Marshall Cavendish Education

Endorsed by Cambridge Assessment International Education

Marshall Cavendish MATHS

For Cambridge Primary Stages 1 to 6

A high-quality and complete instructional package that provides support for the Cambridge Primary Mathematics Curriculum Framework

Support High Quality Teaching and Learning

This package provides a scaffolded and spiralling learning framework with problem solving at its heart.

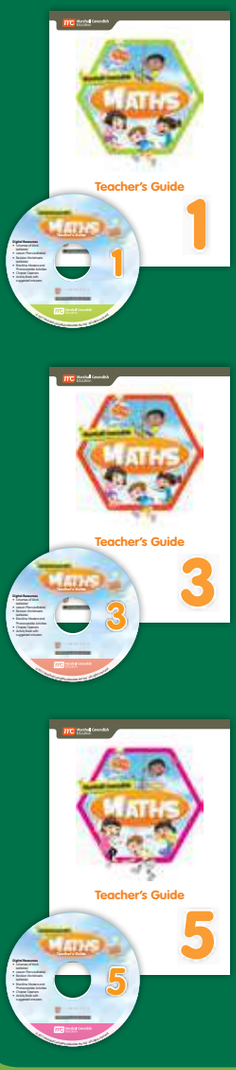
What's in Our Package

Pupil's Book

Stages 1 – 6

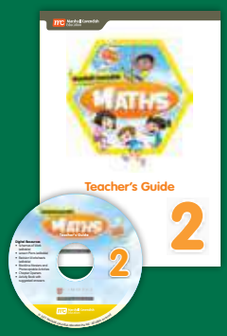
Activity Book

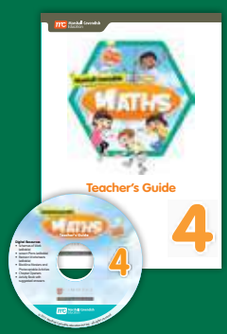
Stages 1 – 6

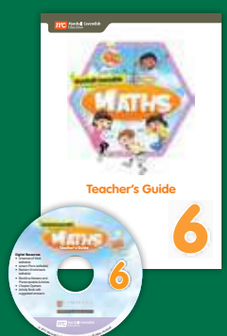


Teacher's Guide
with digital resources

Stages 1 – 6







Digital Resources in CD-Rom:

- Schemes of Work (editable)
- Lesson Plans (editable)
- Revision Worksheets (editable)
- Blackline Masters
- Chapter Openers
- Activity Book with Suggested Answers

(Resources also available at www.mc-maths.com)

Why choose

Marshall Cavendish MATHS ?

Carefully Developed to guide pupils towards discovery and develop fluency and mastery in Mathematics

Well-designed to engage and captivate pupils

Enhance Teachers' Effectiveness to deliver better lessons

Master Concepts

Each lesson is scaffolded to ensure that pupils have the necessary support to understand new topics. Within each chapter are ample opportunities for formative assessment that enables teachers to monitor each pupil's progress.

Deepen conceptual understanding with the **Concrete-Pictorial-Abstract approach** in which physical objects (concrete), followed by diagrams (pictorial) and finally numeral representations (abstract) are used to develop each concept.

F Adding or Subtracting

Let's Recall

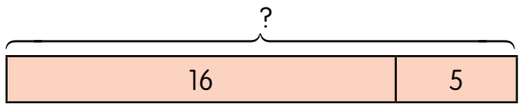
Take some .
Compare with your classmate.
What is the difference between the number of cubes that you and your classmate have?

Let's Learn Together

1 A florist sold 16 tulips and 5 roses.
How many flowers did she sell altogether?

Concrete →

Pictorial →



We can draw a bar model to help us.

Abstract →

16 + 5 = 21

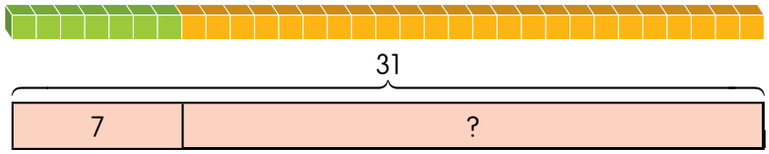
She sold 21 flowers altogether.

