TEACHER'S GUIDE

Go Get Maths 3

A perfect fusion of Thai Syllabus and Singapore Maths approach

Textbook
Prathomsuksa 3

Based on the Basic Education Curriculum
B.E. 2551 (Revised Edition B.E. 2560)

PELANGI

Chapter 1
Numbers up to 100,000

The big idea

1. Ask the students to look at the picture carefully.
2. Ask them these questions to start a discussion:
   - Have you been to a stadium to watch any football match?
   - Were there many people in the stadium?
   - Are there stadiums with different sizes?
   - Did you watch the opening ceremony of 2020 Summer Olympic? Was the stadium huge? How many spectators can it accommodate?

Strand 1: Numbers and algebra

Standard M.1.1 Numbers

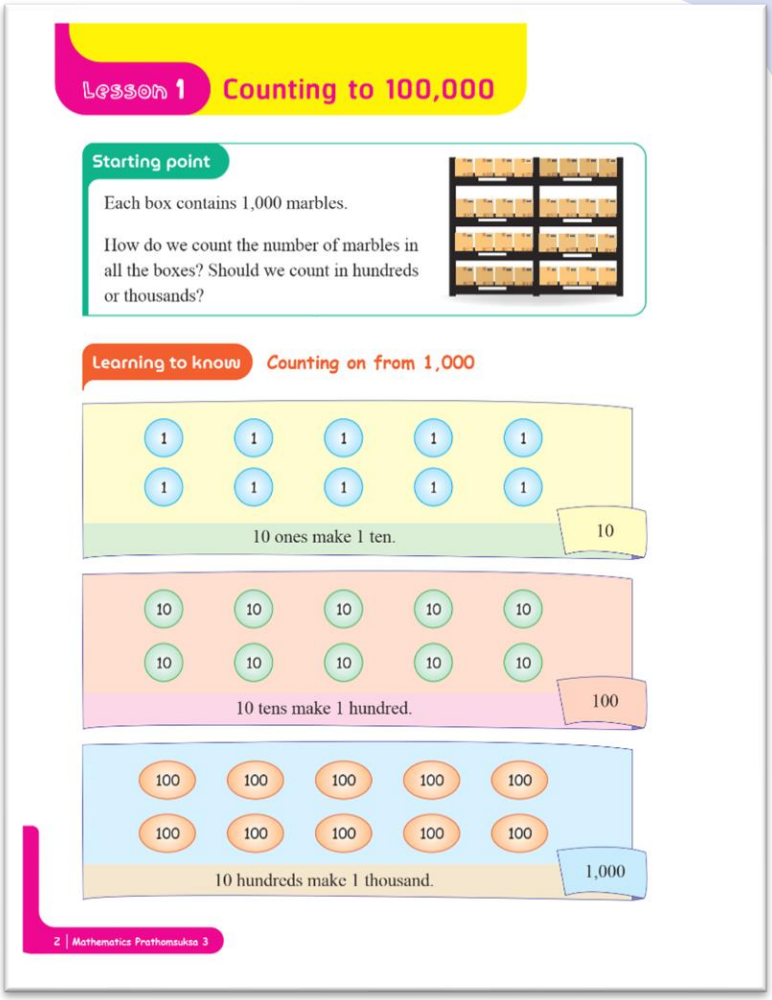
Indicators:

M 1.1 Gr3/1 Read and write Hindu- Arabic, Thai numerals and numbers in words showing cardinal numbers not exceeding 100,000.

M 1.1 Gr3/2 Compare and arrange sequence of cardinal numbers not exceeding 100,000 from various situations.

Standard M.1.2

M 1.2 Gr3/1 Identify the missing numbers in number patterns which numbers increase or decrease in equal amount each time.


Lesson 1 Counting to 100,000

Starting point

Each box contains 1,000 marbles.

How do we count the number of marbles in all the boxes? Should we count in hundreds or thousands?

Learning to know Counting on from 1,000

10 ones make 1 ten.

10 tens make 1 hundred.

10 hundreds make 1 thousand.

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Lesson 1
Counting to 100,000

Lesson objectives

By the end of the lesson, the students should be able to:

1. Count in ten thousands, thousands, hundreds, tens and ones.
2. Read and write numbers in Hindu-Arabic and Thai numerals and in words.
3. Tell the place value of each digit in the numbers.
4. Write numbers in expanded form.

Suggested teaching time

3 periods (3 x 50 minutes)

Vocabulary

One thousand to one hundred thousand, thousands

Materials needed

Number discs

Starting point

Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

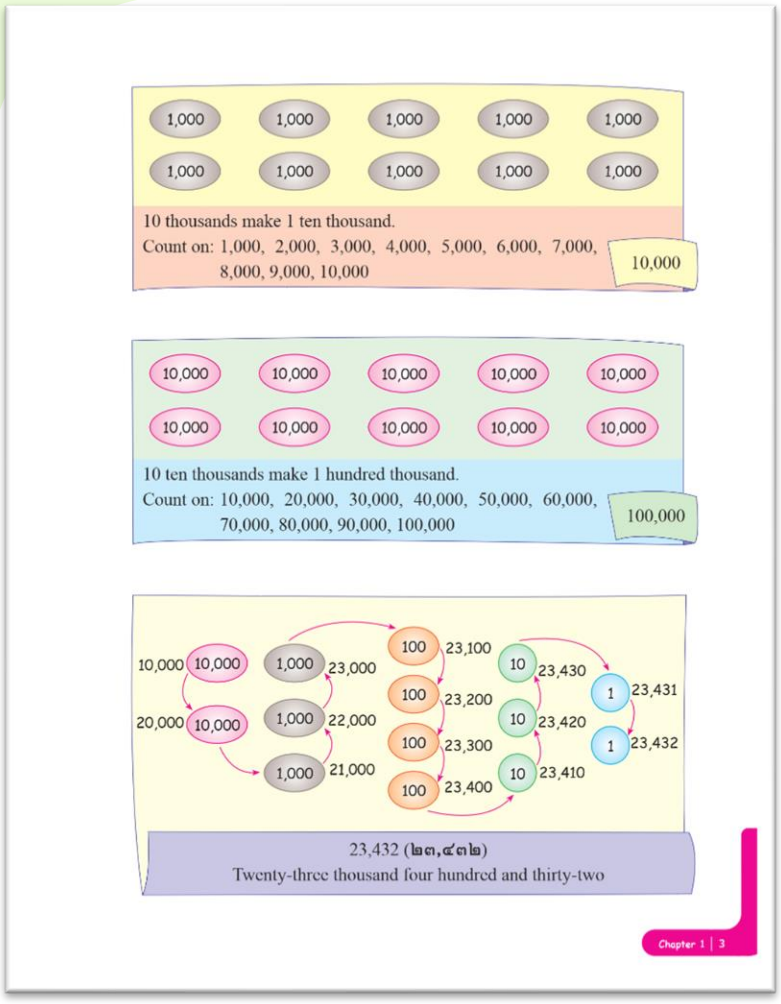
Teaching ideas

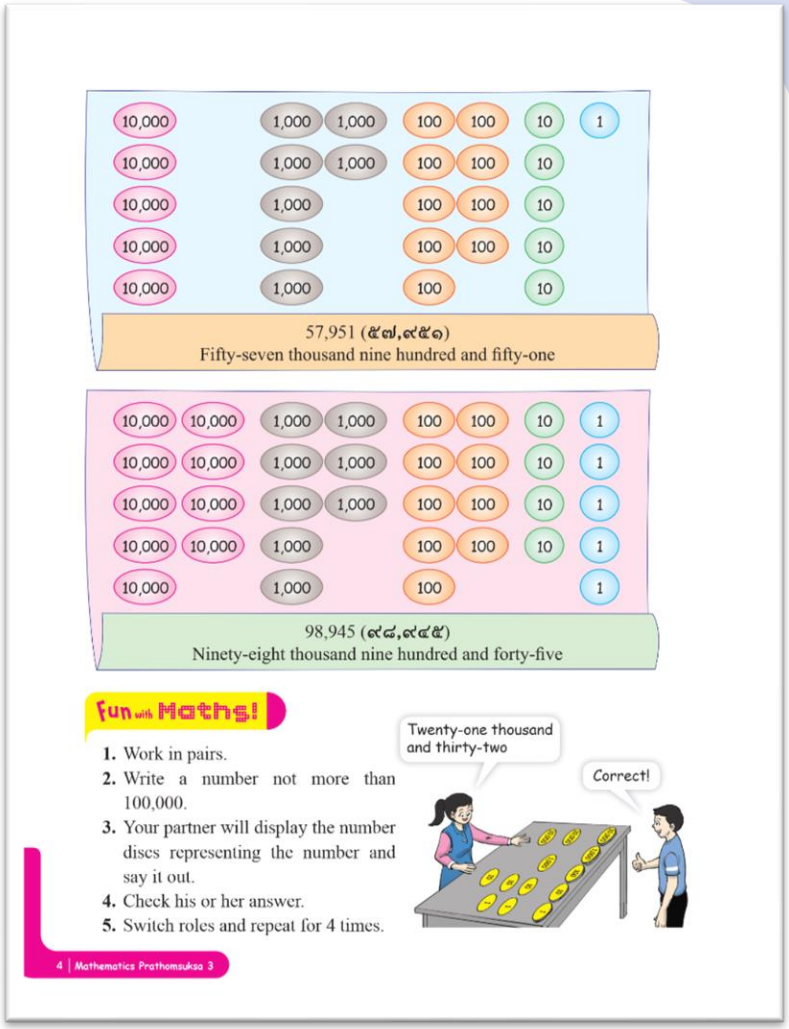
1. Help the students to recall how many ones make 1 ten, how many tens make 1 hundred and how many hundreds make 1 thousand by using number discs.

2. Ask them to count together in ones to make 1 ten, in tens to make 1 hundred and in hundreds to make 1 thousand.

Teaching ideas

3. Using the 1,000 number discs, guide them to count on in thousands to 10,000. Ask them how many thousands make 10,000.
4. Using the 10,000 number discs, guide them to count on in ten thousands to 100,000. Ask them how many ten thousands make 100,000.
5. Using the example, lead them to count the number discs to find the total number represented by the number discs.
6. Guide them to read the numbers aloud while pointing to the numerals.
7. Get a student to write the number in words.





Teaching ideas

8. Repeat using the examples to explain further.
9. Guide them to read the numbers aloud while pointing to the numerals.
10. Get a student to write each of the numbers in words.

Fun with Maths!

Materials required: Number discs of ones, tens, hundreds, thousands, ten thousands

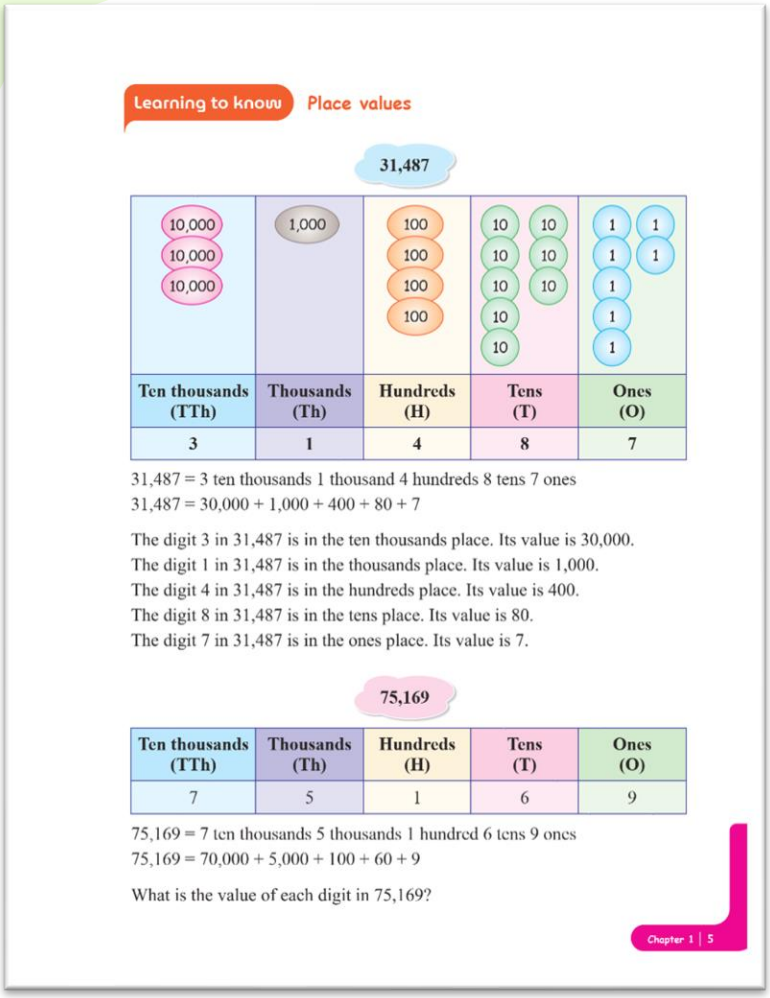
Objective of the activity: Count on in ones, tens, hundreds, thousands and ten thousands

Encourage the students to read the numbers aloud. Encourage them to write them in words too.

Teaching ideas

1. Write 31,487 on the board. Ask the students these questions:
   - How many digits are there?
   - How do we read this number?
   - How do we write this number in words?
2. Guide them to understand that each digit in the number represents a value depending on its position in the number.
3. Draw a place-value chart and guide the students to fill the chart by asking these questions:
   - Where is the digit 3 in the number?
   - What is the place value of the digit 3?
   - What is the value of the digit 3?

   Repeat with other digits in the number.
4. Write the number in expended form.
5. Repeat with the following example to explain further.
6. Guide the students to refer to **Starting Point** on page 2. Ask them to answer the questions. Have a discussion to conclude the lesson.



Learning to know Place values

31,487

Ten thousands (TTh)	Thousands (Th)	Hundreds (H)	Tens (T)	Ones (O)
3	1	4	8	7

31,487 = 3 ten thousands 1 thousand 4 hundreds 8 tens 7 ones
31,487 = 30,000 + 1,000 + 400 + 80 + 7

The digit 3 in 31,487 is in the ten thousands place. Its value is 30,000.
The digit 1 in 31,487 is in the thousands place. Its value is 1,000.
The digit 4 in 31,487 is in the hundreds place. Its value is 400.
The digit 8 in 31,487 is in the tens place. Its value is 80.
The digit 7 in 31,487 is in the ones place. Its value is 7.

75,169

Ten thousands (TTh)	Thousands (Th)	Hundreds (H)	Tens (T)	Ones (O)
7	5	1	6	9

75,169 = 7 ten thousands 5 thousands 1 hundred 6 tens 9 ones
75,169 = 70,000 + 5,000 + 100 + 60 + 9

What is the value of each digit in 75,169?

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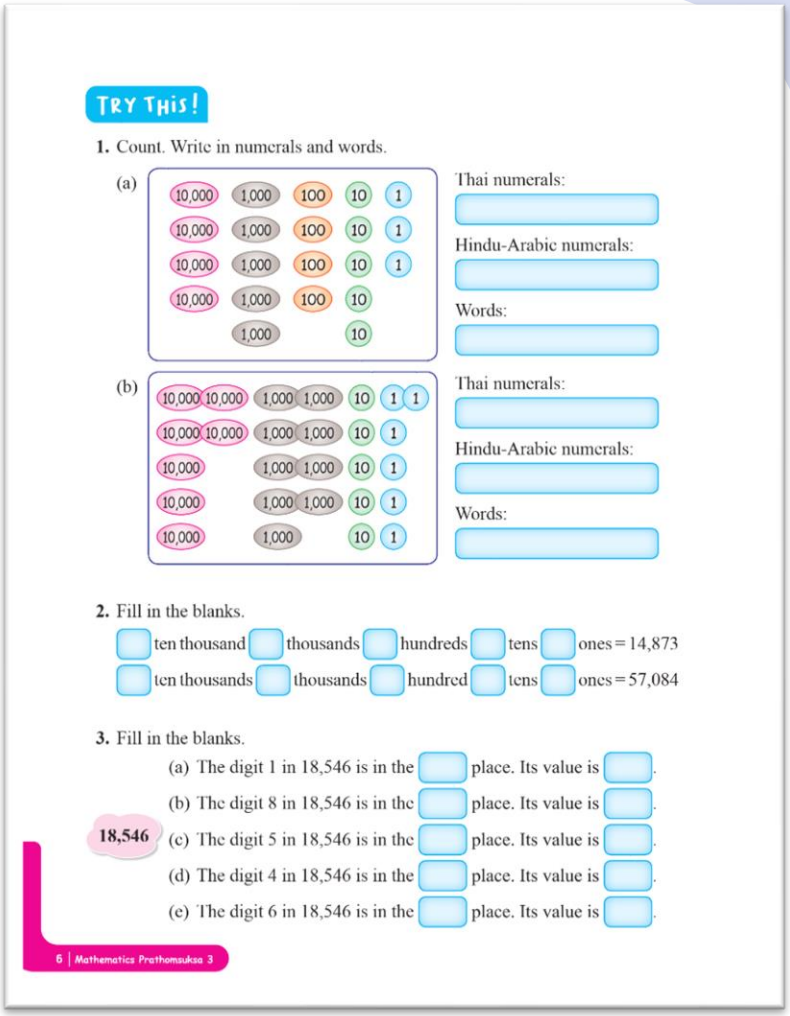
Extra notes

In English, a comma is used between the thousand digit and the hundred digit in numbers with more than 4 digits.
This makes it easier to read the numbers as we can see the different groups of digits at a glance.



TRY THIS!

