Coding Insight 4

Authors
Jason Wylie
Erica Righetti

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Authors
Jason Wylie
Erica Righetti

Series Editor
Faridz Fadillah

Graphic Designer
Alfi K. Rijal

Illustrator
Firlan Maulana

Proofreader
F. R. Fiansa

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Introduction

Welcome to Coding Insight 4!

This book is designed to introduce the foundations of coding to primary school students in a simple and engaging way. Coding Insight 4 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 4 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.

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.

Assess Yourself

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

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.

Contents

Chapter

1 Mind Palace

New topic alert!
How do you feel?

Excited

Nervous

Coding Lingo

- Maps
- Pictograms
- Tables

Welcome to your mind palace

A magical place where you learn how to store knowledge, organise ideas like a pro, and create maps that even computers can follow!

Warm-Up

Do you know what a Mind Palace is?

It is an imaginative place in our head where we organise ideas, remember things, and solve problems, just like how computers think!

In this chapter, we will practise using our brain like a smart machine. Before you write any real code, you need to understand how to sort, group, and work with information, and that is exactly what we will do here.

Before we begin this chapter, let us play a simple game. This quick game will get you ready to think logically.

You Will Need

- A partner
- A pencil and paper

Think and Share!

Think about a real spot you keep tidy, like your school bag or a bookshelf.
What is a clever trick you can **share** with your friends about how you group your things so you can always find them straight away?

Instructions

1. Pick a secret object. Silently choose any one object you can see. Do not tell anyone. This is your secret piece of information.
2. Write three simple clues. On your paper, list three clues to find your object, starting from your desk. These clues are your word map.

   Example:

   - Walk towards the whiteboard.
   - Turn right.
   - The object is the blue bottle.
3. Swap and solve. Trade papers with your partner. Follow their clues precisely. Can you find their object?