Let's check!

$$\begin{array}{r} {}^{1}2\,{}^{11}\!\not{1} \\ -\quad 5 \\ \hline 1\ 6 \end{array}$$

My answer is correct.

2 David has 31 green and orange marbles.
There are 7 green marbles.
How many orange marbles are there?



31 – 7 = 24

There are 24 orange marbles.

How can you check your answer?

Pupils learn **strategies and heuristics** such as Make a List and Guess and Check **to solve unfamiliar or non-routine questions**. There are also opportunities for pupils to explore, experiment, discuss mathematical ideas and **engage in active learning**.

Mind Corner

1 Game: "Num-mory" Bond

You will need

2 sets of 0 1 2 3 4 5 6 7 8 9

STEP 1 Pair up with a partner. Get a set of number cards each.

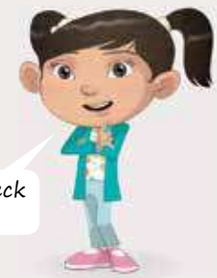
STEP 2 Mix your own cards. Put them face down.

STEP 3 Turn over one card from each set of cards. Keep the cards if the numbers make 9. Put the cards back if the numbers do not make 9.

STEP 4 Take turns to play. Repeat STEP 3 until there are no cards left.

The person with more cards wins.

2 There are two numbers. One number is 1 more than the other. The two numbers make 9. What are they?



Reflection, page 46

46 Chapter 4

Pupil's Book, Stage 1

Lesson 4 (2 periods)

Mind Corner

Teaching ideas

1
- Have pupils play the game in pairs. Give each pair 2 sets of Number Cards (TR07) numbered 0 to 9.
- Choose a pair to demonstrate Steps (2) to (4).

2 Heuristic(s): Guess and check
- Draw a number bond on the board. Write the whole (9).
- Ask a volunteer to guess a number pair to 9 and place the magnetic counters on the board, e.g. 3 and 6.
- Have the class check if one number is 1 more than the other.
- Repeat with another volunteer until the correct answer is obtained.
- Guide pupils to see that the two numbers are 4 and 5.

Materials(s)

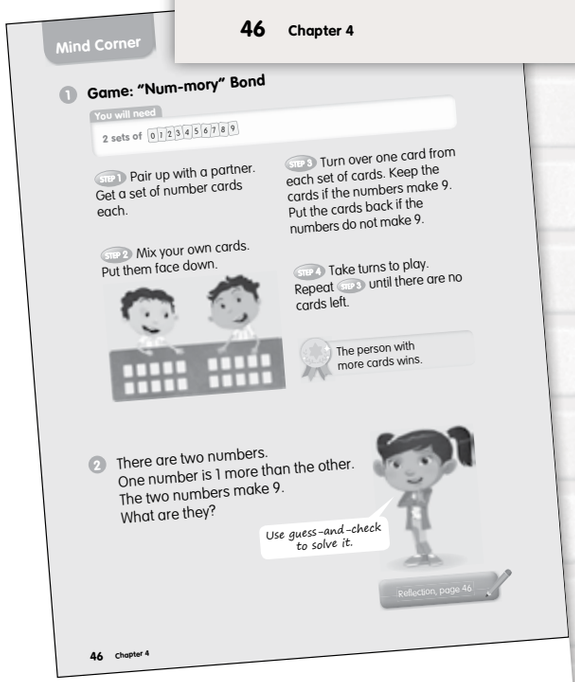
1
- 2 sets of Number Cards (TR07) per pair

2
- 9 magnetic counters

Consolidation

Reflection, page 46

Have pupils work on Reflection to check and reinforce their understanding.



54 Chapter 4

Teacher's Guide, Stage 1

Stop-Think-Go **prompts pupils to reflect on the questions that require application of concepts learnt** and leads them to the next concept.

Stop-Think-Go

These vases have the same height.
Do you think they have the same capacities?
How do you know?

