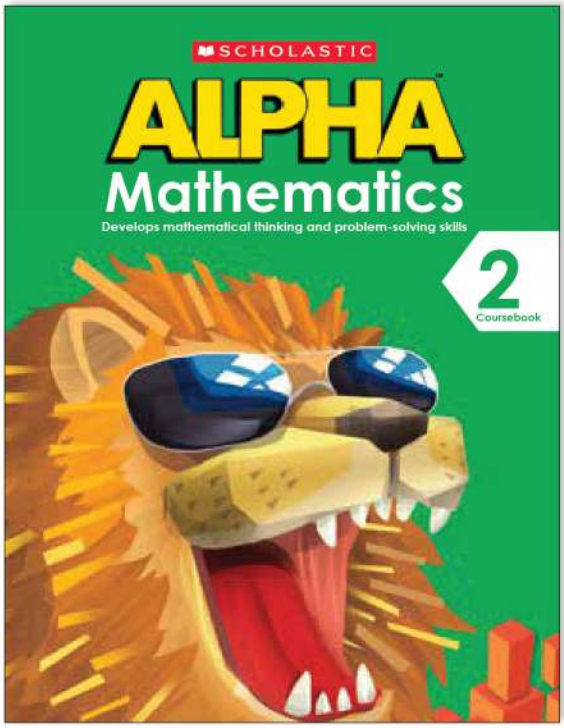
Core

ALPHA Mathematics



Scholastic ALPHA Mathematics is a world-class programme based on the innovative and effective teaching and learning practices of nations that are global top-performers in mathematics. Incorporating a proven approach being used in more than 50 countries, the programme is customised to the requirements of the Indian curriculum and classrooms.

Key Features:

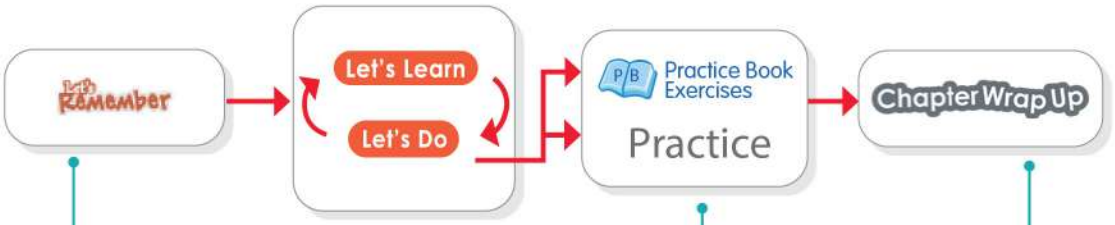
- Concrete-Pictorial-Abstract approach develops deep conceptual understanding
- Explicit teaching of the 4-step problem-solving process and 9 problem-solving strategies
- Metacognitive experiences enable students to become proficient problem solvers
- Coursebook and Teacher's Manual empower teachers to deliver high-quality lessons
- Practice Book offers systematically varied tasks

Based on the Singapore Maths* approach

Professional Development hours: 5 hrs.

I feel ALPHA Math has helped the students in developing the mathematical skills and has also helped in making Math classes more interesting. It has contents that sparks the curiosity and interest in the learning of Mathematics.

Divya Raghavan, Oasis International school, Bangalore



Let's Remember worksheets, which can be found in the Teacher's Manual, offer an opportunity for systematic recall and assessment of prior knowledge in preparation for new learning.

Every chapter in the Coursebook contains lessons focusing on a concept or an aspect of it. Each lesson has a two-part structure – concept introduction through **Let's Learn** and formative assessment through **Let's Do**. Each lesson contains one or more such cycles.

Practice Book Exercises provide opportunities for practice and formative assessment. **Practice** at the end of each lesson provides opportunities for summative assessment and independent practice.

Chapter Wrap Up summarises the key learning points of the chapter.

