Coding Insight 3

Authors
Jason Wylie
Erica Righetti

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Authors
Jason Wylie
Erica Righetti

Series Editor
Amirah Zulfa

Graphic Designer
Alfi K. Rijal

Illustrator
Firlan Maulana

Proofreader
F. R. Fiansa

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Introduction

Welcome to Coding Insight 3!

This book is designed to introduce the foundations of coding to primary school students in a simple and engaging way. Coding Insight 3 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 3 aims to make coding approachable, enjoyable, and relateable for young learners, while equipping them with essential skills for the future.

— The Publisher

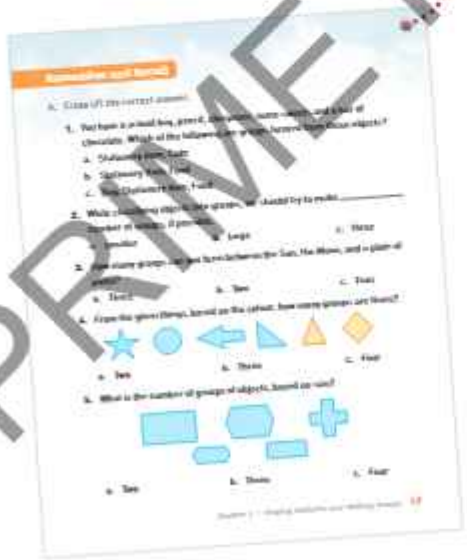
Key Features of the Series

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.

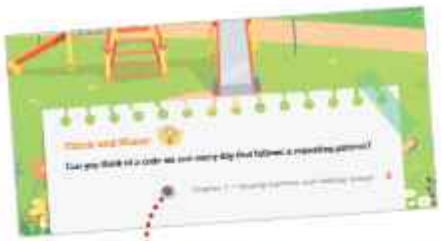
Remember and Recall

Review exercises to check understanding that reinforce key concepts.



Let's Do It

Hands-on practice where students apply knowledge through various engaging activities.

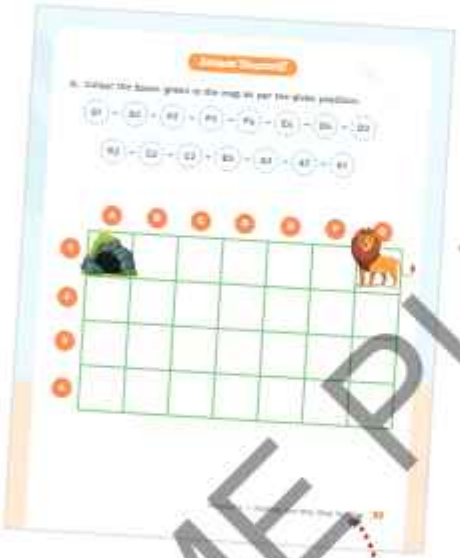


Think and Share

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 Finding Patterns and Making Groups

New topic alert!
How do you feel?


Excited


Nervous

Let us spot the patterns!

In this chapter, you will explore patterns, groups, and information, and learn how they help us think clearly, just like a computer.

Coding Lingo

- Pattern
- Puzzle
- Representing information

Warm-Up

Everything has a pattern!

We often put things in a special order, which we call a pattern, because it helps us understand them better. Think about your building bricks, numbers, or even the words in a song. They all follow a rule that keeps repeating. This rule makes everything much tidier.

For example, if you arrange your colours as blue, green, blue, green, it is easy to see what comes next. Patterns are fantastic because they help our brains think in a clear and organised way, making it simple for us to guess what will happen next and keep our ideas neat and tidy.

Think and Share!

Can you think of a code we use every day that follows a repeating pattern?

Filling in the Missing Numbers

In this this sub-chapter you will play puzzle. Let us do it!

Puzzle with Numbers

In this puzzle, some boxes already have numbers, and some boxes are empty. Each empty box has a clue to help you. The clue tells you how the missing number is related to the number in the middle.

Helpful words

More than means add.