Let's Practise

1 Which is a suitable unit of measure of each capacity?

(a) (b)

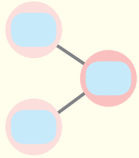
300 ____

8 ____

Pupil's Book, Stage 3

Let's Practise

1 There are 4 small butterflies and 3 big butterflies.
How many butterflies are there in all?



There are ____ butterflies in all.

2 5 frogs are in the water.
4 frogs are on the leaves.
How many frogs are there altogether?

5, ____, ____, ____, ____

There are ____ frogs altogether.

Worksheet 1, pages 47–52

Through *Let's Practise,* pupils reinforce concepts and skills learnt to **develop fluency**.

Pupil's Book, Stage 1

A Ways to Subtract

Let's Recall ensures pupils' readiness to learn new concepts and to facilitate **assessment for learning**.

Let's Recall

Pick a number from 5 to 9.
What number pairs make this number?

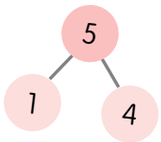
Let's Learn Together

1 There are 4 books.
Subtract 2 books from 4 books.

There are 2 books left.

Subtract means take away. We can cross out the 2 books to show that they are taken away.

2 There are 5 lions.
1 lion is sleeping.
How many lions are not sleeping



I can u... pairs to...

4 lions are not sleeping.

Pupil's Book, Stage 1

Worksheet gives pupils opportunities to **carry out independent work** when they are ready to develop fluency and gain mastery.

4 Number Pairs

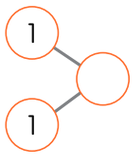
Worksheet 1

Making Number Pairs to 2, 3, 4, 5 and 6

1 Write the missing numbers.

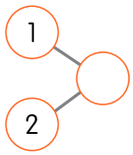
(a)

1 and 1 make _____.



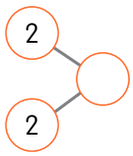
(b)

1 and 2 make _____.



(c)

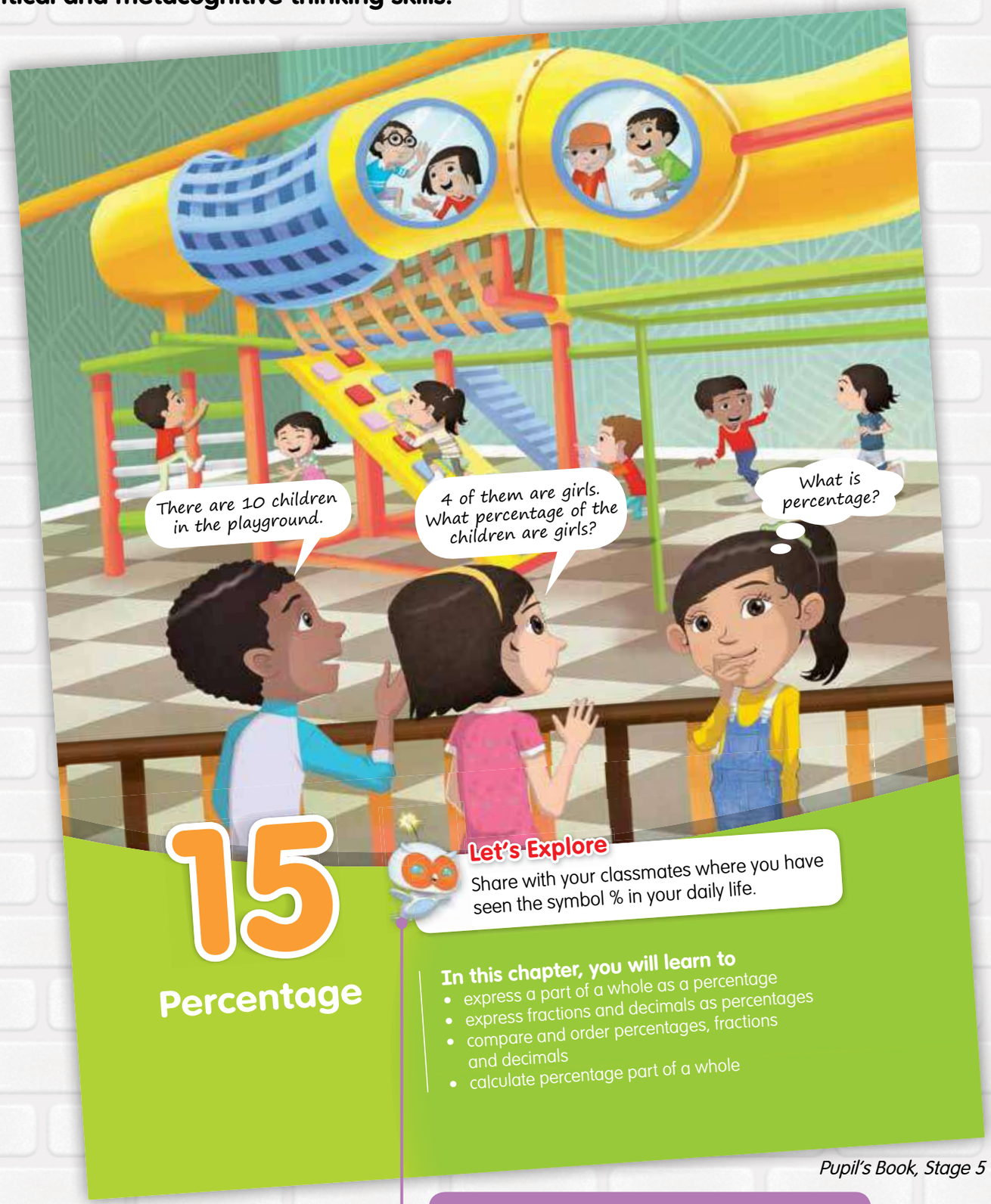
2 and 2 make _____.