Let's Learn introduces concepts and develops mastery through the concrete-pictorial-abstract approach

Let's Do provides guided practice to reinforce understanding and formative assessment to check learning

Concrete: Physical materials in hands-on activities develop conceptual understanding

Pictorial: Visuals that represent previously used physical materials connect mathematical ideas

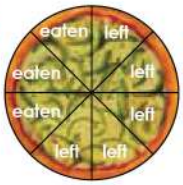
Abstract: Numbers and mathematical symbols as a final presentation of concepts and skills

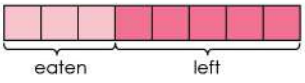
Making a whole

Let's Learn

Maths Lab

Picture It





Nadia's pizza is cut into 8 equal parts.

Nadia eats 3 parts. She eats $\frac{3}{8}$ of the pizza.

$\frac{5}{8}$ of the pizza is left.

$\frac{3}{8}$ and $\frac{5}{8}$ make 1 whole.

8 – 3 = 5
5 of the 8 equal parts are left.

Let's Do

1. Fill in the blanks.

a) 

The fraction bar shows a whole with 5 equal parts.

$\frac{\square}{\square}$ of the whole is red.

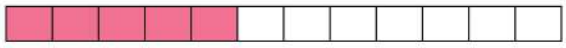
$\frac{\square}{\square}$ of the whole is blue.

2 of the 5 equal parts are red.

3 of the 5 equal parts are blue.

The red parts and blue parts make one whole.

$\frac{2}{5}$ and $\frac{\square}{\square}$ make 1 whole.

b) 

_____ and _____ make 1 whole.

Chapter 11: Exercise 4

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Coursebook 2

Coursebook structure, icons and speech bubbles provide consistent guidance to teachers for lesson delivery

I never liked to do word problems , but after I started using this new text ALPHA Math, I started finding it easy. I use the Bar model to do the problems. I also like to do the 'mind stretcher' now.

Zayna Khurram, Oasis International School, Bangalore

ALPHA Mathematics series builds up and discusses concepts for application of mathematical terms in multiple, yet simple, ways through figures, paper-strip folding or other related activities, serving as a strong base for future calculations with logic.

A wonderful series, proving to be of great help to teachers, and enabling children to think out of the box and relate numeracy to everyday life.