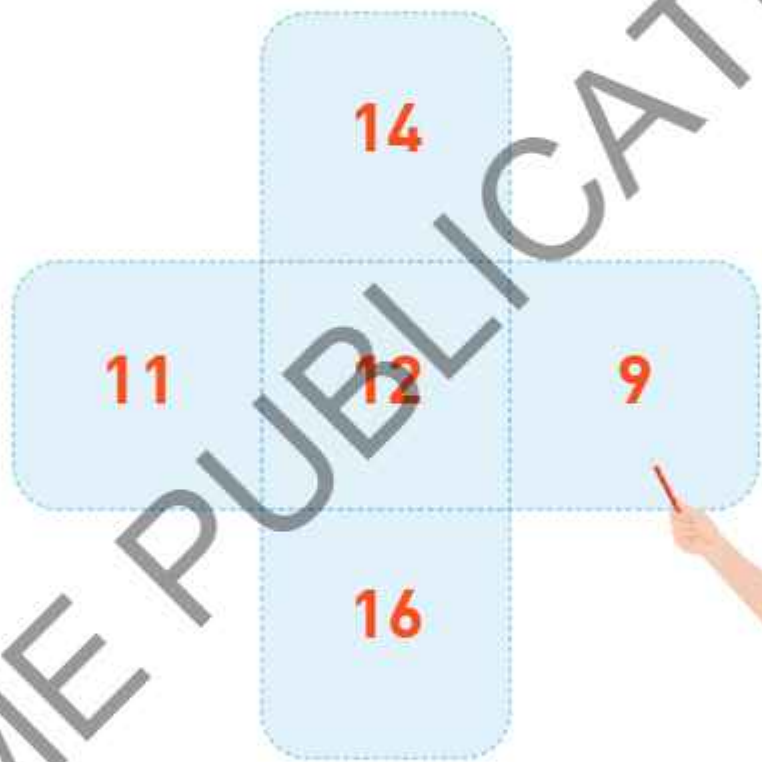
Example: 2 more than 12 is 14.

Less than means take away.

Example: 1 less than 12 is 11.

How to do it:

1. Look at the number in the middle.
2. Read the clue in the empty box.
3. Add or take away to find the missing number.
4. Write the number in the empty box.



From the puzzle in page 4, the number in the middle is 12.

- **Up** : 2 more than 12 is 14
- **Right** : 1 less than 12 is 11
- **Left** : 3 less than 12 is 9
- **Bottom** : 4 more than 12 is 16

So the number to fill the boxes around 12 are: 14, 11, 9, 16.

How to Solve the Puzzle Step by Step

Now, let us try a puzzle where one box depends on another. In this kind of puzzle, we need to fill in the numbers in the right order.

Let us look at the example!

Some boxes already have numbers. These boxes do not depend on other boxes. Always start with these boxes first. After that, use the numbers in those boxes to find the answers for the next boxes. Then continue step by step until all boxes are filled.

From the puzzle above

1. Start with boxes that already have numbers.

A1 is 12 | B1 is 10 | B2 is 13

Write those numbers first.

2. Move to the boxes that use those numbers.

Some boxes say things like:

Sum of B1 and C1 **2 more than B2**

3. Use the numbers you already know to find the answers. Keep going step by step. Each new number helps you solve the next box.

A1 12	A2 22	A3 38
B1 10	B2 13	B3 42
C1 12	C2 16	C3 15

C1: 2 more than B1 = 12

A2: Sum of B1 and C1 = 10 + 12 = 22

C2: 3 more than B2 = 16

A3: Sum of A2 and C2 = 22 + 16 = 38

B3: 4 more than A3 = 42

C3: 2 more than B2 = 15.

Remember!

- Start with the boxes that already have numbers.
- Use them to help you find other numbers.
- Solve the puzzle one step at a time.

Just like following steps in a recipe, solving in order makes everything easier.