1. Count. Write in numerals and words.

(a)

Thai numerals:

Hindu-Arabic numerals:

Words:

(b)

Thai numerals:

Hindu-Arabic numerals:

Words:

2. Fill in the blanks.

( ) ten thousand ( ) thousands ( ) hundreds ( ) tens ( ) ones = 14,873

( ) ten thousands ( ) thousands ( ) hundred ( ) tens ( ) ones = 57,084

3. Fill in the blanks.

18,546

(a) The digit 1 in 18,546 is in the ( ) place. Its value is ( ).

(b) The digit 8 in 18,546 is in the ( ) place. Its value is ( ).

(c) The digit 5 in 18,546 is in the ( ) place. Its value is ( ).

(d) The digit 4 in 18,546 is in the ( ) place. Its value is ( ).

(e) The digit 6 in 18,546 is in the ( ) place. Its value is ( ).

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Try This!

Get 9 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 1 to 4 in Go Get Maths Workbook P3.

Lesson 2
Comparing and ordering numbers

Lesson objectives
By the end of the lesson, the students should be able to:
1. Compare numbers within 100,000.
2. Order numbers within 100,000.

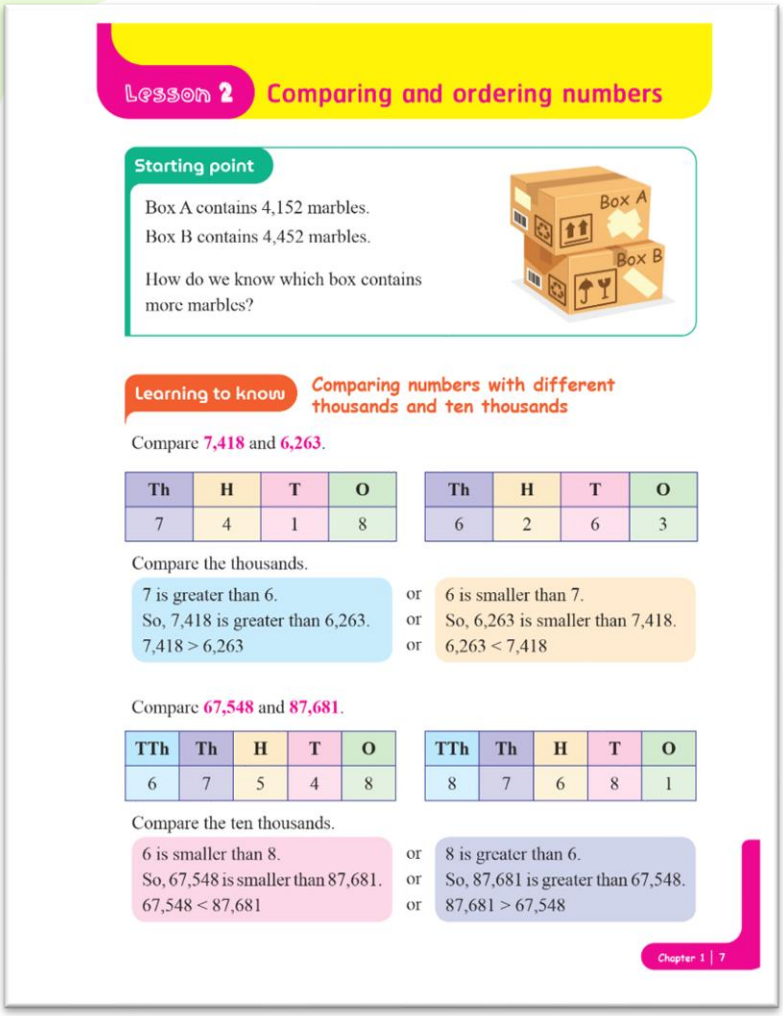
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Tell the students that when comparing numbers, it is better to use the place-value charts.
2. Ask the students which place value they should compare first.
3. Highlight to them that they must always compare the greatest place value first, that is the ten thousand.
4. Write 12,878 and 21,639 on the board. Get a student to draw and fill up the place-value charts. Get another student to give statements comparing the numbers. Repeat with other numbers.



Lesson 2 Comparing and ordering numbers

Starting point

Box A contains 4,152 marbles.
Box B contains 4,452 marbles.

How do we know which box contains more marbles?

Learning to know — Comparing numbers with different thousands and ten thousands

Compare 7,418 and 6,263.

Th	H	T	O
7	4	1	8

Th	H	T	O
6	2	6	3

Compare the thousands.

7 is greater than 6.
So, 7,418 is greater than 6,263.
7,418 > 6,263

or

6 is smaller than 7.
So, 6,263 is smaller than 7,418.
6,263 < 7,418

Compare 67,548 and 87,681.

TTh	Th	H	T	O
6	7	5	4	8

TTh	Th	H	T	O
8	7	6	8	1

Compare the ten thousands.

6 is smaller than 8.
So, 67,548 is smaller than 87,681.
67,548 < 87,681

or

8 is greater than 6.
So, 87,681 is greater than 67,548.
87,681 > 67,548

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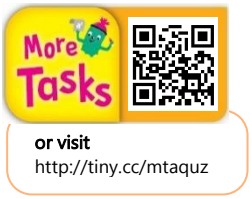

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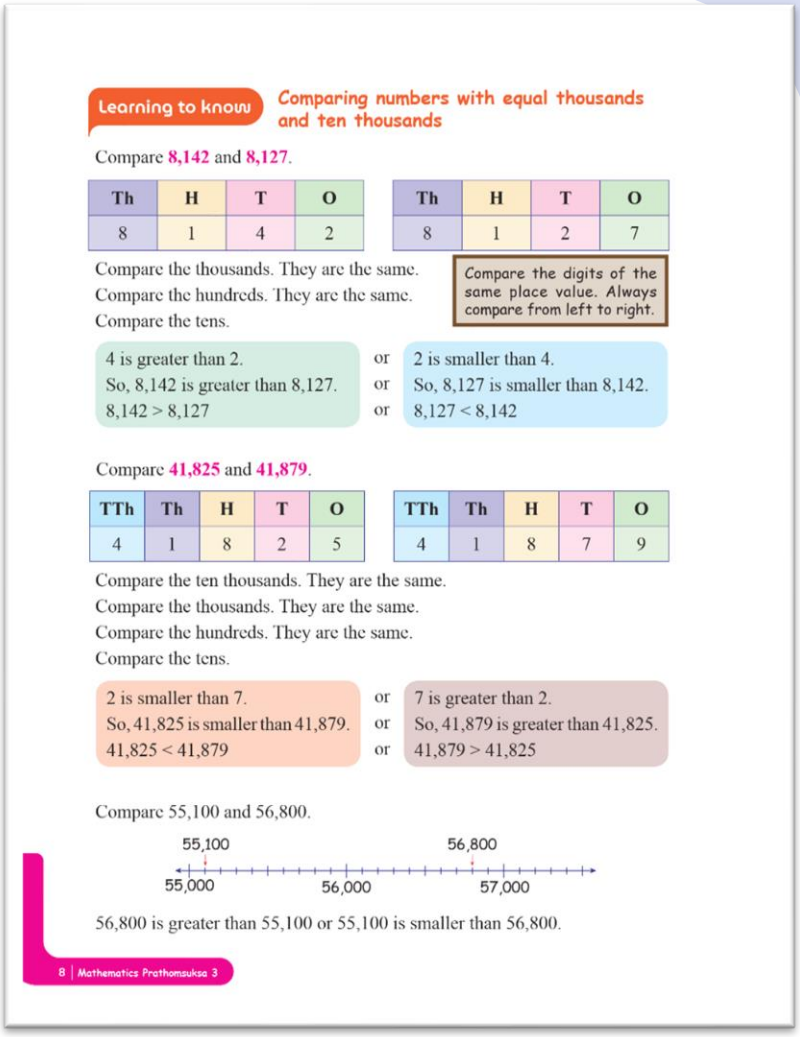

Learning to know Comparing numbers with equal thousands and ten thousands

Compare **8,142** and **8,127**.

Th	H	T	O
8	1	4	2

Th	H	T	O
8	1	2	7

Compare the thousands. They are the same.
Compare the hundreds. They are the same.
Compare the tens.

Compare the digits of the same place value. Always compare from left to right.

4 is greater than 2.
So, 8,142 is greater than 8,127.
8,142 > 8,127

or

2 is smaller than 4.
So, 8,127 is smaller than 8,142.
8,127 < 8,142

Compare **41,825** and **41,879**.

TTh	Th	H	T	O
4	1	8	2	5

TTh	Th	H	T	O
4	1	8	7	9

Compare the ten thousands. They are the same.
Compare the thousands. They are the same.
Compare the hundreds. They are the same.
Compare the tens.

2 is smaller than 7.
So, 41,825 is smaller than 41,879.
41,825 < 41,879

or

7 is greater than 2.
So, 41,879 is greater than 41,825.
41,879 > 41,825

Compare 55,100 and 56,800.

56,800 is greater than 55,100 or 55,100 is smaller than 56,800.

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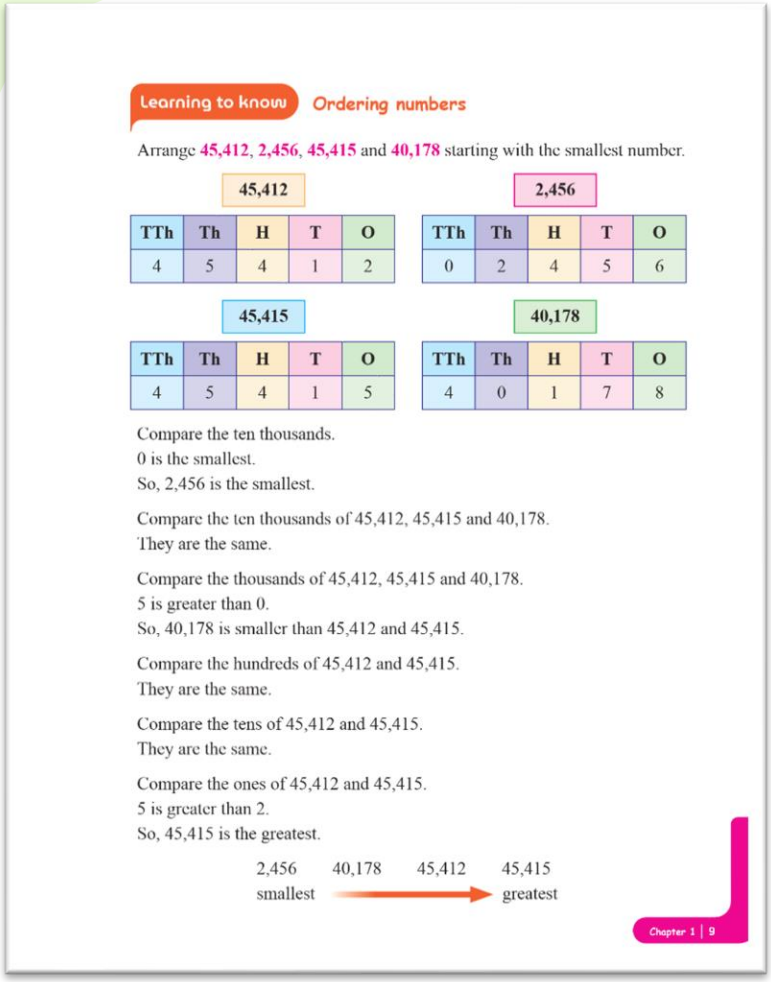
Teaching ideas

1. Tell the students that when comparing numbers, it is better to use the place-value charts.
2. Using the first example, ask the students which place value they should compare first. Highlight to them that they must always compare the greatest place value first, that is the thousands.
3. Ask them what they should next since the thousands are the same. Highlight to them to compare the hundreds. Subsequently, ask them what to do next if the hundreds are the same.
4. Go through the examples with them.
5. Write 24,845 and 24,699 on the board. Get a student to draw and fill up the place-value charts. Get another student to give statements comparing the numbers. Repeat with other numbers.
6. Guide them to use the number lines to compare the numbers. Use the example given.
7. Write 74,800 and 71,450 on the board. Draw a number line starting with 71,000 to 75,000 at intervals of 1,000. Get two students to mark 74,800 and 71, 450 on the number line each. Then, get another student to make statements comparing them on the number line.

Teaching ideas

1. Tell the students that comparing 3 numbers is similar to comparing 2 numbers by using the place-value charts.
2. Write three 4-digit numbers on the board with their empty place-value charts.
   - Invite 3 students to fill up the charts.
   - Invite another 3 students to compare the numbers. Ask them to explain how they compare using the charts.
   - Ask another 2 students to tell the greatest number and the smallest number among the 3 numbers.
   - Guide them to arrange the numbers from the smallest to the greatest and also from the greatest to the smallest.
   - Repeat with 3 and 4 numbers with less than 6 digits.
3. Advise the students to be cautious when ordering numbers, not to order wrongly.
4. Use the example to explain further.



Learning to know **Ordering numbers**

Arrange **45,412**, **2,456**, **45,415** and **40,178** starting with the smallest number.

45,412

TTh	Th	H	T	O
4	5	4	1	2

2,456

TTh	Th	H	T	O
0	2	4	5	6

45,415

TTh	Th	H	T	O
4	5	4	1	5

40,178

TTh	Th	H	T	O
4	0	1	7	8

Compare the ten thousands.
0 is the smallest.
So, 2,456 is the smallest.

Compare the ten thousands of 45,412, 45,415 and 40,178.
They are the same.

Compare the thousands of 45,412, 45,415 and 40,178.
5 is greater than 0.
So, 40,178 is smaller than 45,412 and 45,415.

Compare the hundreds of 45,412 and 45,415.
They are the same.

Compare the tens of 45,412 and 45,415.
They are the same.

Compare the ones of 45,412 and 45,415.
5 is greater than 2.
So, 45,415 is the greatest.

2,456 40,178 45,412 45,415
smallest → greatest

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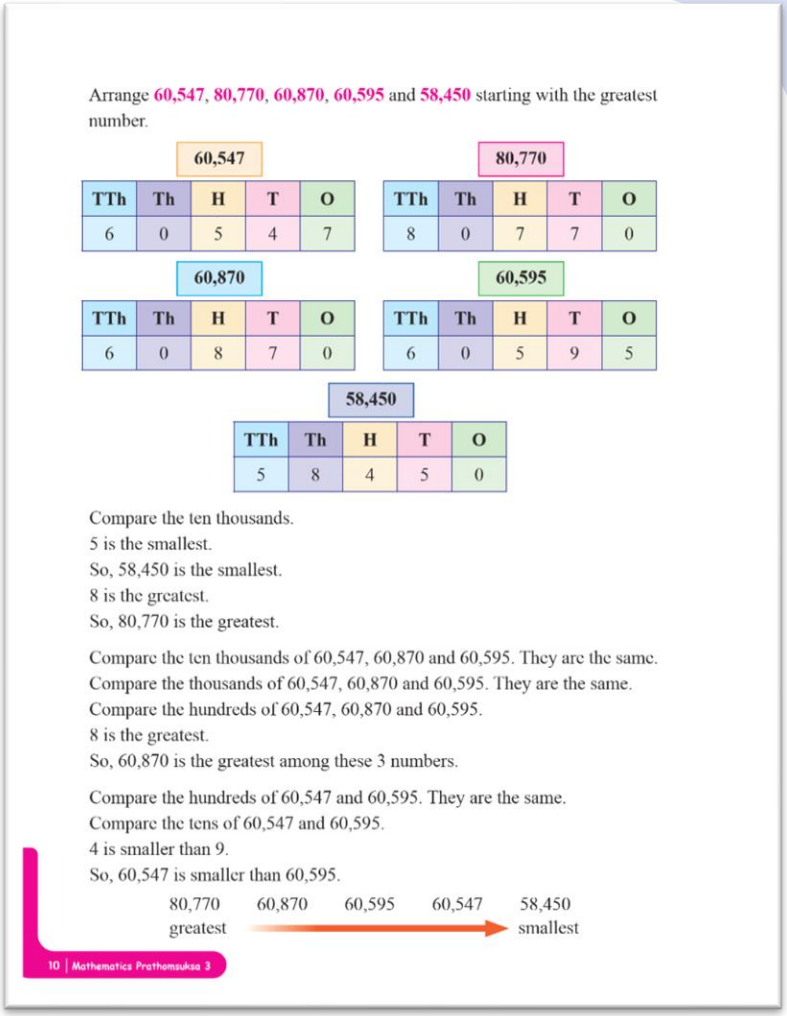

Arrange 60,547, 80,770, 60,870, 60,595 and 58,450 starting with the greatest number.

60,547

TTh	Th	H	T	O
6	0	5	4	7

80,770

TTh	Th	H	T	O
8	0	7	7	0

60,870

TTh	Th	H	T	O
6	0	8	7	0

60,595

TTh	Th	H	T	O
6	0	5	9	5

58,450

TTh	Th	H	T	O
5	8	4	5	0

Compare the ten thousands.
5 is the smallest.
So, 58,450 is the smallest.
8 is the greatest.
So, 80,770 is the greatest.

Compare the ten thousands of 60,547, 60,870 and 60,595. They are the same.
Compare the thousands of 60,547, 60,870 and 60,595. They are the same.
Compare the hundreds of 60,547, 60,870 and 60,595.
8 is the greatest.
So, 60,870 is the greatest among these 3 numbers.

Compare the hundreds of 60,547 and 60,595. They are the same.
Compare the tens of 60,547 and 60,595.
4 is smaller than 9.
So, 60,547 is smaller than 60,595.

80,770 60,870 60,595 60,547 58,450
greatest → smallest

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Activity for Reinforcement

Introduce more examples to reinforce the students' understanding of comparing and ordering numbers. Here is an example.