Activity Book, Stage 1

Stimulate Thinking

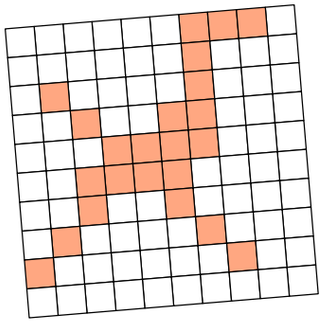
Each chapter is designed to nurture and encourage active, persistent and careful reflection. This reflection aids pupils in the development of critical and metacognitive thinking skills.



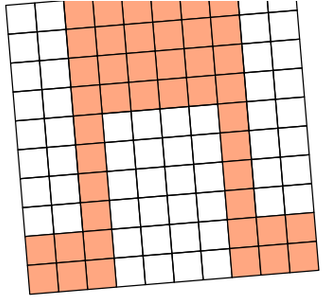
Pupil's Book, Stage 5

Let's Explore contains open-ended questions for problem solving and encourages **creative thinking** and application of **metacognitive strategies**.

(c)



(d)



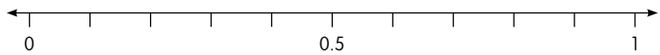
(e) How many squares have to be shaded if the percentage is 105%? Explain.

How many parts are there in a whole? How many wholes are needed?

Mascots prompt meaningful discussions and provide opportunities for pupils to monitor, direct and communicate their mathematical **thinking** and thought processes.

Questions with a light bulb **evoke deeper thinking and prompt investigation** with the aim of encouraging pupils' application of problem-solving skills to extend their learning.

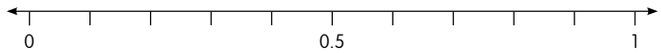
(b) 0.7 48% $\frac{3}{10}$ 12% $\frac{65}{100}$



_____, _____, _____, _____, _____

smallest

(c) 52% 0.6 90% 0.4 $\frac{4}{8}$



_____, _____, _____, _____, _____

smallest

Questions with a star are designed to **challenge the more able pupils**.

★(d) What is the value of each part on the number lines above? Explain. Express the value as a fraction, decimal and percentage.

Activity Book, Stage 5

Make Maths Fun

Engaging mascots and interesting illustrations are used to capture pupils' interest.