Nita Arora, Principal, Sri VIS, New Delhi

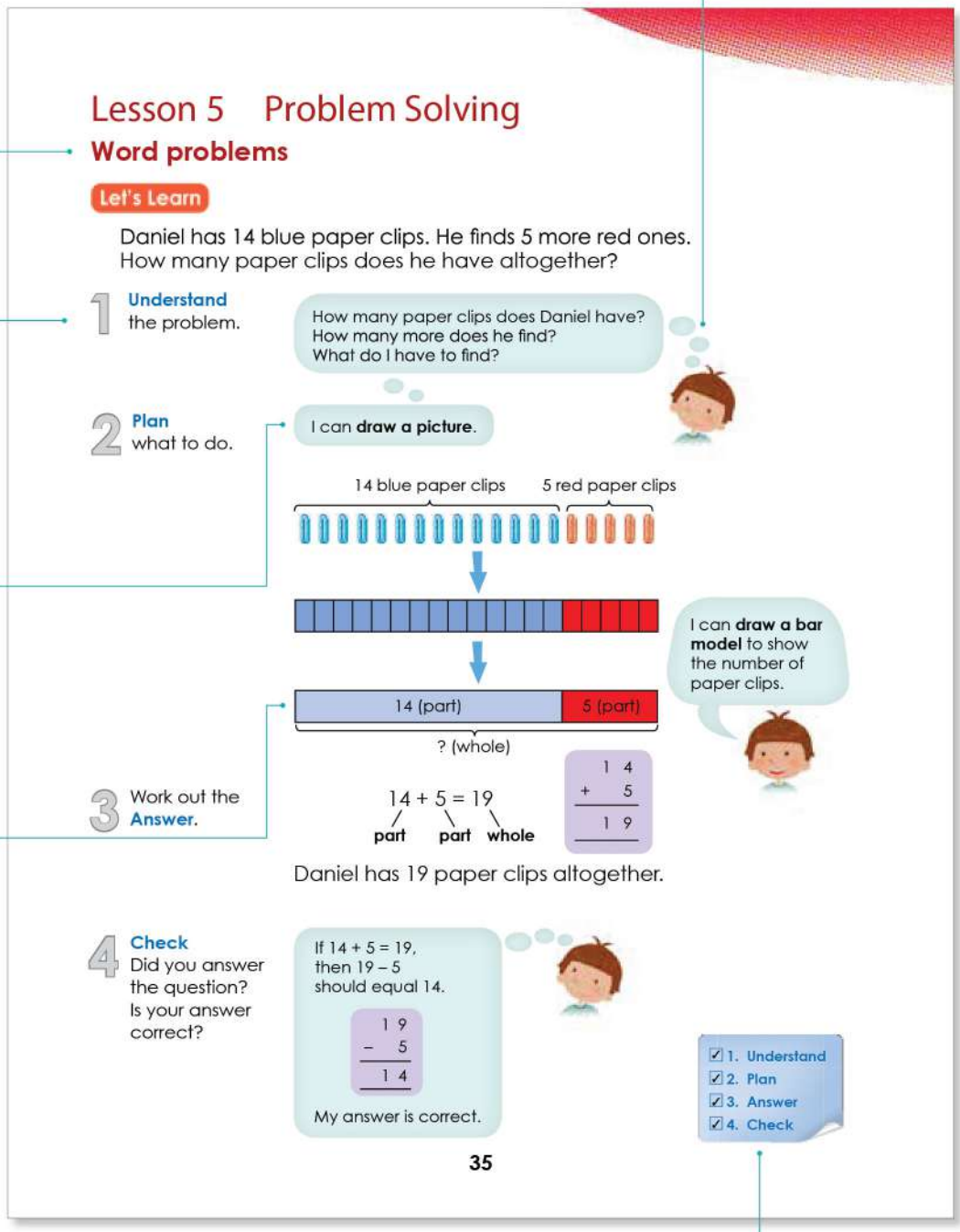
Students progress through different types of problem sets including word problems, non-routine problems, problem-posing tasks and mathematical modeling

Thought bubbles model the thinking process for students to develop metacognitive skills

Explicit teaching of the 4-step problem-solving process builds good habits for approaching mathematical problems of all levels of difficulty

Explicit teaching of 9 problem-solving strategies equips students to tackle different types of word problems

The Bar Model Method allows students to solve complex word problems using visual representation



Coursebook 2

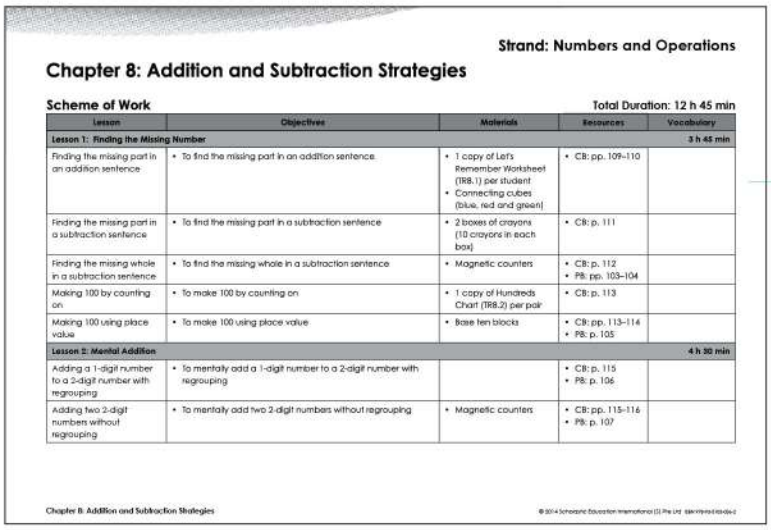
A checklist reinforces the 4-step problem-solving process

Available with this programme:

- Five hours per year professional development
- Implementation guide
- Professional Learning Resource: The Bar Model Method
- Class wise set of manipulatives
- Classroom posters
- Scholastic mathematics classroom library

For more information on the Scholastic ALPHA Mathematics programme, visit www.ScholasticAlphaMathematics.com

A comprehensive Teacher's Manual provides an overview of concepts and skills taught in each chapter and detailed lesson notes on lesson delivery for each page of the Coursebook.