1. Write five 5-digit numbers on the board.
2. Ask 5 volunteers to draw and fill up the place-value chart for each number.
3. Get a student to compare and order the numbers starting with the greatest number or the smallest number.
4. Get another student to verify the answer.
5. Repeat with other numbers and students.

Teaching ideas

5. Use the example to explain further to compare 5 numbers.
6. Always ask the students to identify the greatest and the smallest numbers first. Then, 3 numbers are left to compare.

Teaching ideas

7. Tell the students that we can compare and order numbers using a number line.
8. Use the example to explain further.
9. Get a few students to use the place-value charts to check the answer.
10. Guide the students to refer to **Starting Point** on page 7. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 8 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 5 to 9 in Go Get Maths Workbook P3.

Arrange these numbers starting with the smallest number using a number line.

29,900 | 30,200 | 29,100 | 29,500 | 29,300

29,100 29,300 29,500 29,900 30,200

smallest → greatest

TRY THIS!

1. Fill in the blanks with < or >.

(a) 2,891 ☐ 5,875 (b) 41,410 ☐ 12,456

(c) 54,418 ☐ 54,014 (d) 10,784 ☐ 8,741

(e) 12,500 ☐ 14,800 (f) 3,748 ☐ 3,740

2. Arrange these numbers.

(a) 24,456 | 54,217 | 24,578 | 55,851

Starting with the greatest number: ☐

(b) 77,410 | 77,598 | 76,587 | 77,987 | 76,520

Starting with the smallest number: ☐

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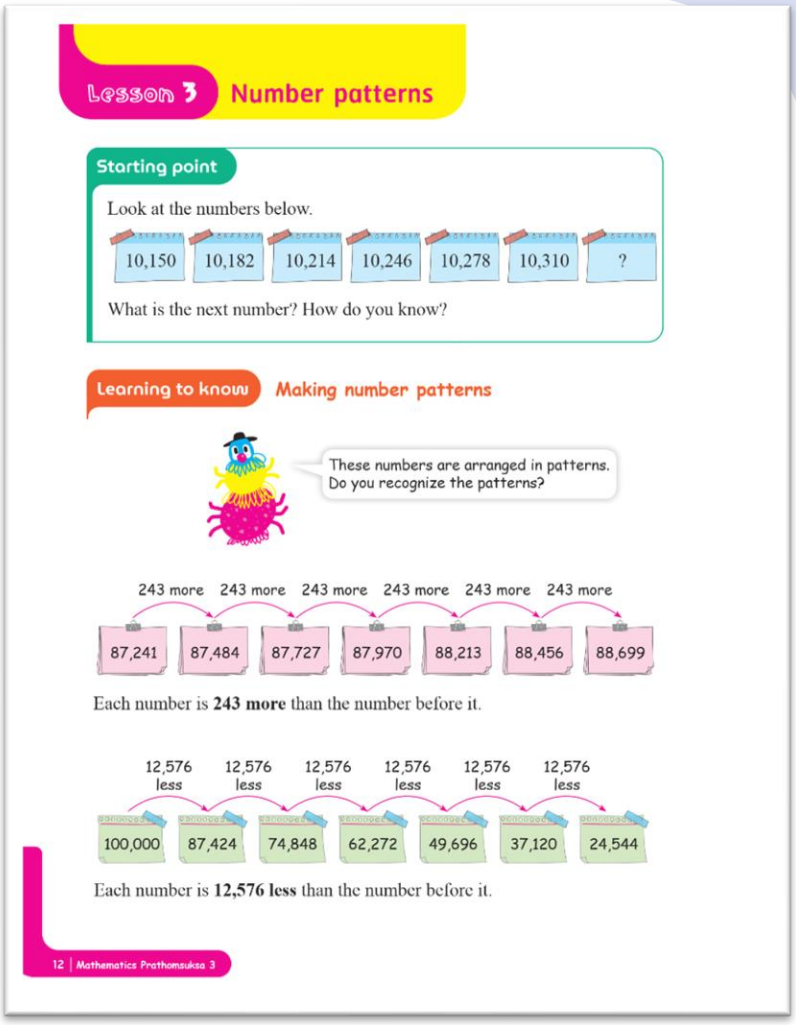
More Info

or visit
http://tiny.cc/1pbquz



Lesson 3 Number patterns

Starting point

Look at the numbers below.

10,150 | 10,182 | 10,214 | 10,246 | 10,278 | 10,310 | ?

What is the next number? How do you know?

Learning to know Making number patterns

243 more 243 more 243 more 243 more 243 more 243 more

87,241 | 87,484 | 87,727 | 87,970 | 88,213 | 88,456 | 88,699

Each number is **243 more** than the number before it.

12,576 less 12,576 less 12,576 less 12,576 less 12,576 less 12,576 less

100,000 | 87,424 | 74,848 | 62,272 | 49,696 | 37,120 | 24,544

Each number is **12,576 less** than the number before it.

Activity for Reinforcement

Help the students to recall how to analyze a number pattern. Here is an example.

Write a number pattern that increases by 10. Use these questions to start the discussion:

- Are the numbers increasing or decreasing?
- What do you add to the first number or subtract from the first number to get the second number?
- Can you do the same for the next number?
- Can you describe this number pattern?

Lesson 3 Number patterns

Lesson objectives

By the end of the lesson, the students should be able to:

1. Make number patterns.
2. Find missing numbers in number patterns.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas

1. Inform the students that in any number patterns, the numbers may increase or decrease by any fixed number.

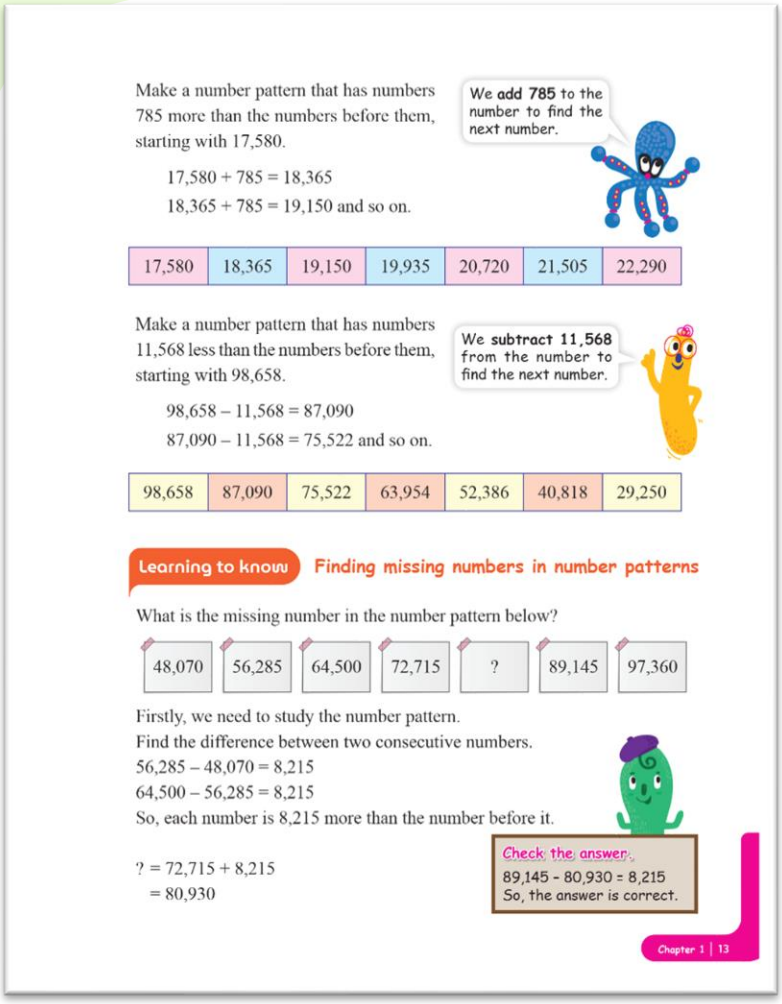
2. Based on the first number pattern, ask them these questions to start the discussion:
   - Are the numbers increasing or decreasing? How do you know?
   - Is the difference between any two consecutive numbers the same?
   - By how much are the numbers in the number pattern increasing or decreasing?

3. Repeat with the next example.

Teaching ideas

4. Guide the students to make a number pattern that increases by 120. Write 1,253 on the board and tell them that they are going to build a number pattern that increases by 120 and starts with 1,253. Ask them these questions to start the discussion:
   - What does *a number pattern that increases by 120* mean?
   - How do we find the 2nd number? Why should we add, not subtract? Why should we add 120?
   - How do we find the 3rd number? Why should we add, not subtract? Why should we add 120? Should we add 120 to the 1st number or the 2nd number?

5. Use the examples to explain further on making a number pattern that increases by 785 and a number pattern that decreases by 11,568.



Make a number pattern that has numbers 785 more than the numbers before them, starting with 17,580.

17,580 + 785 = 18,365
18,365 + 785 = 19,150 and so on.

We add 785 to the number to find the next number.

17,580	18,365	19,150	19,935	20,720	21,505	22,290

Make a number pattern that has numbers 11,568 less than the numbers before them, starting with 98,658.

98,658 – 11,568 = 87,090
87,090 – 11,568 = 75,522 and so on.

We subtract 11,568 from the number to find the next number.

98,658	87,090	75,522	63,954	52,386	40,818	29,250

Learning to know Finding missing numbers in number patterns

What is the missing number in the number pattern below?

48,070	56,285	64,500	72,715	?	89,145	97,360

Firstly, we need to study the number pattern.
Find the difference between two consecutive numbers.
56,285 – 48,070 = 8,215
64,500 – 56,285 = 8,215
So, each number is 8,215 more than the number before it.

? = 72,715 + 8,215
= 80,930

Check the answer.
89,145 - 80,930 = 8,215
So, the answer is correct.

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Teaching ideas

1. Tell the students that they need to find the missing numbers in a number pattern.
2. Here are some steps to do so:
   - Identify if the numbers are increasing or decreasing.
   - Find the difference between any 2 consecutive numbers.
   - To find the missing number,
     - if the numbers are increasing, then add the difference to the number before it.
     - if the numbers are decreasing, then subtract the difference from the number before it.

What are the missing numbers in the number pattern below?

37,581	A	35,089	33,843	32,597	B	30,105

35,089 – 33,843 = 1,246
33,843 – 32,597 = 1,246
So, each number is 1,246 less than the number before it.

A = 37,581 – 1,246
= 36,335

B = 32,597– 1,246
= 31,351

TRY THIS! Fill in the blanks.

1. Make a number pattern that has numbers 845 less than the numbers before them, starting with 74,456.

845 less

74,456						

2. Make a number pattern that has numbers 10,347 more than the numbers before them, starting with 2,478.

10,347 more

2,478						

3. Fill in the blanks.

(a)	34,450	37,917		44,851	48,318	51,785	55,252
(b)		71,602	70,630	69,658	68,686		66,742
(c)			24,034	35,922	47,810	59,698	71,586

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or visit
http://tiny.cc/mpbquz

Teaching ideas

3. Use the examples to explain further.
4. Guide the students to refer to **Starting Point** on page 12. Ask them to answer the questions. Have a discussion to conclude the lesson.

Try This!

Get 5 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 10 to 12 in Go Get Maths Workbook P3.

Chapter 2
Addition and subtraction within 100,000

The big idea

1. Help the students to recall how to add and subtract. Here is an example:
   a. Write '234 + 2268 = ' on the board.
   b. Invite a volunteer to give the answer and explain how he gets the answer.
   c. Get another student to verify.

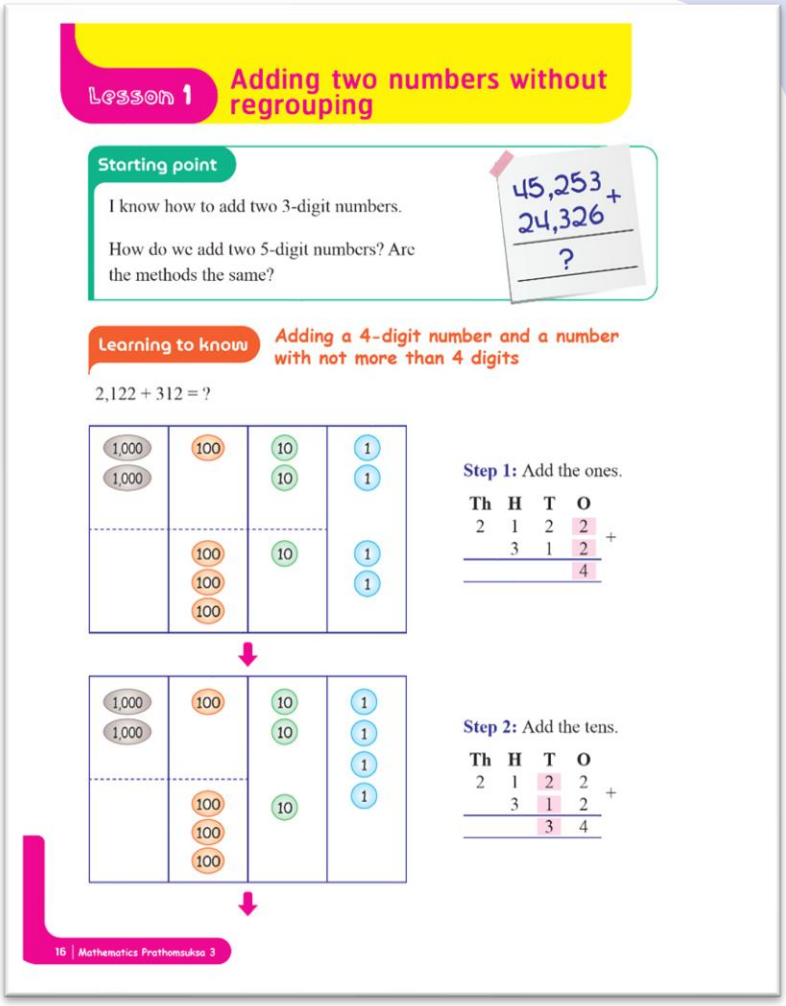
   Repeat with other addition and subtraction questions.
2. Ask the students to look at the picture carefully. Ask them these questions to start a discussion:
   a. How many points did Iwie score?
   b. How many points did Billy score?
   c. How many points did Joe score?
   d. Who scored the highest?
   e. Who scored the lowest?
   f. How many more points did Iwie score than Billy? How do you find the answer?
   g. How many fewer points did Joe score than Billy? How do you find the answer?

Strand 1: Numbers and Algebra

Standard M.1.1 Numbers

Indicators:

M 1.1 Gr3/5 Find the unknown numbers in addition and subtraction equations of cardinal numbers exceeding 100,000 and 0.



Lesson 1 Adding two numbers without regrouping

Starting point

I know how to add two 3-digit numbers.

How do we add two 5-digit numbers? Are the methods the same?

45,253 + 24,326 = ?

Learning to know: Adding a 4-digit number and a number with not more than 4 digits

2,122 + 312 = ?

Step 1: Add the ones.

Th	H	T	O
2	1	2	2
	3	1	2
			4

Step 2: Add the tens.

Th	H	T	O
2	1	2	2
	3	1	2
		3	4

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Lesson 1
Adding two numbers without regrouping

Lesson objectives

By the end of the lesson, the students should be able to:

1. Add a 4-digit number and a number with not more than 4 digits without regrouping.
2. Add a 5-digit number and a number with not more than 5 digits without regrouping.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

Number discs

Starting point

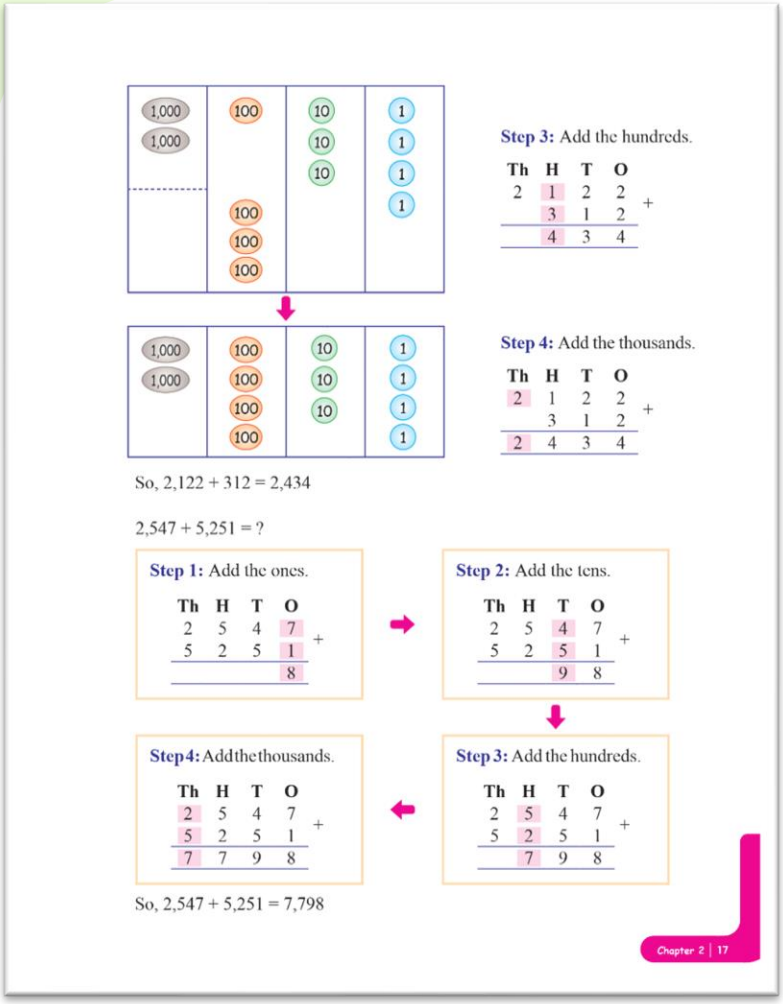
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas

1. Write 2,122 + 312 on the board.
2. Ask two students to represent each of the numbers with number discs.
3. Guide them to add the ones, follow by the tens, hundreds and thousands. Ask them for the answer of the addition.
4. Guide them to relate this method with the vertical addition.
5. Reiterate that the alignment of the numbers based on the place value of each digit is important.