Number Pyramid

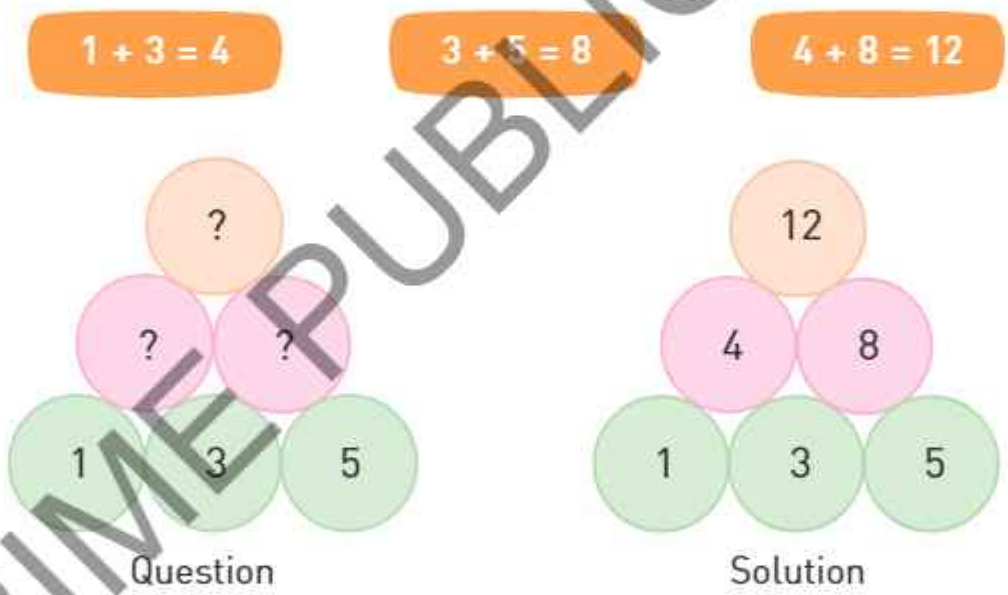
Another fun kind of number puzzle is called number pyramid. In a number pyramid, each circle depends on the two circles directly below it. To solve the puzzle, you add the two numbers below to get the number above.

That means:

- If you are moving upwards, you add the two numbers below.
- If you are moving downwards, you subtract the known number to find the missing one.

Example 1: Bottom-Up (Adding)

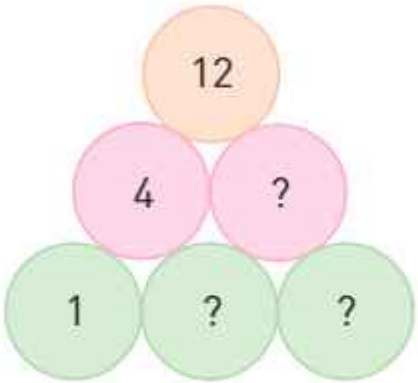
Start from the bottom row:



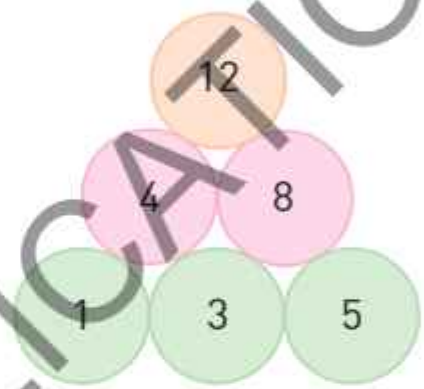
Example 2: Top-Down (Subtracting)

Here the top number (12) and one lower number (4) are already given. To find the missing number next to 4:

- Subtract 12 – 4 = 8
- Then 4 – 1 = 3
- Then 8 – 3 = 5



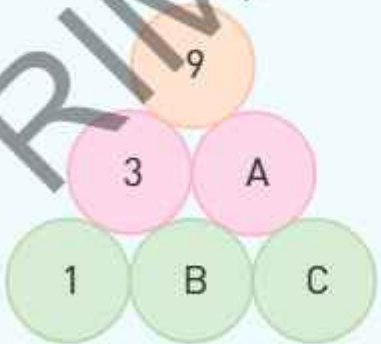
Question



Solution

Let's Do It

To solve the unknown circle, give the order in which you should solve.



A = _____

B = _____

C = _____

Remember and Recall

A. Complete the boxes with the correct numbers.

1.

	2 more than 24	
1 less than 24	24	3 less than 24
	4 more than 24	

	___	
___	24	___
	___	

2.

	2 more than 30	
1 less than 30	30	3 less than 30
	4 more than 30	

	___	
___	30	___
	___	

3.

	2 more than 18	
1 less than 18	18	3 less than 18
	4 more than 18	

	___	
___	18	___
	___	