Strand: Numbers and Operations

Chapter 8: Addition and Subtraction Strategies

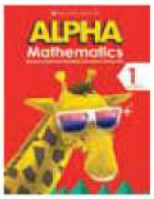
Scheme of Work Total Duration: 12 h 45 min

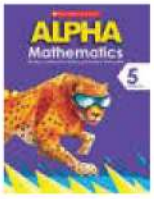
Lesson	Objectives	Materials	Resources	Vocabulary
Lesson 1: Finding the Missing Number				**3 h 45 min**
Finding the missing part in an addition sentence	• To find the missing part in an addition sentence.	• 1 copy of Let's Remember Worksheet (TR8.1) per student • Connecting cubes (blue, red and green)	• CB: pp. 109–110	
Finding the missing part in a subtraction sentence	• To find the missing part in a subtraction sentence	• 2 boxes of crayons (10 crayons in each box)	• CB: p. 111	
Finding the missing whole in a subtraction sentence	• To find the missing whole in a subtraction sentence	• Magnetic counters	• CB: p. 112 • PB: pp. 103–104	
Making 100 by counting on	• To make 100 by counting on	• 1 copy of Hundreds Chart (TR8.2) per pair	• CB: p. 113	
Making 100 using place value	• To make 100 using place value	• Base ten blocks	• CB: pp. 113–114 • PB: p. 105	
Lesson 2: Mental Addition				**4 h 30 min**
Adding a 1-digit number to a 2-digit number with regrouping	• To mentally add a 1-digit number to a 2-digit number with regrouping		• CB: p. 115 • PB: p. 106	
Adding two 2-digit numbers without regrouping	• To mentally add two 2-digit numbers without regrouping	• Magnetic counters	• CB: pp. 115–116 • PB: p. 107	

Chapter 8: Addition and Subtraction Strategies

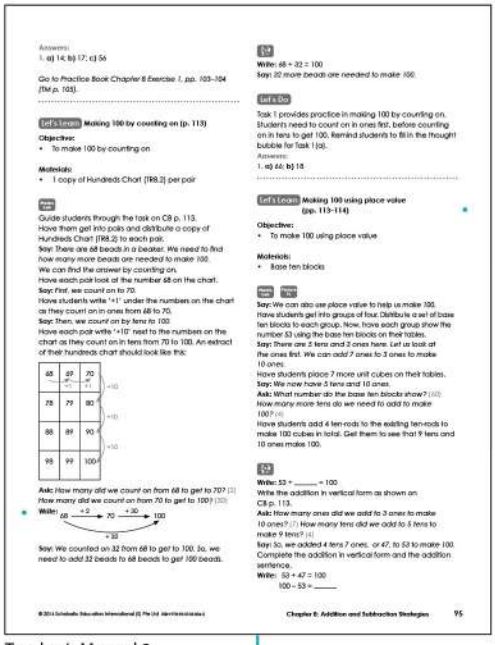
Teacher's Manual 2

Comprehensive Scheme of Work details lesson objectives, materials needed, programme resources available and new vocabulary terms.





Detailed lesson notes prompt teachers on what to say and ask.



Answers:
1. a) 14; b) 17; c) 56

Go to Practice Book Chapter 8 Exercise 1, pp. 103–104 (TM p. 103).