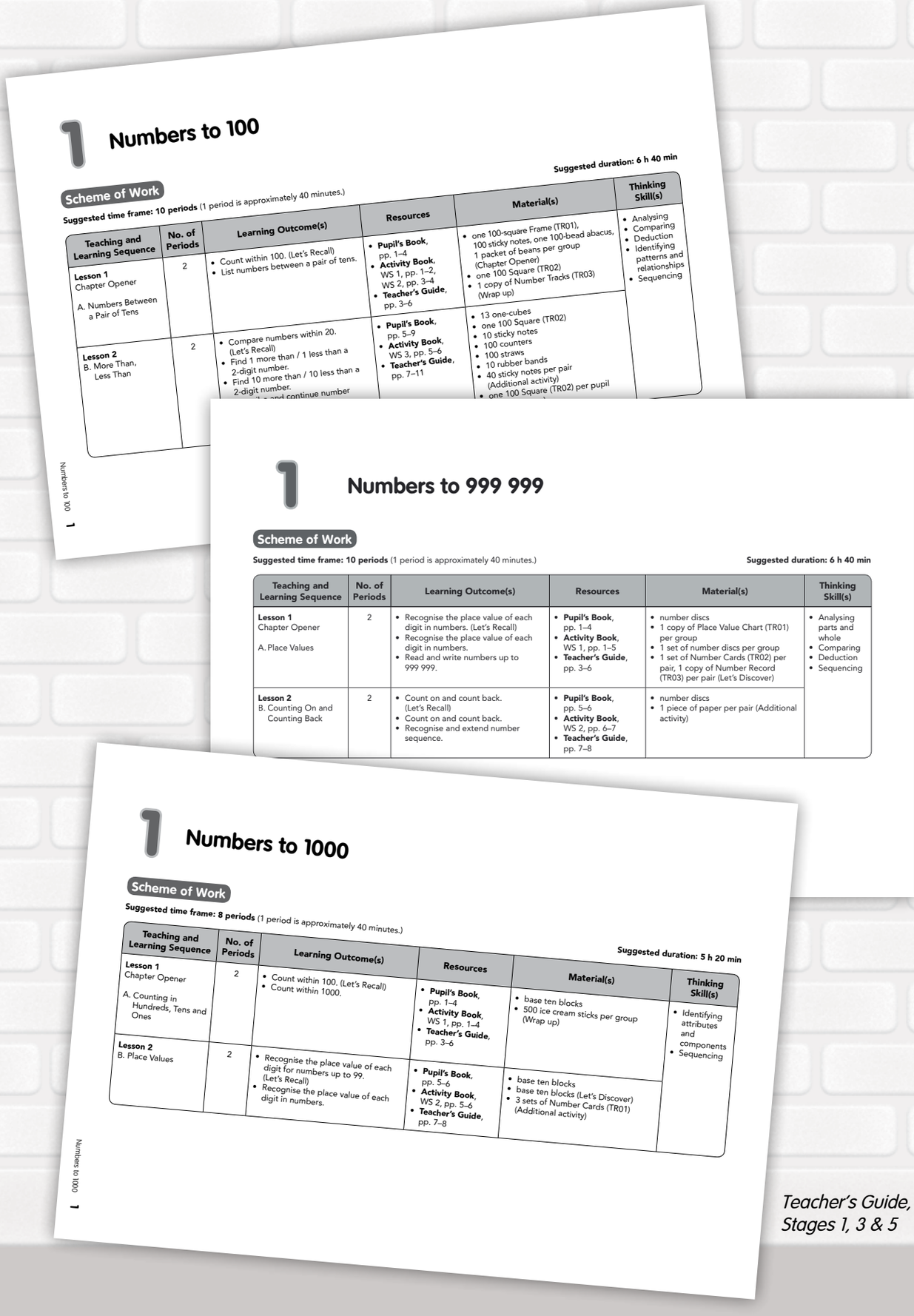
Pupil's Book, Stage 4

New concepts are introduced with **rich visuals and text** through a Chapter Opener.

Mascots (Owen, Lily, Aishah, Tom and Raj) are there to help guide the pupils and **make learning more fun!**

Save Lesson Preparation Time and Reduce Teachers' Workload

The teacher's guides are carefully laid out to give both experienced and novice teachers a wealth of resources, tips and helpful suggestions.