Teaching ideas

6. Ask them why regrouping is not needed here. Discuss that the sum of each of the ones, tens and hundreds is not more than 10.
7. Tell them to always add the ones first, and follow by the tens, the hundreds and lastly the thousands.
8. Use the example to explain further.
9. Then, let them add without using the number discs.



Activity for Reinforcement

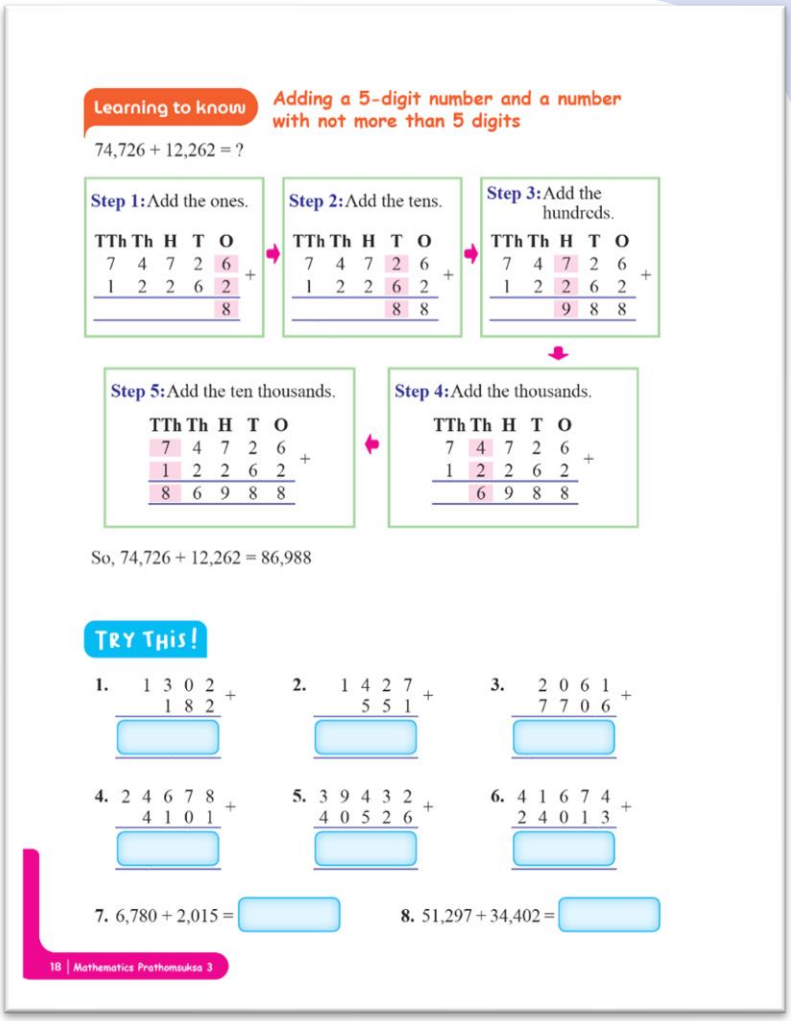
The students need to practice more in order to add correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

3,156 + 311 = ☐

672 + 3,205 = ☐

5,824 + 1,162 = ☐

4,313 + 4,506 = ☐



Learning to know

Adding a 5-digit number and a number with not more than 5 digits

74,726 + 12,262 = ?

Step 1: Add the ones.

TTh	Th	H	T	O
7	4	7	2	6
1	2	2	6	2
				8

Step 2: Add the tens.

TTh	Th	H	T	O
7	4	7	2	6
1	2	2	6	2
			8	8

Step 3: Add the hundreds.

TTh	Th	H	T	O
7	4	7	2	6
1	2	2	6	2
		9	8	8

Step 4: Add the thousands.

TTh	Th	H	T	O
7	4	7	2	6
1	2	2	6	2
	6	9	8	8

Step 5: Add the ten thousands.

TTh	Th	H	T	O
7	4	7	2	6
1	2	2	6	2
8	6	9	8	8

So, 74,726 + 12,262 = 86,988

TRY THIS!

1. 1 3 0 2 + 1 8 2 =
2. 1 4 2 7 + 5 5 1 =
3. 2 0 6 1 + 7 7 0 6 =
4. 2 4 6 7 8 + 4 1 0 1 =
5. 3 9 4 3 2 + 4 0 5 2 6 =
6. 4 1 6 7 4 + 2 4 0 1 3 =
7. 6,780 + 2,015 =
8. 51,297 + 34,402 =

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Activity for Reinforcement

The students need to practice more in order to add correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

12,812 + 146 = ☐

6,234 + 42,331 = ☐

45,023 + 10,344 = ☐

74,273 + 13,413 = ☐

Teaching ideas

1. Write 74,726+ 12,262 on the board.
2. Ask two students to represent each of the numbers with the number discs.
3. Guide them to add the ones, follow by the tens, hundreds, thousands, and ten thousands. Ask them for the answer of the addition.
4. Guide them to relate this method with the vertical addition.
5. Reiterate that the alignment of the numbers based on the place value of each digit is important.
6. Let them to add again without using the number discs.
7. Guide the students to refer to **Starting Point** on page 16. Ask them to answer the questions. Have a discussion to conclude the lesson.

Try This!

Get 8 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 13 and 14 in Go Get Maths Workbook P3.

Lesson 2
Adding two numbers with regrouping

Lesson objectives
By the end of the lesson, the students should be able to:

1. Add a 4-digit number and a number with not more than 4 digits with regrouping.
2. Add a 5-digit number and a number with not more than 5 digits with regrouping.

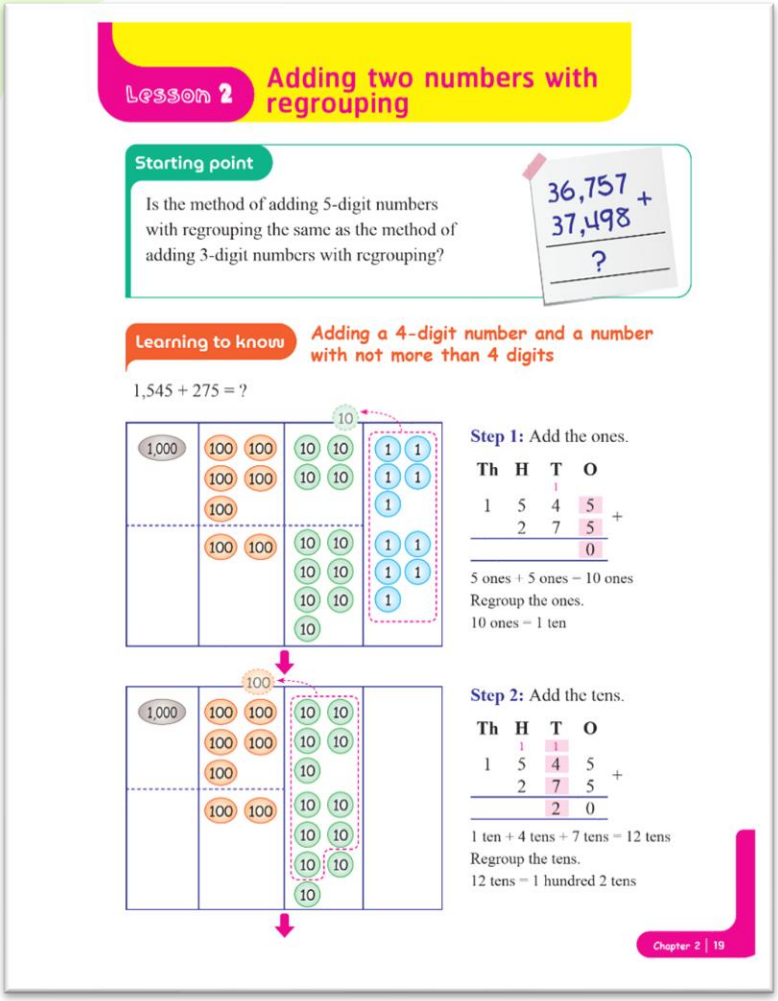
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
-

Materials needed
Number discs

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Write 1,545 + 275 on the board.
2. Ask two students to represent each of the numbers with the number discs.
3. Guide them to add the ones. Ask them if regrouping is needed here. Why?
4. Remind them the 1 ten that they carry over when adding the tens. Ask them if regrouping is needed here. Why?


Lesson 2 Adding two numbers with regrouping

Starting point

Is the method of adding 5-digit numbers with regrouping the same as the method of adding 3-digit numbers with regrouping?

36,757 + 37,498 = ?

Learning to know — Adding a 4-digit number and a number with not more than 4 digits

1,545 + 275 = ?

Step 1: Add the ones.

Th	H	T	O
	1		
1	5	4	5
	2	7	5
			0

5 ones + 5 ones = 10 ones
Regroup the ones.
10 ones = 1 ten

Step 2: Add the tens.

Th	H	T	O
	1	1	
1	5	4	5
	2	7	5
		2	0

1 ten + 4 tens + 7 tens = 12 tens
Regroup the tens.
12 tens = 1 hundred 2 tens

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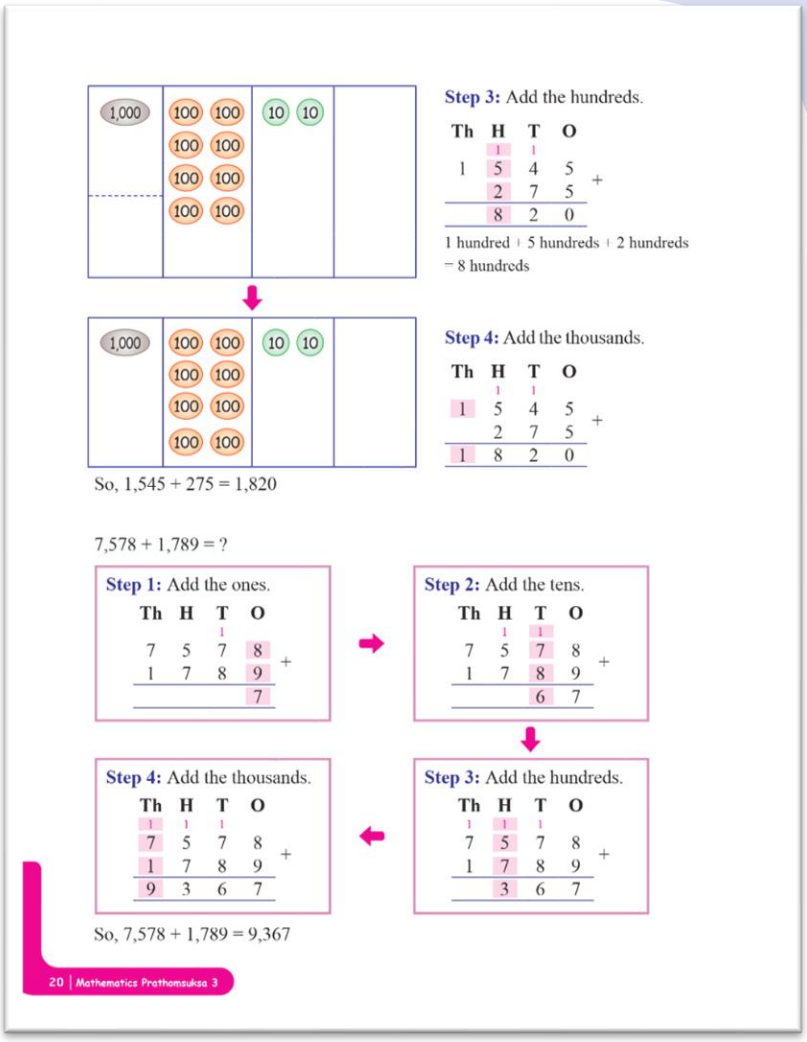
Activity for Reinforcement
The students might need some practices to help recall what regrouping is in addition. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

6 + 9 = ☐
17 + 25 = ☐
376 + 895 = ☐
783 + 149 = ☐



Teaching ideas

5. Ask them to add the hundreds. Ask them if regrouping is needed here.
6. Finally, ask them to add the thousands.
7. Guide them to write the numbers vertically.
8. Reiterate that the alignment of the numbers based on the place value of each digit is important.
9. Tell them to always add the ones first, then follow by the tens, hundreds, and lasty the thousands. Regroup when necessary.
10. Use the example to explain further.
11. Then, let them add without using the number discs.

Activity for Reinforcement

The students need to practice more in order to add correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

2,456 + 418 = ☐

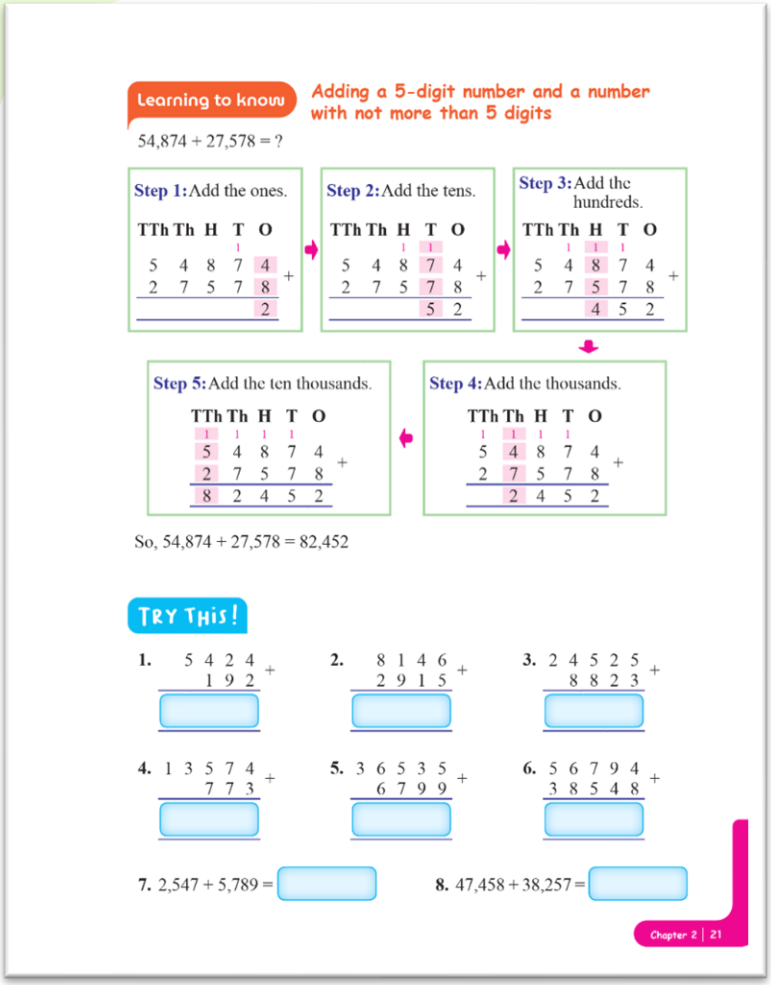
862 + 5,099 = ☐

6,247 + 1,965 = ☐

3,856 + 4,785 = ☐

Teaching ideas

1. Write 54,874 + 27,578 on the board.
2. Ask two students to represent each of the numbers with the number discs.
3. Guide them to add the ones, follow by the tens, hundreds, thousands, and ten thousands. Ask them for the answer of the addition. Ensure they can regroup and know when to regroup.
4. Guide them to relate this method with the vertical addition.
5. Reiterate that the alignment of the numbers based on the place value of each digit is important.
6. Let them to add again without using the number discs.
7. Guide the students to refer to **Starting Point** on page 19. Ask them to answer the question. Have a discussion to conclude the lesson.



Learning to know

Adding a 5-digit number and a number with not more than 5 digits

54,874 + 27,578 = ?

Step 1: Add the ones.

TTh	Th	H	T	O
5	4	8	7	4
2	7	5	7	8
				2

Step 2: Add the tens.

TTh	Th	H	T	O
5	4	8	7	4
2	7	5	7	8
			5	2

Step 3: Add the hundreds.

TTh	Th	H	T	O
5	4	8	7	4
2	7	5	7	8
		4	5	2

Step 4: Add the thousands.

TTh	Th	H	T	O
5	4	8	7	4
2	7	5	7	8
	2	4	5	2

Step 5: Add the ten thousands.

TTh	Th	H	T	O
5	4	8	7	4
2	7	5	7	8
8	2	4	5	2

So, 54,874 + 27,578 = 82,452

TRY THIS!

1. 5424 + 192 = ☐
2. 8146 + 2915 = ☐
3. 24525 + 8823 = ☐
4. 13574 + 773 = ☐
5. 36535 + 6799 = ☐
6. 56794 + 38548 = ☐
7. 2,547 + 5,789 = ☐
8. 47,458 + 38,257 = ☐

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Try This!

Get 8 students to answer it. Ask the rest to verify the answers.