Let's Learn: Making 100 by counting on (p. 113)

Objective:
- To make 100 by counting on

Materials:
- 1 copy of Hundreds Chart (TR8.2) per pair

Say: Guide students through the task on CB p. 113.
Have them get into pairs and distribute a copy of Hundreds Chart (TR8.2) to each pair.
Say: There are 68 beads in a beaker. We need to find how many more beads are needed to make 100.
We can find the answer by counting on.
Have each pair look at the number 68 on the chart.
Say: First, we count on to 70.
Have students write '+1' under the numbers on the chart as they count on in ones from 68 to 70.
Say: Then, we count on by tens to 100.
Have each pair write '+10' next to the numbers on the chart as they count on in tens from 70 to 100. An extract of their hundreds chart should look like this:

68	69 (+1)	70 (+1)	+10
78	79	80	+10
88	89	90	+10
98	99	100	

Ask: How many did we count on from 68 to get to 70? (2)
How many did we count on from 70 to get to 100? (30)
Write: 68 → +2 → 70 → +30 → 100
+32
Say: We counted on 32 from 68 to get to 100. So, we need to add 32 beads to 68 beads to get 100 beads.

Try
Write: 68 + 32 = 100
Say: 32 more beads are needed to make 100.

Let's Do
Task 1 provides practice in making 100 by counting on. Students need to count on in ones first, before counting on in tens to get 100. Remind students to fill in the thought bubble for Task 1(a).

Answers:
1. a) 44; b) 18

Let's Learn: Making 100 using place value (pp. 113–114)

Objective:
- To make 100 using place value

Materials:
- Base ten blocks

Say: We can also use place value to help us make 100.
Have students get into groups of four. Distribute a set of base ten blocks to each group. Now, have each group show the number 53 using the base ten blocks on their tables.
Say: There are 5 tens and 3 ones here. Let us look at the ones first. We can add 7 ones to 3 ones to make 10 ones.
Have students place 7 more unit cubes on their tables.
Say: We now have 5 tens and 10 ones.
Ask: What number do the base ten blocks show? (60)
How many more tens do we need to add to make 100? (4)
Have students add 4 ten-rods to the existing ten-rods to make 100 cubes in total. Get them to see that 9 tens and 10 ones make 100.

Try
Write: 53 + _____ = 100
Write the addition in vertical form as shown on CB p. 113.
Ask: How many ones did we add to 3 ones to make 10 ones? (7) How many tens did we add to 5 tens to make 9 tens? (4)
Say: So, we added 4 tens 7 ones, or 47, to 53 to make 100. Complete the addition in vertical form and the addition sentence.
Write: 53 + 47 = 100
100 – 53 = _____

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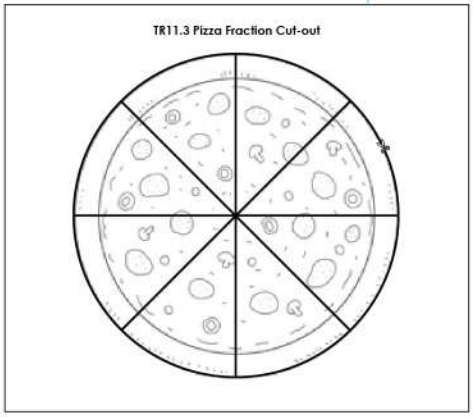
Teacher's Manual 2

Photocopiables required for class activities are provided.



TR11.3 Pizza Fraction Cut-out

Teacher's Manual 3

Answers are provided for practice tasks in the Coursebook and Practice Book. Worked solutions are provided for all word problems.

Coursebook

Grades	ISBN	Title/Series	Price
1	9789351030256	SCHOLASTIC ALPHA MATHEMATICS CB 1	575
2	9789351030270	SCHOLASTIC ALPHA MATHEMATICS CB 2	575
3	9789351030294	SCHOLASTIC ALPHA MATHEMATICS CB 3	690
4	9789351030317	SCHOLASTIC ALPHA MATHEMATICS CB 4	690
5	9789351030331	SCHOLASTIC ALPHA MATHEMATICS CB 5	710

Practice Book

Grades	ISBN	Title/Series	Price
1	9789351030263	SCHOLASTIC ALPHA MATHEMATICS WB 1	360
2	9789351030287	SCHOLASTIC ALPHA MATHEMATICS WB 2	360
3	9789351030300	SCHOLASTIC ALPHA MATHEMATICS WB 3	475
4	9789351030324	SCHOLASTIC ALPHA MATHEMATICS WB 4	475
5	9789351030348	SCHOLASTIC ALPHA MATHEMATICS WB 5	475