1 Numbers to 100

Scheme of Work

Suggested time frame: 10 periods (1 period is approximately 40 minutes.)

Suggested duration: 6 h 40 min

Teaching and Learning Sequence	No. of Periods	Learning Outcome(s)	Resources	Material(s)	Thinking Skill(s)
Lesson 1 Chapter Opener A. Numbers Between a Pair of Tens	2	• Count within 100. (Let's Recall) • List numbers between a pair of tens.	• **Pupil's Book**, pp. 1–4 • **Activity Book**, WS 1, pp. 1–2, WS 2, pp. 3–4 • **Teacher's Guide**, pp. 3–6	• one 100-square Frame (TR01), 100 sticky notes, one 100-bead abacus, 1 packet of beans per group (Chapter Opener) • one 100 Square (TR02) • 1 copy of Number Tracks (TR03) (Wrap up)	• Analysing • Comparing • Deduction • Identifying patterns and relationships • Sequencing
Lesson 2 B. More Than, Less Than	2	• Compare numbers within 20. (Let's Recall) • Find 1 more than / 1 less than a 2-digit number. • Find 10 more than / 10 less than a 2-digit number. and continue number	• **Pupil's Book**, pp. 5–9 • **Activity Book**, WS 3, pp. 5–6 • **Teacher's Guide**, pp. 7–11	• 13 one-cubes • one 100 Square (TR02) • 10 sticky notes • 100 counters • 100 straws • 10 rubber bands • 40 sticky notes per pair (Additional activity) • one 100 Square (TR02) per pupil	

Numbers to 100 1

1 Numbers to 999 999

Scheme of Work

Suggested time frame: 10 periods (1 period is approximately 40 minutes.)

Suggested duration: 6 h 40 min

Teaching and Learning Sequence	No. of Periods	Learning Outcome(s)	Resources	Material(s)	Thinking Skill(s)
Lesson 1 Chapter Opener A. Place Values	2	• Recognise the place value of each digit in numbers. (Let's Recall) • Recognise the place value of each digit in numbers. • Read and write numbers up to 999 999.	• **Pupil's Book**, pp. 1–4 • **Activity Book**, WS 1, pp. 1–5 • **Teacher's Guide**, pp. 3–6	• number discs • 1 copy of Place Value Chart (TR01) per group • 1 set of number discs per group • 1 set of Number Cards (TR02) per pair, 1 copy of Number Record (TR03) per pair (Let's Discover)	• Analysing parts and whole • Comparing • Deduction • Sequencing
Lesson 2 B. Counting On and Counting Back	2	• Count on and count back. (Let's Recall) • Count on and count back. • Recognise and extend number sequence.	• **Pupil's Book**, pp. 5–6 • **Activity Book**, WS 2, pp. 6–7 • **Teacher's Guide**, pp. 7–8	• number discs • 1 piece of paper per pair (Additional activity)	

1 Numbers to 1000

Scheme of Work

Suggested time frame: 8 periods (1 period is approximately 40 minutes.)

Suggested duration: 5 h 20 min

Teaching and Learning Sequence	No. of Periods	Learning Outcome(s)	Resources	Material(s)	Thinking Skill(s)
Lesson 1 Chapter Opener A. Counting in Hundreds, Tens and Ones	2	• Count within 100. (Let's Recall) • Count within 1000.	• **Pupil's Book**, pp. 1–4 • **Activity Book**, WS 1, pp. 1–4 • **Teacher's Guide**, pp. 3–6	• base ten blocks • 500 ice cream sticks per group (Wrap up)	• Identifying attributes and components • Sequencing
Lesson 2 B. Place Values	2	• Recognise the place value of each digit for numbers up to 99. (Let's Recall) • Recognise the place value of each digit in numbers.	• **Pupil's Book**, pp. 5–6 • **Activity Book**, WS 2, pp. 5–6 • **Teacher's Guide**, pp. 7–8	• base ten blocks • base ten blocks (Let's Discover) • 3 sets of Number Cards (TR01) (Additional activity)	

Numbers to 1000 1

Teacher's Guide, Stages 1, 3 & 5

Vocabulary points out the **key mathematical terms** that pupils need to know.