Activity for Reinforcement

The students need to practice more in order to add correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

12,678 + 266 = ☐

3,523 + 52,789 = ☐

66,326 + 4,820 = ☐

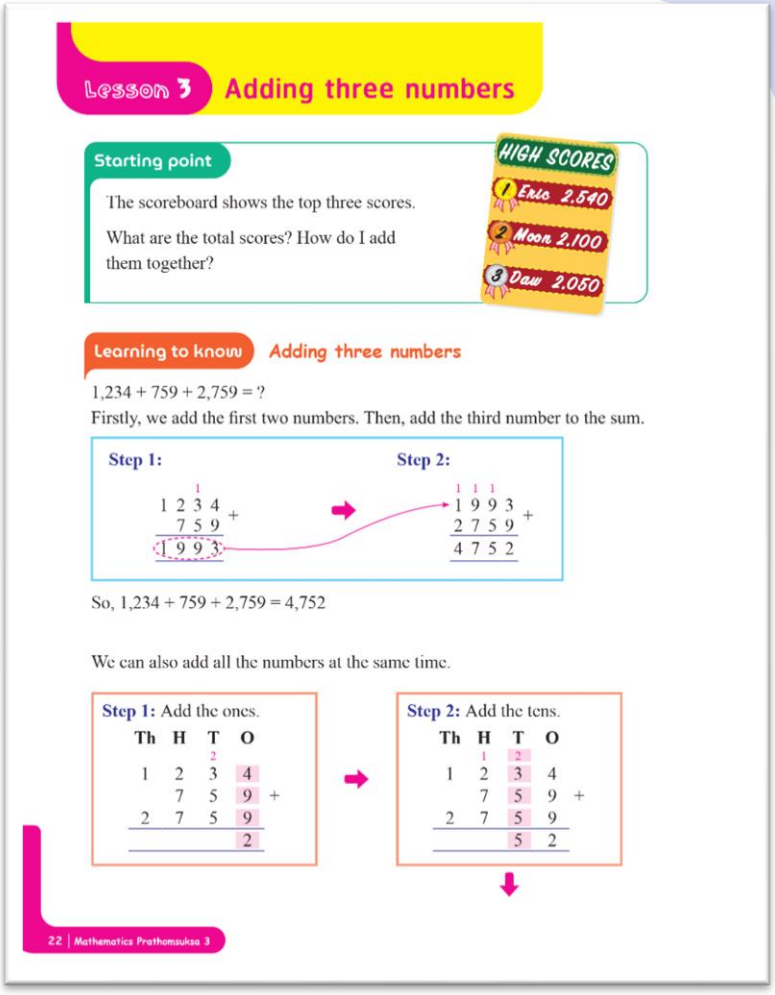
24,639 + 57,748 = ☐

Further practices

Get the students to complete the practices on pages 15 and 16 in Go Get Maths Workbook P3.

More Tasks

or visit
http://tiny.cc/ztbquz



Lesson 3 Adding three numbers

Starting point

The scoreboard shows the top three scores.

What are the total scores? How do I add them together?

HIGH SCORES
1 Eric 2,540
2 Moon 2,100
3 Daw 2,050

Learning to know Adding three numbers

1,234 + 759 + 2,759 = ?

Firstly, we add the first two numbers. Then, add the third number to the sum.

Step 1:

$$\begin{array}{r} {\scriptstyle 1} \\ 1234 \\ +\ 759 \\ \hline 1993 \end{array}$$

Step 2:

$$\begin{array}{r} {\scriptstyle 1\ 1\ 1} \\ 1993 \\ +\ 2759 \\ \hline 4752 \end{array}$$

So, 1,234 + 759 + 2,759 = 4,752

We can also add all the numbers at the same time.

Step 1: Add the ones.

	Th	H	T	O
			2	
	1	2	3	4
+		7	5	9
	2	7	5	9
				2

Step 2: Add the tens.

	Th	H	T	O
		1	2	
	1	2	3	4
+		7	5	9
	2	7	5	9
			5	2

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Activity for Reinforcement

Objective of the activity: Understanding associate property of addition

1. Write 12 + 23 + 45 = ? on the board.
2. Ask a student to add the first number with the second number before adding the sum with the third number.
3. Ask another student to add the first number with the third number before adding the sum with the second number.
4. Ask another student to add the second number with the third number before adding the sum with the first number.
5. Discuss with the students the results. Tell them that the sum is the same regardless how the numbers are grouped.

Lesson 3
Adding three numbers

Lesson objectives

By the end of the lesson, the students should be able to:

1. Add three numbers.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas

1. Write 1,234 + 759 + 2,759 = ? on the board. Ask the students if they can use the count on method to find the sum.
2. Tell them that they can also add the first 2 numbers and then add the sum to the third number.
3. Tell them that they can add all the 3 numbers at once, but they need to be extra careful as the addition will be more complex.
4. Guide them to add the ones. Tell them they need to add the ones of the first and second numbers before adding the sum with the ones of the third number.

Teaching ideas

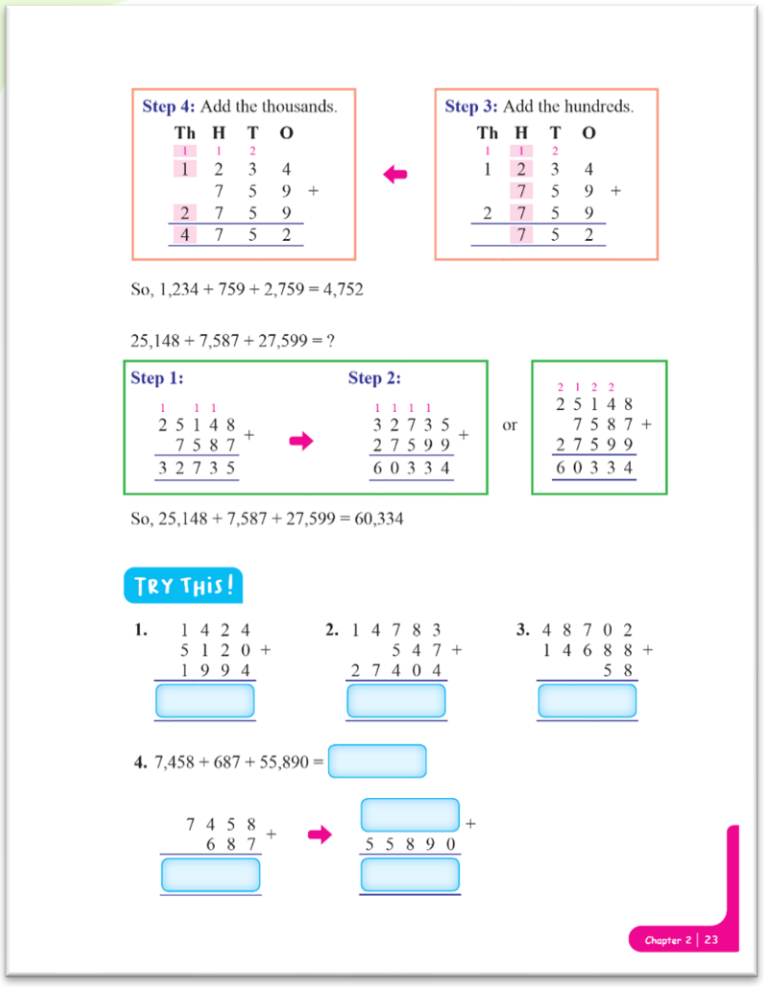
5. Guide them to add the tens, hundreds and thousands.
6. Remind them to regroup when needed.
7. Use the example to explain further.
8. Guide the students to refer to **Starting Point** on page 22. Ask them to answer the questions. Have a discussion to conclude the lesson.

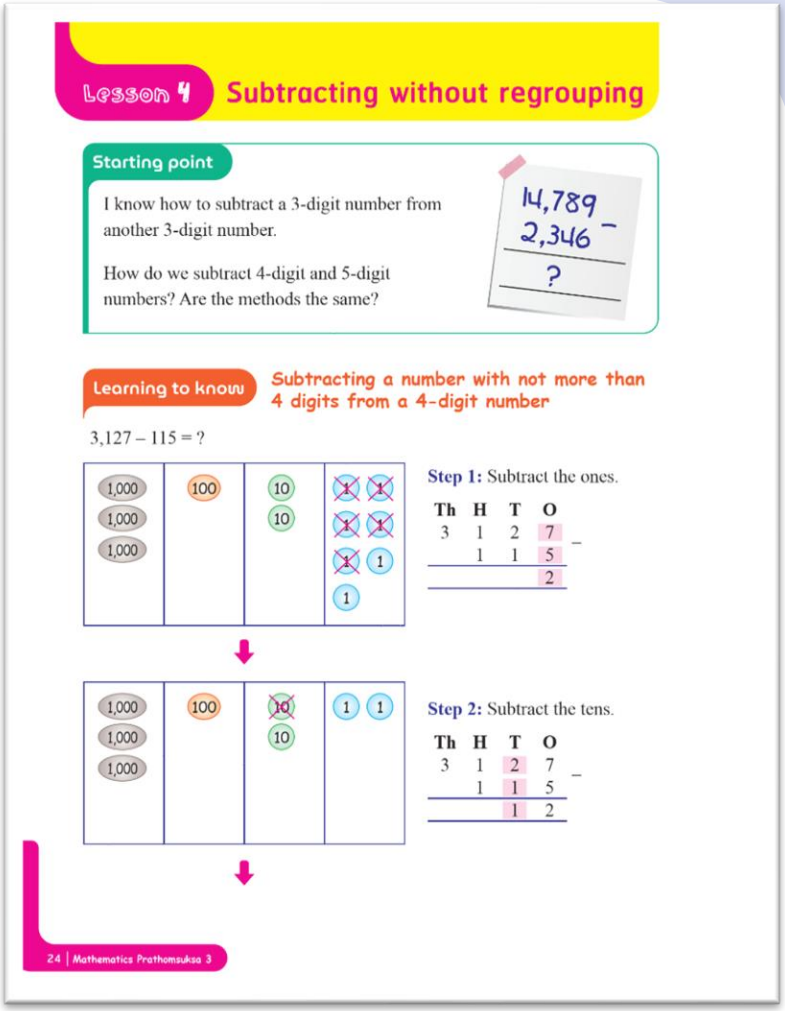
Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 17 to 19 in Go Get Maths Workbook P3.





Lesson 4 Subtracting without regrouping

Starting point

I know how to subtract a 3-digit number from another 3-digit number.

How do we subtract 4-digit and 5-digit numbers? Are the methods the same?

14,789 − 2,346 = ?

Learning to know: Subtracting a number with not more than 4 digits from a 4-digit number

3,127 – 115 = ?

Step 1: Subtract the ones.

Th	H	T	O
3	1	2	7
	1	1	5
			2

Step 2: Subtract the tens.

Th	H	T	O
3	1	2	7
	1	1	5
		1	2

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Lesson 4 Subtracting without regrouping

Lesson objectives

By the end of the lesson, the students should be able to:

1. Subtract a number with not more than 4 digits from a 4-digit number without regrouping.
2. Subtract a number with not more than 5 digits from a 5-digit number without regrouping.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

Number discs

Starting point

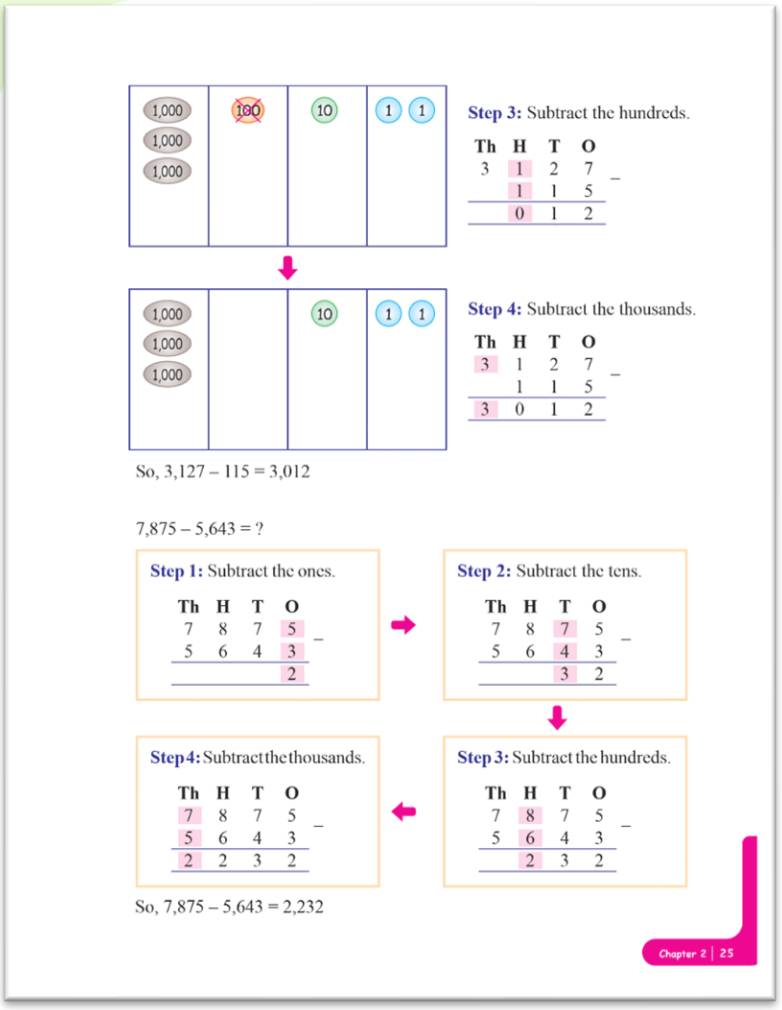
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas

1. Write 3,127 − 115 on the board.
2. Ask two students to represent each of the numbers with the number discs.
3. Guide them to subtract the ones, follow by the tens, hundreds and thousands. Ask them for the answer of the subtraction.
4. Guide them to relate this method with the vertical subtraction.
5. Reiterate that the alignment of the numbers based on the place value of each digit is important.

Teaching ideas

6. Ask them why regrouping is not needed here. Discuss that each of the ones, tens and hundreds is enough to be subtracted.
7. Tell them to always subtract the ones first before subtracting the tens, hundreds and then lastly the thousands.
8. Use the example to explain further.
9. Then, let them subtract without using the number discs.



Activity for Reinforcement

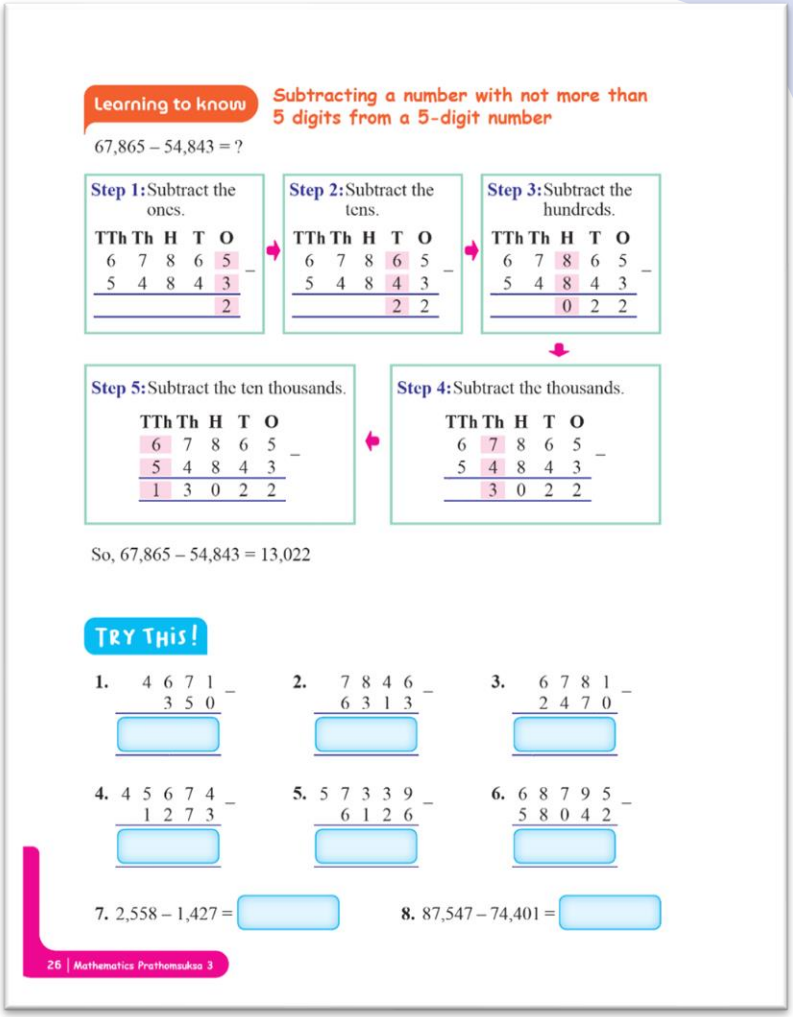
The students need to practice more in order to subtract correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

8,459 - 236 = ☐

4,866 - 746 = ☐

7,899 – 2,453 = ☐

5,378 – 5,155 = ☐



Learning to know

Subtracting a number with not more than 5 digits from a 5-digit number

67,865 – 54,843 = ?

Step 1: Subtract the ones.

TTh	Th	H	T	O
6	7	8	6	5
5	4	8	4	3
				2

Step 2: Subtract the tens.

TTh	Th	H	T	O
6	7	8	6	5
5	4	8	4	3
			2	2

Step 3: Subtract the hundreds.

TTh	Th	H	T	O
6	7	8	6	5
5	4	8	4	3
		0	2	2

Step 4: Subtract the thousands.

TTh	Th	H	T	O
6	7	8	6	5
5	4	8	4	3
	3	0	2	2

Step 5: Subtract the ten thousands.

