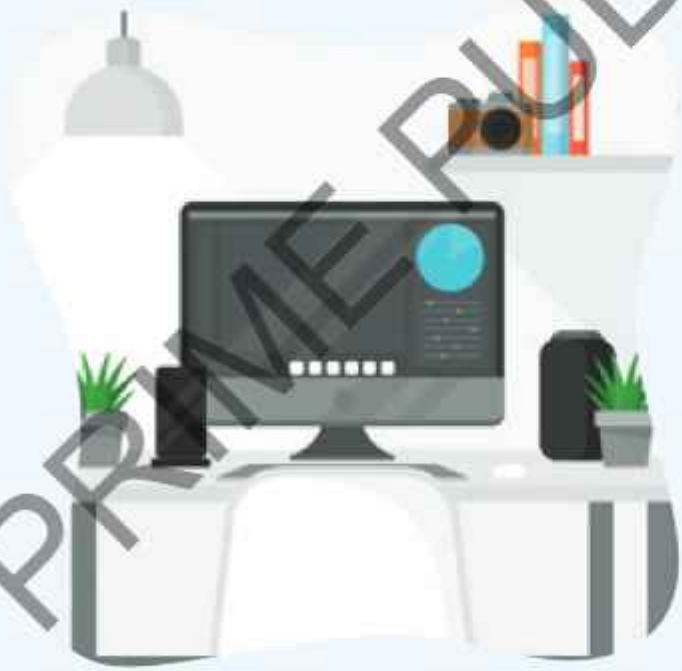
Introduction to Artificial Intelligence (AI)

Now, we are going to explore artificial intelligence (AI). But what is AI? AI is a kind of computer technology that can learn from information and make clever choices. It cannot think like a human, but it can spot patterns, follow rules, and give suggestions based on what it has learned.

We can "teach" AI by giving it lots of examples. The more it learns, the better it becomes. To see how AI works, let us start by finding out how it collects information.

Human Senses vs Computer Sensors

We use our senses, like eyes to see, ears to hear, skin to feel, and noses to smell. These senses help us understand the world.



Computers do not have human senses, but they use sensors instead. Sensors help computers "notice" things in their own way.

Look at the comparison below.

Our eyes see light.

A camera is a sensor that "sees" light.

Our ears hear sound.

A microphone is a sensor that "hears" sound.

Our skin feels touch.

A touchscreen is a sensor that "feels" our fingers.

Our nose smells chemicals.

A smoke detector has a sensor that "smells" smoke.

After a computer gathers information, the AI begins looking for patterns, like shapes, colours, or anything that stands out. For example, if we take a photo of a leaf, the AI checks the shape and the green colour. When it recognises it, it says, "This is a leaf!"