Note to teachers explains what the key concepts are and how the Concrete-Pictorial-Abstract approach has been applied.

Teaching ideas give teachers **detailed lesson ideas and suggestions to enable sound concept development**. They are centered around pupils' self-discovery.

The instruction wraps around the relevant pages from the Pupil's Book to allow for **quick referencing during lesson planning**.

A Understanding Positions

Let's Recall

- Begin by having pupils recall ordering of numbers within 10. [Stage 1 Chapter 1, Section B]
- Have pupils order the numbers given.

Learning outcome(s)
- Recognise positions.

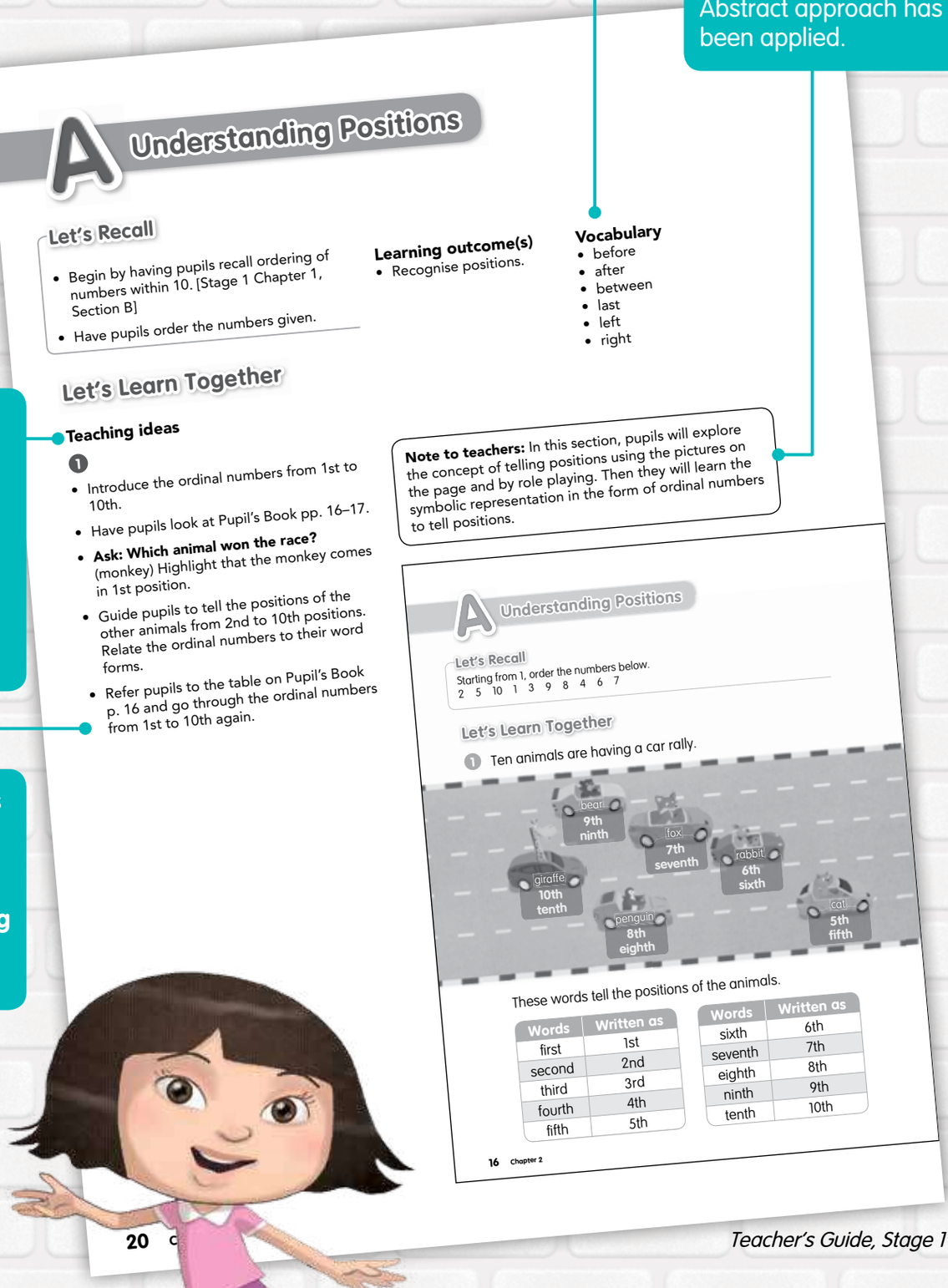
Vocabulary
- before
- after
- between
- last
- left
- right