TTh	Th	H	T	O
6	7	8	6	5
5	4	8	4	3
1	3	0	2	2

So, 67,865 – 54,843 = 13,022

TRY THIS!

1. 4671 − 350 = ☐
2. 7846 − 6313 = ☐
3. 6781 − 2470 = ☐
4. 45674 − 1273 = ☐
5. 57339 − 6126 = ☐
6. 68795 − 58042 = ☐
7. 2,558 – 1,427 = ☐
8. 87,547 – 74,401 = ☐

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Teaching ideas

1. Write 67,865 – 54,843 on the board.
2. Ask two students to represent each of the numbers with the number discs.
3. Guide them to subtract the ones, follow by the tens, hundreds, thousands, and ten thousands. Ask them for the answer of the subtraction.
4. Guide them to relate this method with the vertical subtraction.
5. Reiterate that the alignment of the numbers based on the place value of each digit is important.
6. Let them to subtract again without using the number discs.
7. Guide the students to refer to **Starting Point** on page 24. Ask them to answer the question. Have a discussion to conclude the lesson.

Activity for Reinforcement

The students need to practice more in order to subtract correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

12,845 - 321 = ☐

43,866 – 1,423 = ☐

65,957 – 23,620 = ☐

88,688 – 36,583 = ☐

Try This!

Get 8 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 20 and 21 in Go Get Maths Workbook P3.

Lesson 5
Subtracting with regrouping

Lesson objectives

By the end of the lesson, the students should be able to:

1. Subtract a number with not more than 4 digits from a 4-digit number with regrouping.
2. Subtract a number with not more than 5 digits from a 5-digit number with regrouping.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

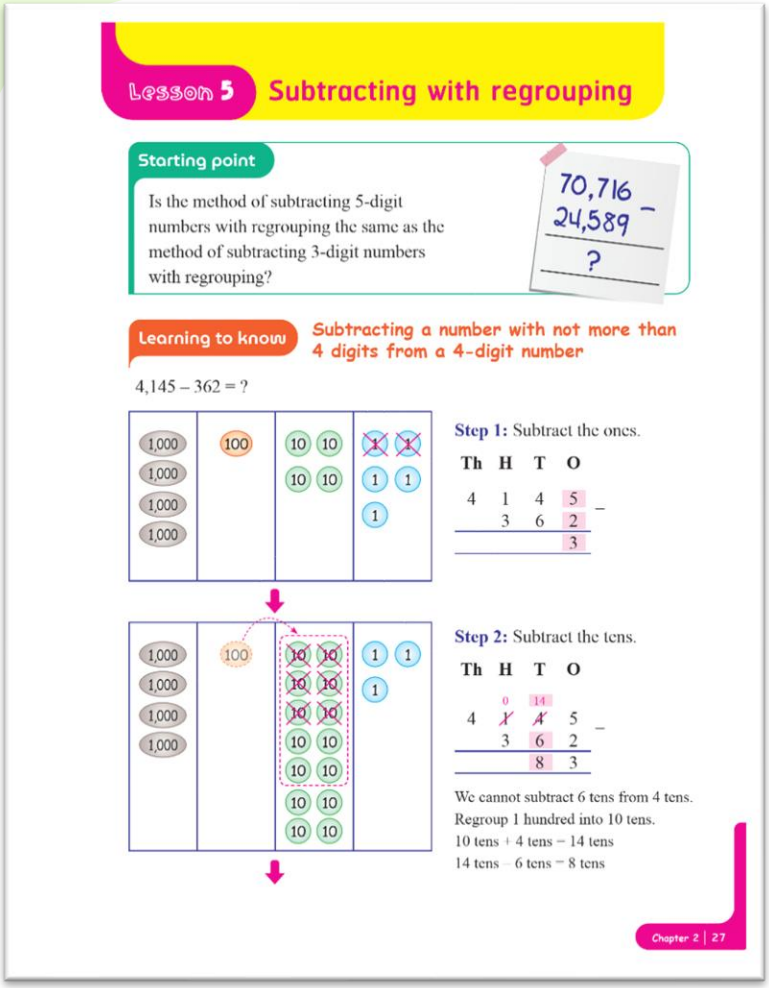
Number discs

Starting point

Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Write 4,145 – 362 on the board.
2. Ask two students to represent each of the numbers with the number discs.
3. Guide them to subtract the ones. Ask them if regrouping is needed here.
4. Then, guide them to subtract the tens. Ask them is regrouping is needed here.



Lesson 5 Subtracting with regrouping

Starting point

Is the method of subtracting 5-digit numbers with regrouping the same as the method of subtracting 3-digit numbers with regrouping?

70,716 − 24,589 = ?

Learning to know: Subtracting a number with not more than 4 digits from a 4-digit number

4,145 – 362 = ?

Step 1: Subtract the ones.

Th	H	T	O
4	1	4	5
	3	6	2
			3

Step 2: Subtract the tens.

Th	H	T	O
	0	14	
4	~~1~~	~~4~~	5
	3	6	2
		8	3

We cannot subtract 6 tens from 4 tens.
Regroup 1 hundred into 10 tens.
10 tens + 4 tens = 14 tens
14 tens − 6 tens = 8 tens

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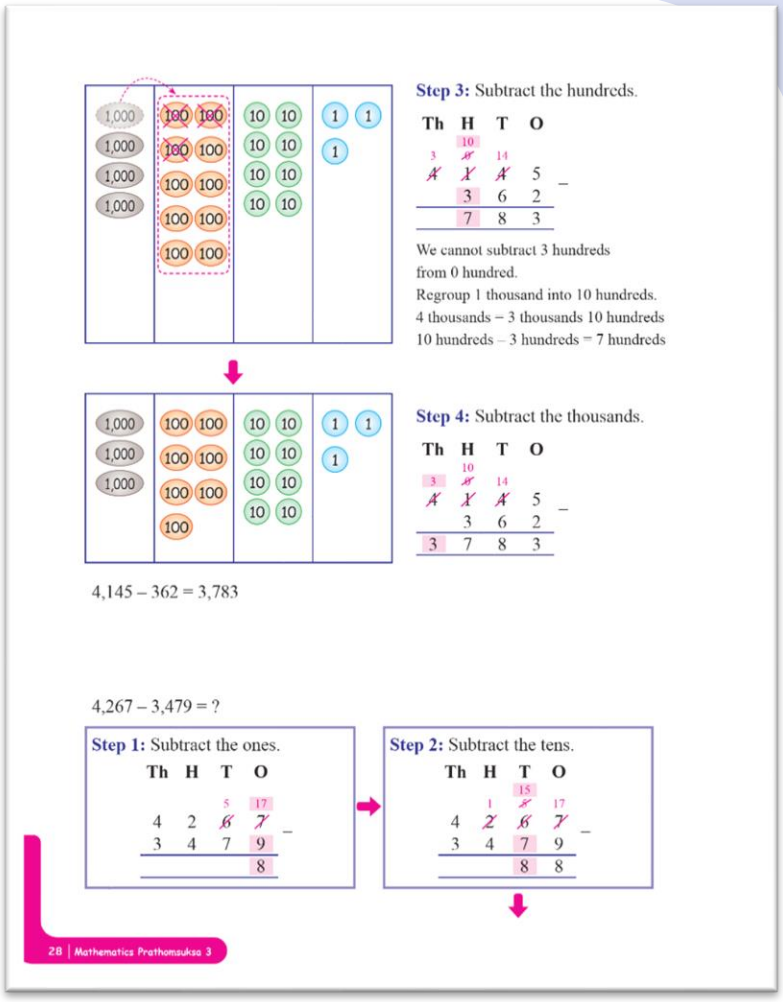


Activity for Reinforcement

The students need to practice more in order to subtract correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

3,763 - 435 = ☐

6,650 – 851 = ☐

8,931 – 2,747 = ☐

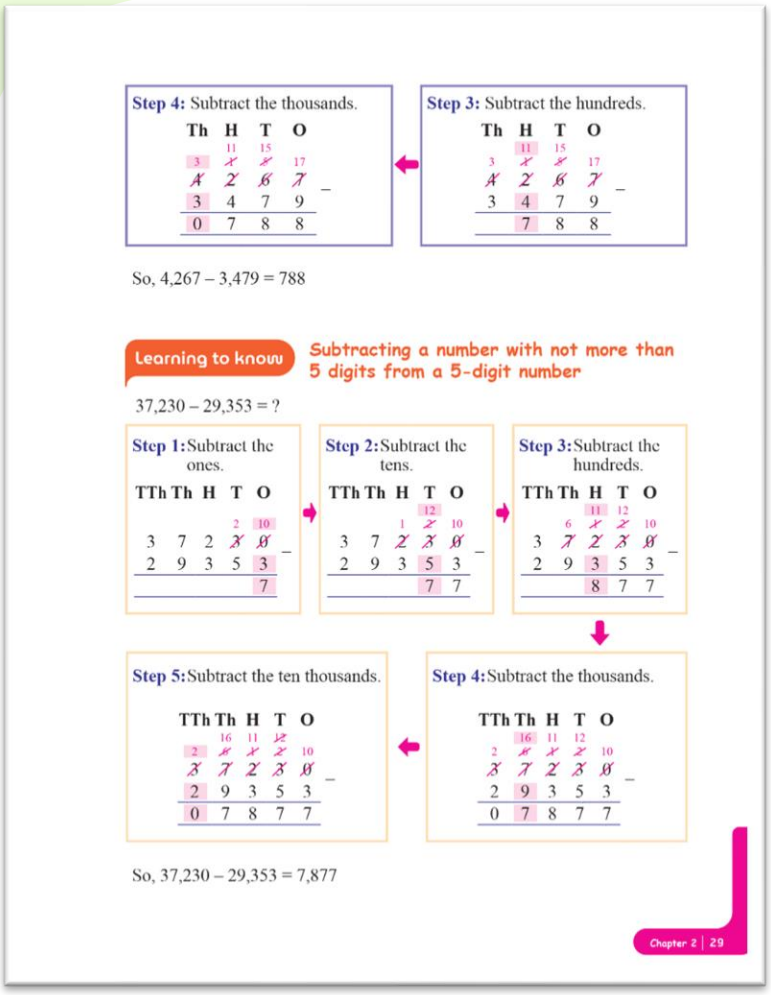
4,040 – 1,784 = ☐

Teaching ideas

5. Ask them to subtract the hundreds. Ask them if regrouping is needed here.
6. Finally, ask them to subtract the thousands.
7. Guide them to write the numbers vertically.
8. Reiterate that the alignment of the numbers based on the place value of each digit is important.
9. Tell them to always subtract the ones first, then follow by the tens, hundreds, and lasty the thousands. Regroup when necessary.
10. Use the example to explain further.
11. Then, let them subtract without using the number discs.

Teaching ideas

1. Write 37,230 – 29,353 on the board.
2. Ask two students to represent each of the numbers with the number discs.
3. Guide them to subtract the ones, follow by the tens, hundreds, thousands, and ten thousands. Ask them for the answer of the subtraction. Ensure they can regroup and know when to regroup.
4. Guide them to relate this method with the vertical subtraction.
5. Reiterate that the alignment of the numbers based on the place value of each digit is important.
6. Let them to subtract again without using the number discs.
7. Guide the students to refer to **Starting Point** on page 27. Ask them to answer the question. Have a discussion to conclude the lesson.



Step 4: Subtract the thousands.

Th	H	T	O
3	11	15	
~~4~~	~~2~~	~~6~~	~~7~~
3	4	7	9
0	7	8	8

Step 3: Subtract the hundreds.

Th	H	T	O
3	11	15	17
~~4~~	~~2~~	~~6~~	~~7~~
3	4	7	9
	7	8	8

So, 4,267 – 3,479 = 788

Learning to know: Subtracting a number with not more than 5 digits from a 5-digit number

37,230 – 29,353 = ?

Step 1: Subtract the ones.

TTh	Th	H	T	O
			2	10
3	7	2	~~3~~	~~0~~
2	9	3	5	3
				7

Step 2: Subtract the tens.

TTh	Th	H	T	O
			12	
3	7	2	~~3~~	~~0~~
2	9	3	5	3
			7	7

Step 3: Subtract the hundreds.

TTh	Th	H	T	O
		11	12	
3	6	~~2~~	~~3~~	~~0~~
2	9	3	5	3
		8	7	7

Step 4: Subtract the thousands.

TTh	Th	H	T	O
	16	11	12	
2	~~6~~	~~2~~	~~3~~	~~0~~
2	9	3	5	3
0	7	8	7	7

Step 5: Subtract the ten thousands.

TTh	Th	H	T	O
~~3~~	16	11	12	
~~2~~	~~6~~	~~2~~	~~3~~	~~0~~
2	9	3	5	3
0	7	8	7	7

So, 37,230 – 29,353 = 7,877

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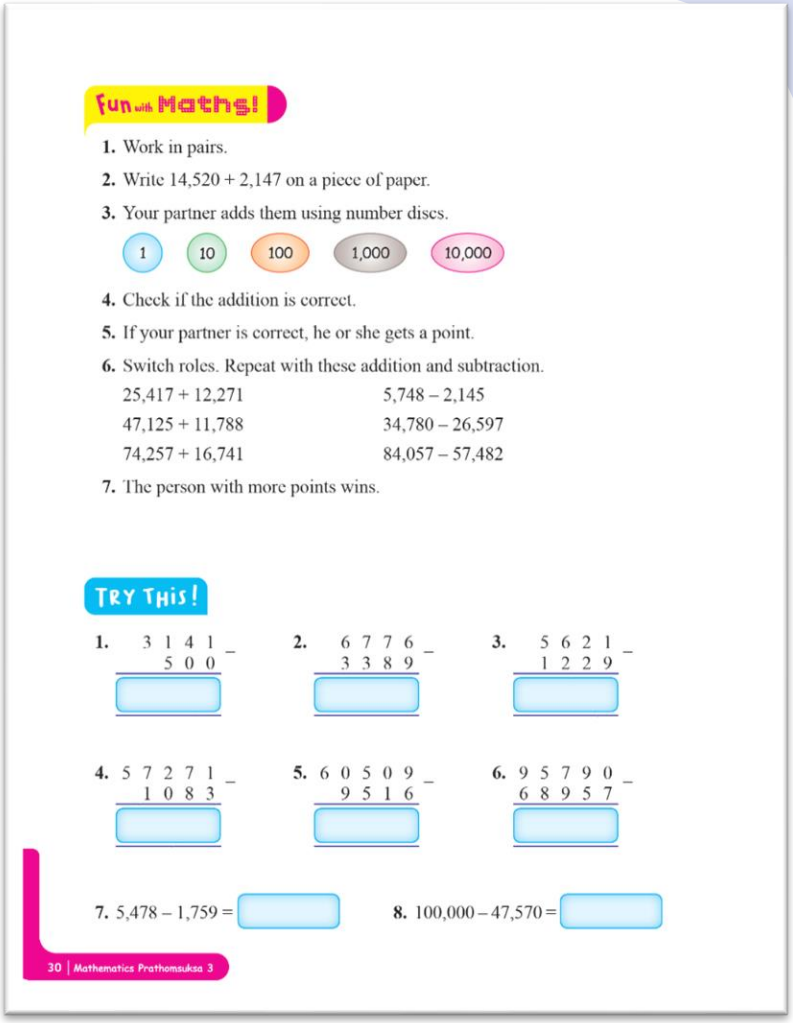

Fun with Maths!

1. Work in pairs.
2. Write 14,520 + 2,147 on a piece of paper.
3. Your partner adds them using number discs.

4. Check if the addition is correct.
5. If your partner is correct, he or she gets a point.
6. Switch roles. Repeat with these addition and subtraction.

25,417 + 12,271	5,748 – 2,145
47,125 + 11,788	34,780 – 26,597
74,257 + 16,741	84,057 – 57,482

7. The person with more points wins.

TRY THIS!

1. 3141 − 500 =
2. 6776 − 3389 =
3. 5621 − 1229 =
4. 57271 − 1083 =
5. 60509 − 9516 =
6. 95790 − 68957 =
7. 5,478 – 1,759 =
8. 100,000 – 47,570 =

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Fun with Maths!

Materials required: Number discs

Objective of the activity: Adding and subtracting with number discs

The students may repeat the addition and subtraction without using the number discs.

Try This!

Get 8 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 22 and 23 in Go Get Maths Workbook P3.

Activity for Reinforcement

The students need to practice more in order to subtract correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

54,562 - 345 = ☐

35,003 – 3,859 = ☐

45,622 – 12,679 = ☐

98,543 – 67,905 = ☐

or visit
http://tiny.cc/zxbquz

Lesson 6
Finding the unknowns in addition and subtraction

Lesson objectives
By the end of the lesson, the students should be able to:
1. Find the unknowns in addition.
2. Find the unknowns in subtraction.