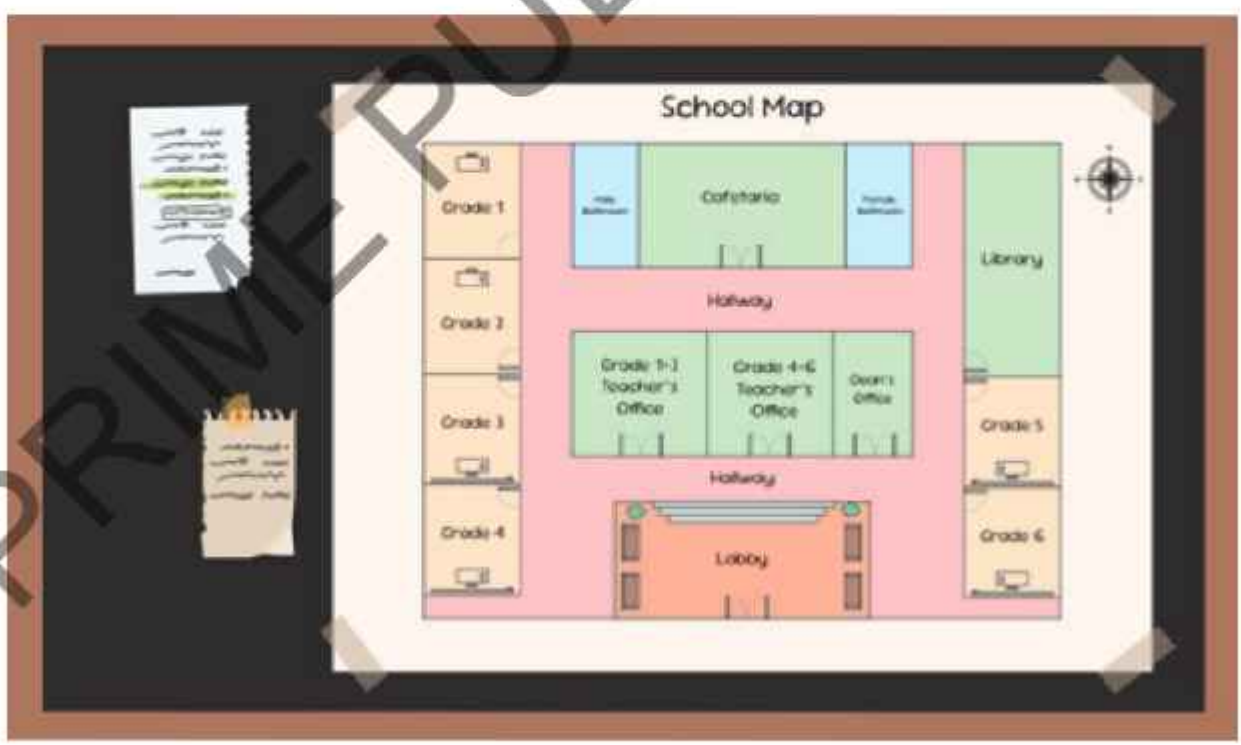
Storing Information

Imagine you are stranded in a forest with no idea where the nearest city, town, or village is. Without any guidance, you would waste a lot of time wandering and guessing which direction to take.

However, having the right information could change everything. A map might show you the way out, or a phone call to someone nearby could lead you to safety. In situations like this, information becomes a powerful tool that helps us make better decisions and solve problems more effectively.

Representing Information

In the previous situation, a map plays an important role. With an accurate map, we can understand the roads and landmarks around us, which helping us find our way more easily. For example, a school map helps us understand where we are and where we need to go.



In another case, information might be better represented in the form of a tree, like the following family tree that shows a family lineage.

A table can also be a useful tool for organising and presenting information clearly. When information is displayed in a table format, the process is called tabulation.

Student's Name	Class	Mark Obtained in	
		Maths	English
Pascal	4	85	87
Robin	4	85	92
Indy	4	86	86
Mika	4	87	89
Edison	4	91	88
Johan	4	86	88

Besides using tables, pictograms are commonly used to convey information, such as in road signs. They are simple pictures or symbols that represent specific messages or instructions in an easy-to-understand way. We can also find pictograms in public facilities such as in a hospital.

Lastly, pictures can also be used to show information.

Look at the picture below. It shows Gregoria Mariska Tunjung celebrating after winning the bronze medal for Indonesia at the 2024 Paris Olympics.

Pictograms are Time-Travelling Messages

Before alphabets and letters were invented, our ancestors used pictograms to share information. Thousands of years ago, people painted pictograms on cave walls to tell stories about hunting animals or important events. Scientists believe they were some of the world's first recorded stories, perhaps about a great hunt or a spiritual belief.

This brilliant idea of using a picture to represent a real thing was the very first step towards creating all written languages. So, every time we send an emoji like a 🍕 or a ⚽, we are actually using a modern version of one of humanity's oldest inventions, sending a quick, clear message with a simple picture, just like people did in the Stone Age!

Pictograms painted on a cave wall

Brainy Time

Look at the football match summary table below and answer the questions.

Indonesia	VS	Saudi Arabia
4	Total goals	3
Romeny (3), Kambuaya (1)	Goal scorer(s)	Al Buraikan (2), Al Hassan (1)
Vikri (2)	Assist(s)	Al Ammar (1)
Hubner (1)	Yellow card(s)	Yahya (1)

1. Who scored the most goals in the match? _____
2. Who gave an assist for Saudi Arabia? _____
3. How many goals did Indonesia score? _____

Remember and Recall

A. Cross (X) the correct answer.

1. Which of the following would **not** provide information in case of a car breakdown?
   a. Smartphone
   b. Paper map
   c. Landmarks
   d. Traffic lights

2. Who is shown along with the father and mother?
   a. Edison and Meli
   b. Edison and Jake
   c. Johan and Meli
   d. Pascal and Meli

3. Look at the following table.

Student's Name	Class	Marks Obtained in	
		Maths	English
Edison	4	92	89
Robin	4	88	89
Mika	4	89	87

How many marks did Mika get in English?

a. 92
b 89
c. 88
d. 87

4. What does the following road sign mean?

a. Zebra crossing
b. Pedestrians
c. Crosswalk
d. No parking

5. Look at the following map. What is the name of the road next to the cathedral?

a. Brian Road
b. Hue Road
c. Amin Road
d. Niki Road