Let's Learn Together

Teaching ideas

1
- Introduce the ordinal numbers from 1st to 10th.
- Have pupils look at Pupil's Book pp. 16–17.
- **Ask: Which animal won the race?** (monkey) Highlight that the monkey comes in 1st position.
- Guide pupils to tell the positions of the other animals from 2nd to 10th positions. Relate the ordinal numbers to their word forms.
- Refer pupils to the table on Pupil's Book p. 16 and go through the ordinal numbers from 1st to 10th again.

Note to teachers: In this section, pupils will explore the concept of telling positions using the pictures on the page and by role playing. Then they will learn the symbolic representation in the form of ordinal numbers to tell positions.



Teacher's Guide, Stage 1

Common error(s) **highlight concepts** that commonly confuse pupils.

Let's Practise **offers suggested answers** to the questions in the Pupil's Book.

Common error(s)

Some pupils may misinterpret the second sentence as only 1 apple eaten and will subtract 1 from 2 to get the answer. Highlight the word 'each' used in the sentence to correct pupils' misinterpretation.

Let's Practise

1 (a) 3
(b) 6
(c) 4
(d) 6

2 2 – 2 = 0 or 2 – 1 – 1 = 0

Wrap up **contains ideas to help pupils consolidate their learning** and brings the lesson to a close.

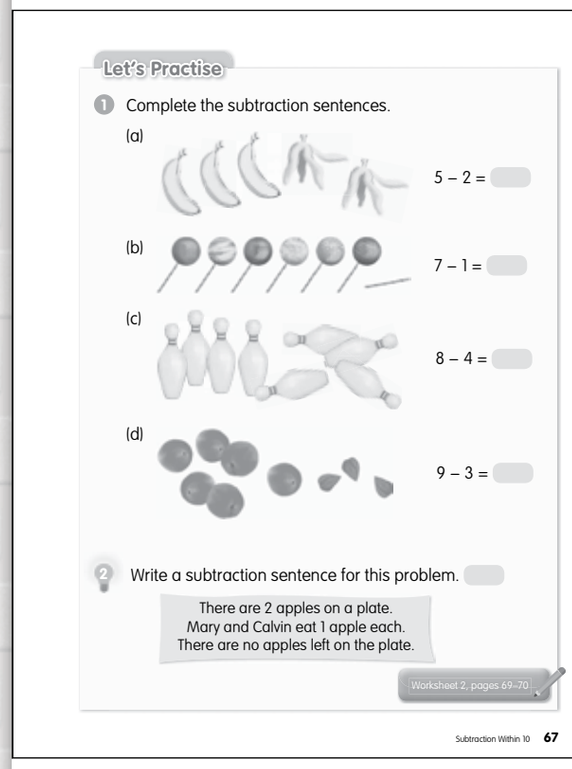
Wrap up

Material(s): 1 set of Subtraction Cards (TR11)

Reinforce the concept of subtraction sentences by having an activity. Shuffle a set of Subtraction Cards (TR11). Get a pupil to come to the front and pick a random card, e.g. '3 – 1'. Have the pupil ask the class, 'What is 3 minus 1?' The first pupil to give the correct answer gets to pick the next card.

Worksheet 2, pages 69–70

Have pupils do Worksheet 2 to practise writing subtraction sentences on their own.



Let's Practise

1 Complete the subtraction sentences.

(a) 5 – 2 =

(b) 7 – 1 =

(c) 8 – 4 =

(d) 9 – 3 =

2 Write a subtraction sentence for this problem.

There are 2 apples on a plate.
Mary and Calvin eat 1 apple each.
There are no apples left on the plate.

Worksheet 2, pages 69–70

Subtraction Within 10 67