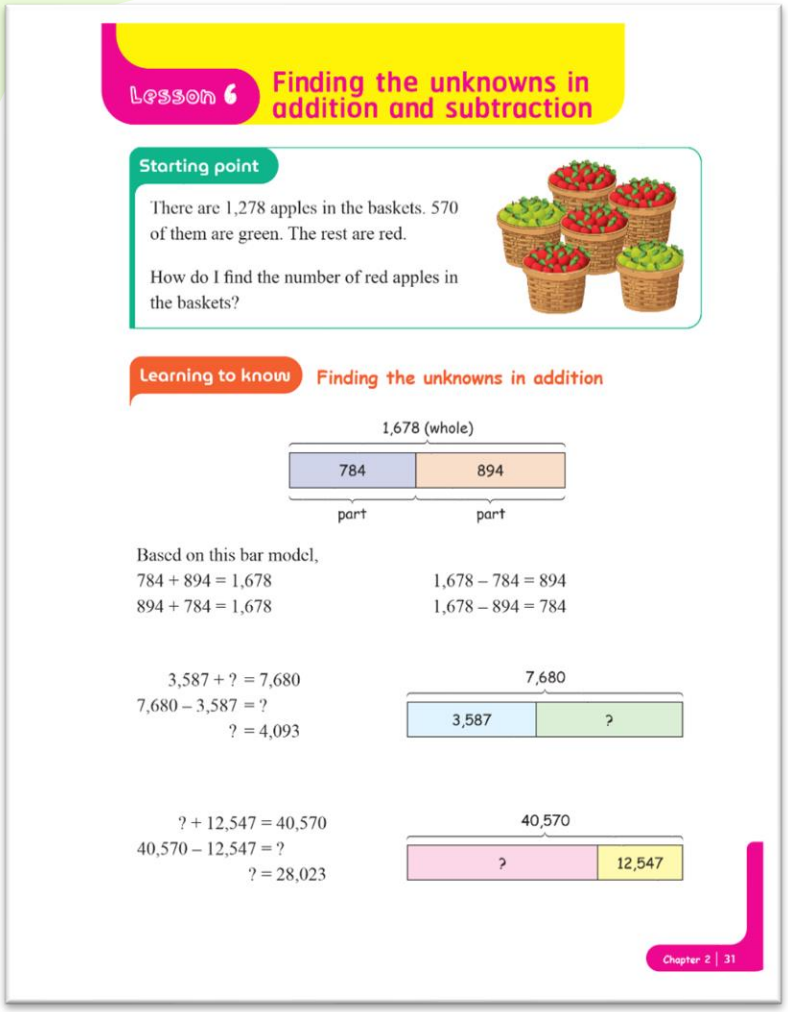
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Help the students to recall the relationships between the numbers in a fact family using the example.
2. Then, draw a bar model and ask some students to list all the addition and subtraction equations based on it.
3. Use the examples to guide the students to find the unknowns in addition.



Lesson 6 Finding the unknowns in addition and subtraction

Starting point

There are 1,278 apples in the baskets. 570 of them are green. The rest are red.

How do I find the number of red apples in the baskets?

Learning to know Finding the unknowns in addition

1,678 (whole)

784 | 894

part part

Based on this bar model,

784 + 894 = 1,678

894 + 784 = 1,678

1,678 – 784 = 894

1,678 – 894 = 784

3,587 + ? = 7,680

7,680 – 3,587 = ?

? = 4,093

7,680

3,587 | ?

? + 12,547 = 40,570

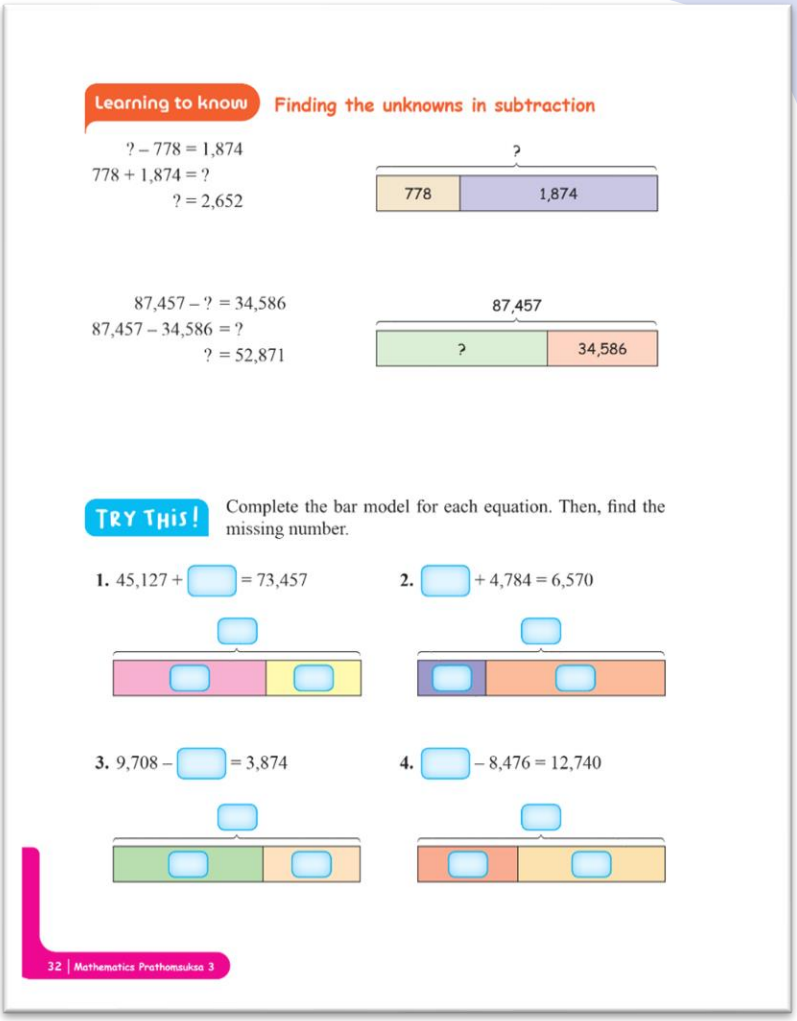
40,570 – 12,547 = ?

? = 28,023

40,570

? | 12,547

Chapter 2 | 31



Learning to know **Finding the unknowns in subtraction**

? – 778 = 1,874
778 + 1,874 = ?
? = 2,652

87,457 – ? = 34,586
87,457 – 34,586 = ?
? = 52,871

TRY THIS! Complete the bar model for each equation. Then, find the missing number.

1. 45,127 + ☐ = 73,457

2. ☐ + 4,784 = 6,570

3. 9,708 – ☐ = 3,874

4. ☐ – 8,476 = 12,740

HOTS QS

or visit
http://tiny.cc/uybquz

Teaching ideas

1. Use the examples to guide the students to find the unknowns in subtraction.
2. Guide the students to refer to **Starting Point** on page 31. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on page 24 in Go Get Maths Workbook P3.

Lesson 7
Word problems

Lesson objectives
By the end of the lesson, the students should be able to:
1. Solve word problems within 100,000.
2. Create word problems.

Suggested teaching time
4 periods (4 x 50 minutes)

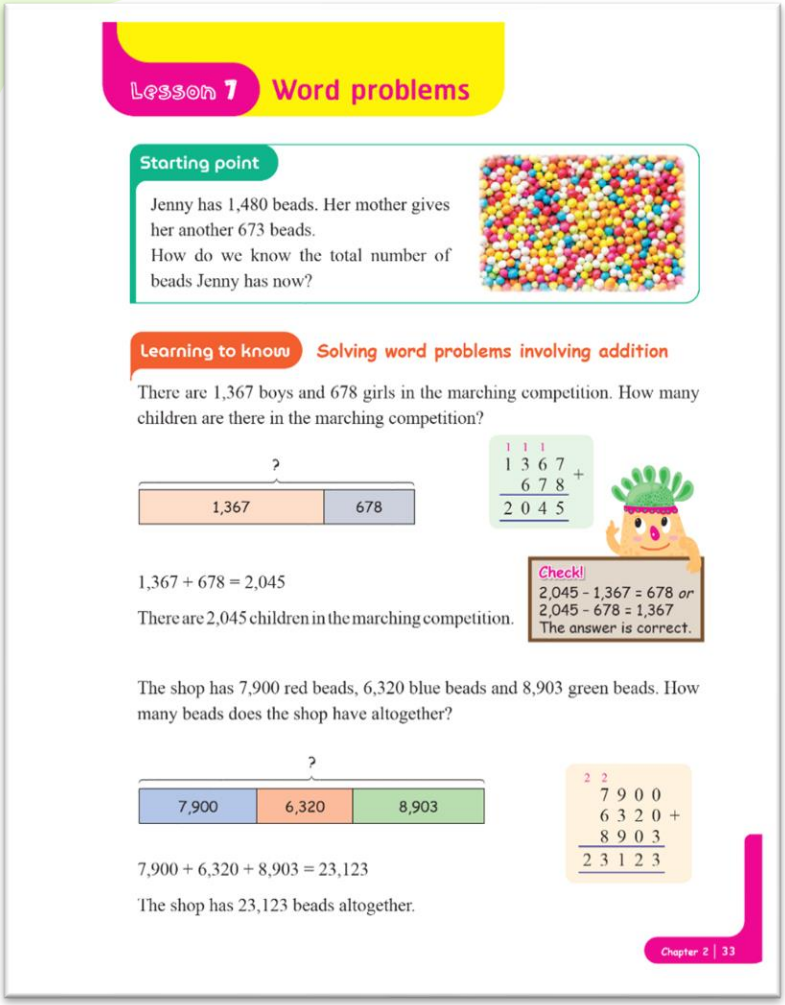
Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Introduce the 3 simple steps to solve a word problem.

   Step 1: Understand the problem
   - Ask the students to read the number story and the question silently. Then, read them together with the students. Explain further the number story and the question if the students do not understand.
   - Ask the students these questions to ensure they understand:
     - What information is given?
     - What do you need to find?
     - Are you comparing the items?



Lesson 7 Word problems

Starting point

Jenny has 1,480 beads. Her mother gives her another 673 beads.
How do we know the total number of beads Jenny has now?

Learning to know Solving word problems involving addition

There are 1,367 boys and 678 girls in the marching competition. How many children are there in the marching competition?

? = 1,367 + 678

1 1 1
1 3 6 7 +
6 7 8
2 0 4 5

1,367 + 678 = 2,045

There are 2,045 children in the marching competition.

Check!
2,045 - 1,367 = 678 or
2,045 - 678 = 1,367
The answer is correct.

The shop has 7,900 red beads, 6,320 blue beads and 8,903 green beads. How many beads does the shop have altogether?

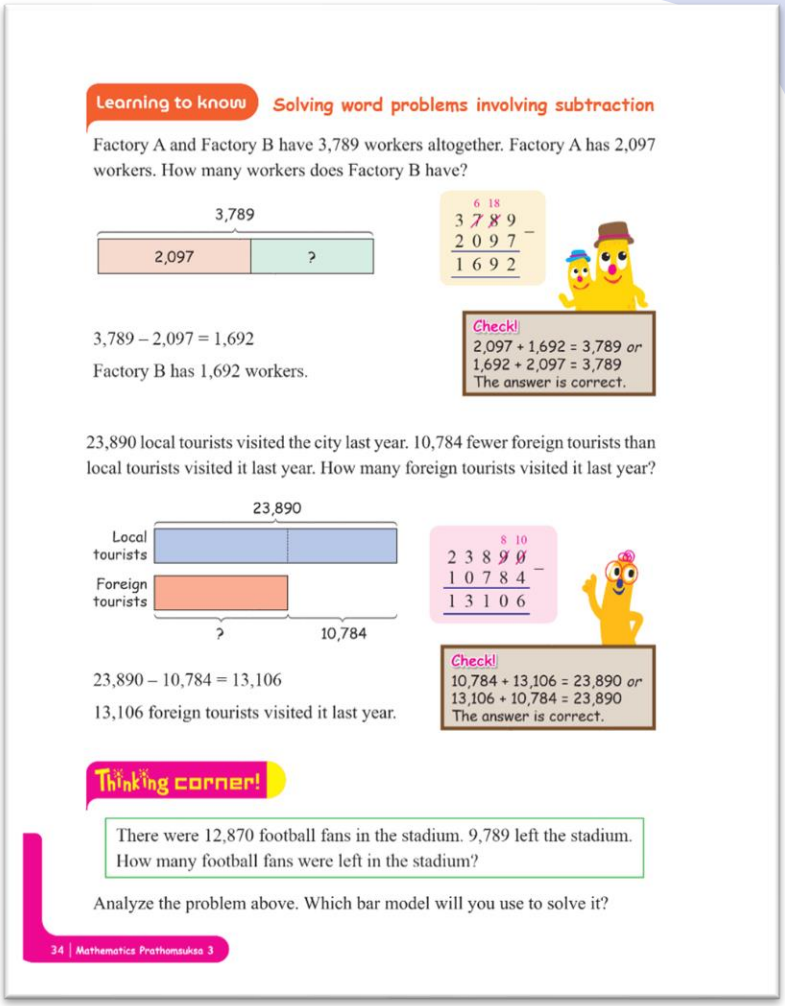
? = 7,900 + 6,320 + 8,903

2 2
7 9 0 0
6 3 2 0 +
8 9 0 3
2 3 1 2 3

7,900 + 6,320 + 8,903 = 23,123

The shop has 23,123 beads altogether.

Chapter 2 | 33



Learning to know **Solving word problems involving subtraction**

Factory A and Factory B have 3,789 workers altogether. Factory A has 2,097 workers. How many workers does Factory B have?

6 18
3 7 8 9
2 0 9 7 −
1 6 9 2

Check!
2,097 + 1,692 = 3,789 *or*
1,692 + 2,097 = 3,789
The answer is correct.

3,789 – 2,097 = 1,692

Factory B has 1,692 workers.

23,890 local tourists visited the city last year. 10,784 fewer foreign tourists than local tourists visited it last year. How many foreign tourists visited it last year?

8 10
2 3 8 9 0
1 0 7 8 4 −
1 3 1 0 6

Check!
10,784 + 13,106 = 23,890 *or*
13,106 + 10,784 = 23,890
The answer is correct.

23,890 – 10,784 = 13,106

13,106 foreign tourists visited it last year.

Thinking corner!

There were 12,870 football fans in the stadium. 9,789 left the stadium. How many football fans were left in the stadium?

Analyze the problem above. Which bar model will you use to solve it?

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Teaching ideas

Step 2: Plan and execute

- Ask the students to draw the suitable bar model (part-whole bar model or comparison bar model) including the knowns and unknowns.
- Ask them to find the keyword in the problem that indicates the operation whether to add or to subtract.
- Analyze the bar model drawn.
- Then, write the number equation and solve it.

Step 3: Check the answer

- Always ask the students to check their answer. They need to check if the answer makes sense and is reasonable.

2. Work with them the 3 steps in solving the word problems.

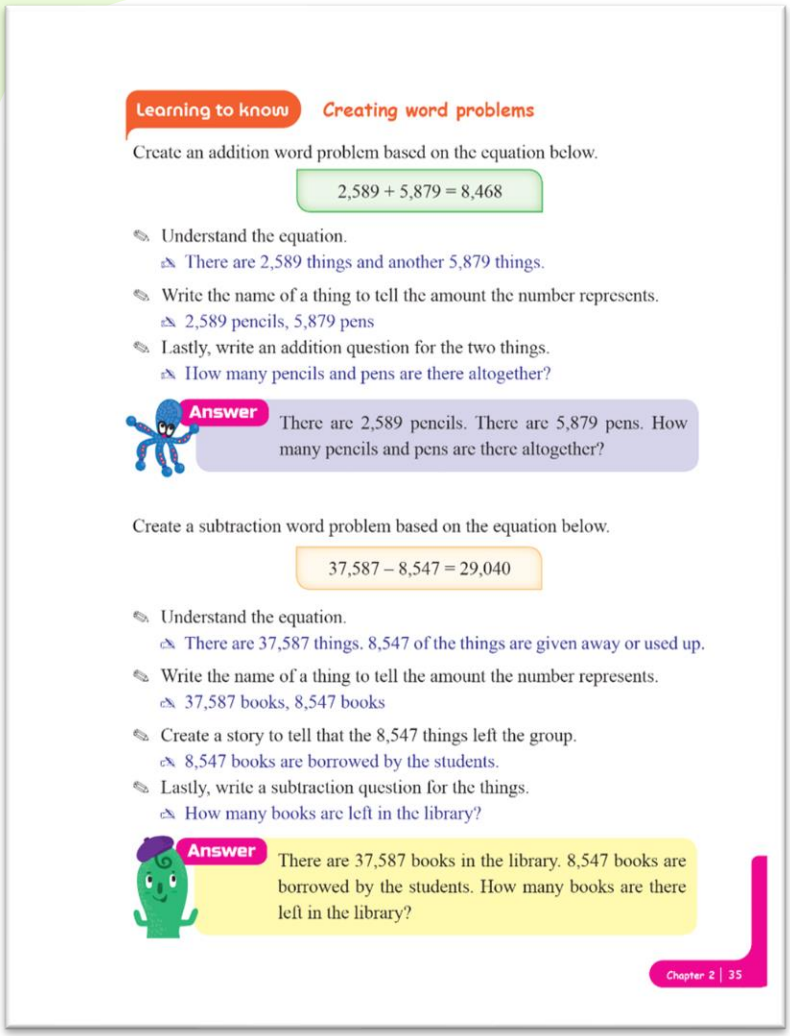
Thinking Corner!

Ask the students these questions to start the discussion:

a. Is this a comparison question?
b. If yes, what are compared?

Teaching ideas

1. Write 2,589 + 5,879 = 8,468 on the board.
2. Guide them to create a word problem based on the equation. Use the example to explain further.
3. Invite some students to create other word problems based on the same equation.
4. Repeat the same for the subtraction equation.
5. Guide the students to refer to **Starting Point** on page 33. Ask them to answer the question. Have a discussion to conclude the lesson.



Learning to know **Creating word problems**

Create an addition word problem based on the equation below.

2,589 + 5,879 = 8,468

- Understand the equation.
  - There are 2,589 things and another 5,879 things.
- Write the name of a thing to tell the amount the number represents.
  - 2,589 pencils, 5,879 pens
- Lastly, write an addition question for the two things.
  - How many pencils and pens are there altogether?

Answer There are 2,589 pencils. There are 5,879 pens. How many pencils and pens are there altogether?

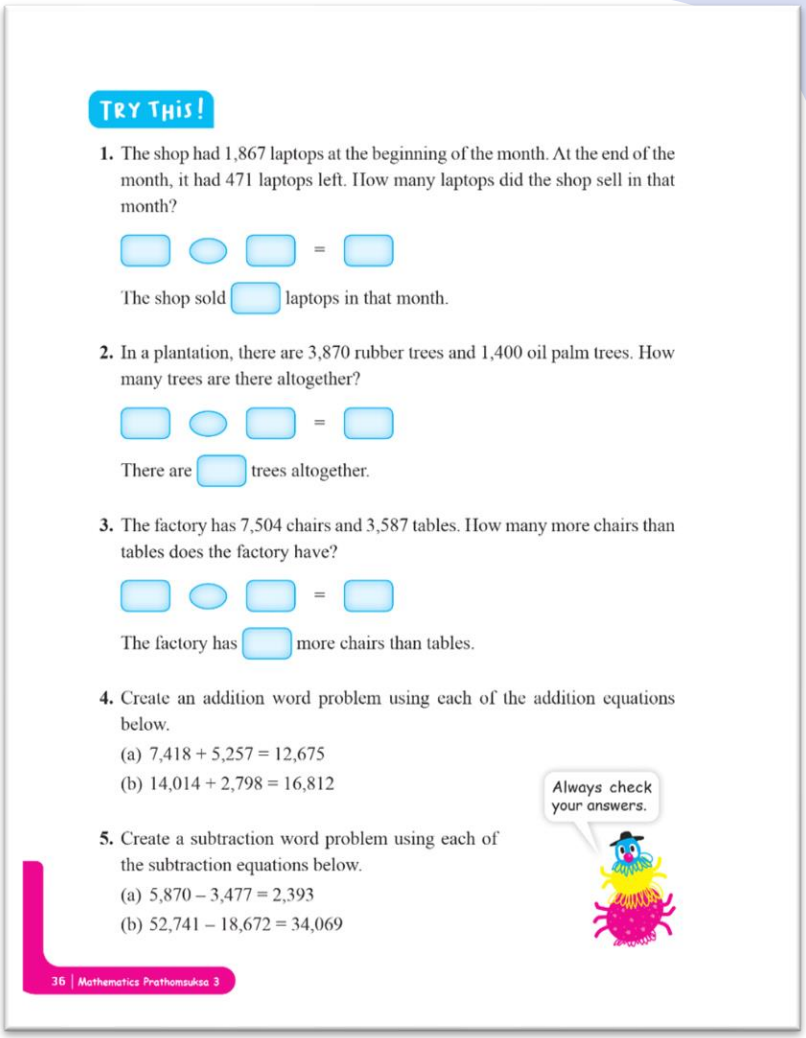
Create a subtraction word problem based on the equation below.

37,587 – 8,547 = 29,040

- Understand the equation.
  - There are 37,587 things. 8,547 of the things are given away or used up.
- Write the name of a thing to tell the amount the number represents.
  - 37,587 books, 8,547 books
- Create a story to tell that the 8,547 things left the group.
  - 8,547 books are borrowed by the students.
- Lastly, write a subtraction question for the things.
  - How many books are left in the library?

Answer There are 37,587 books in the library. 8,547 books are borrowed by the students. How many books are there left in the library?

Chapter 2 | 35



TRY THIS!

1. The shop had 1,867 laptops at the beginning of the month. At the end of the month, it had 471 laptops left. How many laptops did the shop sell in that month?

□ ○ □ = □

The shop sold □ laptops in that month.

2. In a plantation, there are 3,870 rubber trees and 1,400 oil palm trees. How many trees are there altogether?

□ ○ □ = □

There are □ trees altogether.

3. The factory has 7,504 chairs and 3,587 tables. How many more chairs than tables does the factory have?

□ ○ □ = □

The factory has □ more chairs than tables.

4. Create an addition word problem using each of the addition equations below.

(a) 7,418 + 5,257 = 12,675

(b) 14,014 + 2,798 = 16,812

5. Create a subtraction word problem using each of the subtraction equations below.

(a) 5,870 – 3,477 = 2,393

(b) 52,741 – 18,672 = 34,069

Try This!

Get 7 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 25 to 29 in Go Get Maths Workbook P3.

Chapter 3
Multiplication

The big idea

Ask the students to look at the picture and read the speech bubble carefully. Ask them these questions to start a discussion:

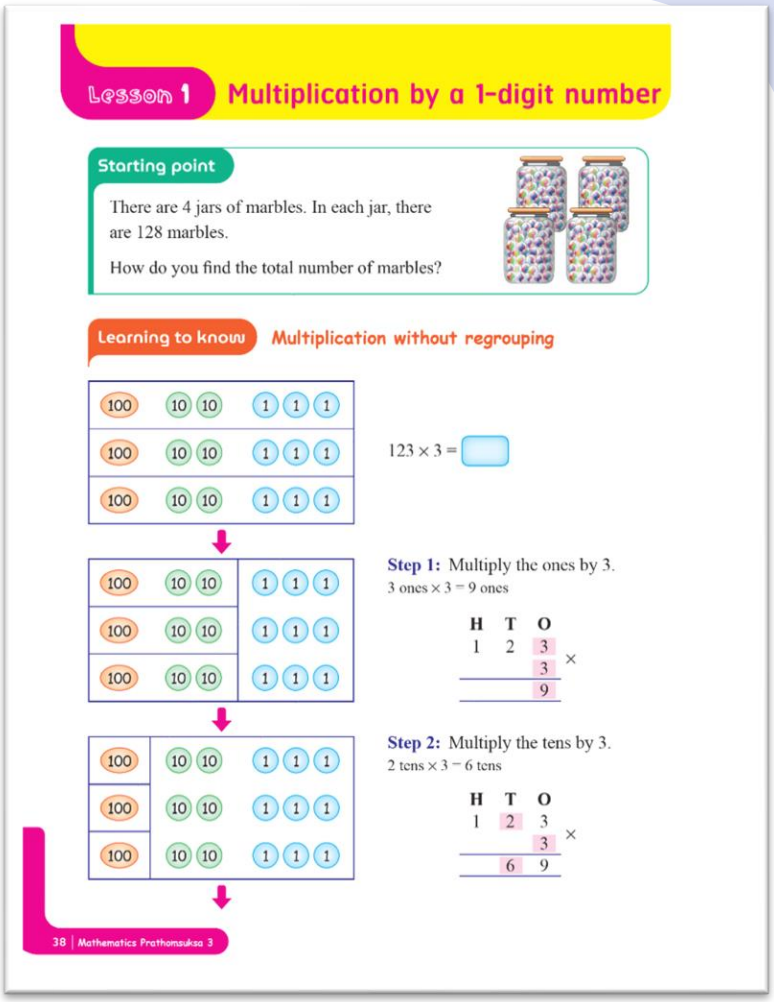
- How many mobile phones are there in each box?
- How many mobile phones are there in 2 boxes?
- How many mobile phones are there in 3 boxes?
- How many mobile phones are there in 5 boxes?
- How many mobile phones are there in 10 boxes?
- How many mobile phones are there in 80 boxes?
- How did you find the answers? Did you add them up?

Strand 1: Numbers and Algebra

Standard M.1.1 Numbers

Indicators:

M 1.1 Gr3/6 Find the unknown numbers in multiplication equations of not more than 4-digit numbers by one digit number and 2-digit by 2-digit numbers.



Lesson 1 Multiplication by a 1-digit number

Lesson objectives

By the end of the lesson, the students should be able to:

1. Multiply a number with not more than 4 digits by a 1-digit number without regrouping.
2. Multiply a number with not more than 4 digits by a 1-digit number with regrouping.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

Number discs

Starting point

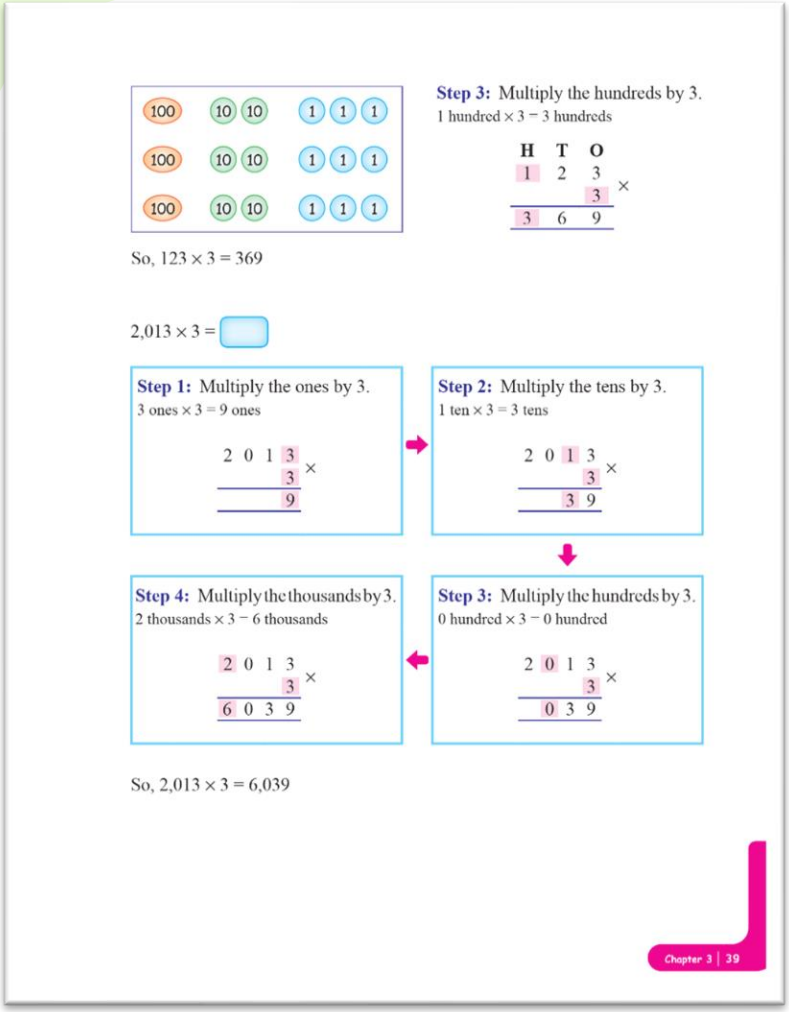
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Help the students to recall the multiplication tables by asking them to recite the tables.
2. Write 13 x 2 on the board and ask a volunteer to multiply. Ask him or her how he or she got the answer. Get another to verify the answer. Repeat a few times to help them recall the way to multiply a 2-digit number by a 1-digit number.

Teaching ideas

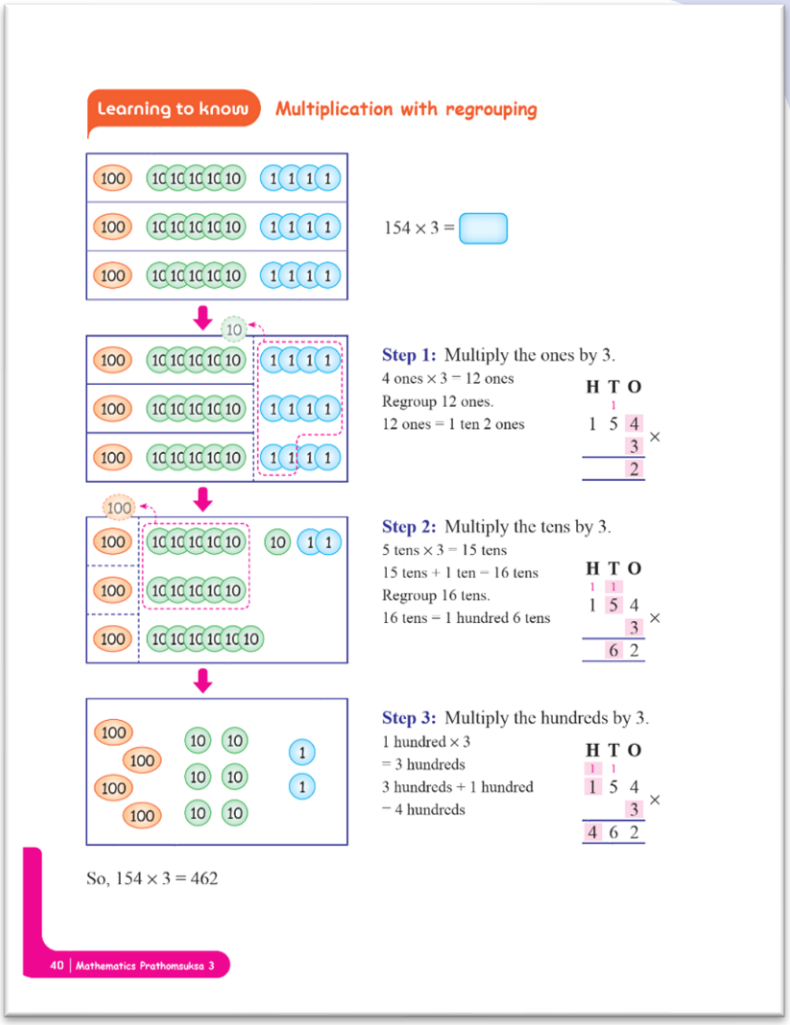
3. Write 123 x 3 on the board.
4. Give some number discs to 3 students and ask them to use the discs to represent 123.
5. Then, guide them to multiply 123 by 3 by multiplying the ones, then follow by the tens and lastly the hundreds.
6. Guide them to relate this method with the vertical multiplication.
7. Use the next example to reinforce the understanding of the students using the number discs.
8. Guide them to write the numbers vertically.
9. Reiterate that the alignment of the numbers based on the place value of each digit is important.
10. Tell them to always multiply the ones first before multiplying the tens, hundreds and thousands.
11. Ask them to multiply without using the number discs.
12. Use the example to explain further.



Activity for Reinforcement

The students need to practice more in order to multiply correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

131 x 3 = ☐
210 x 4 = ☐
413 x 2 = ☐
1,231 x 3 = ☐

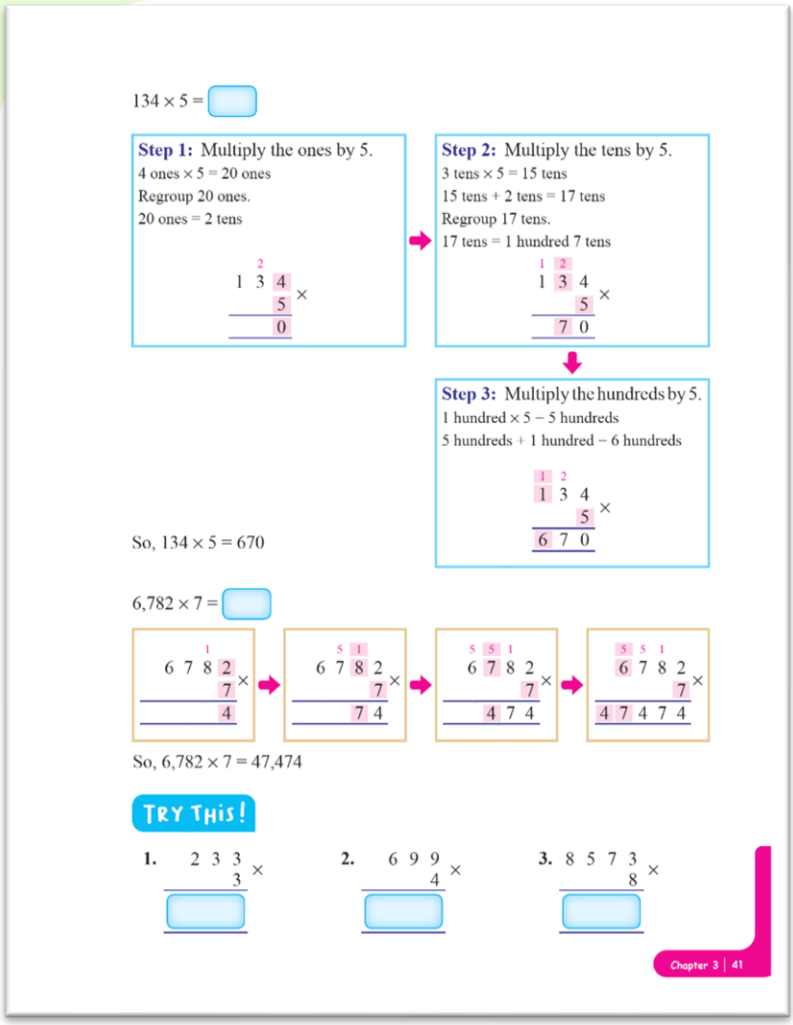


Teaching ideas

1. Write 154 x 3 on the board.
2. Give some number discs to 3 students and ask them to use the discs to represent 154.
3. Then, guide them to multiply 154 by 3 by multiply the ones first. Ask them if regrouping is needed here.
4. Then, ask them to multiply the tens. Ask them if regrouping is needed here.
5. Lastly, ask them to multiply the hundreds. Ask them if regrouping is needed here.
6. Guide them to relate this method with the vertical multiplication.

Teaching ideas

7. Use the examples to reinforce the understanding of the students without using the number discs.
8. Guide them to write the numbers vertically.
9. Reiterate that the alignment of the numbers based on the place value of each digit is important.
10. Tell them to always multiply the ones first before multiplying the tens, hundreds and thousands.
11. Guide the students to refer to **Starting Point** on page 38. Ask them to answer the question. Have a discussion to conclude the lesson.



Try This!

Get 3 students to answer it. Ask the rest to verify the answers.

Further practices

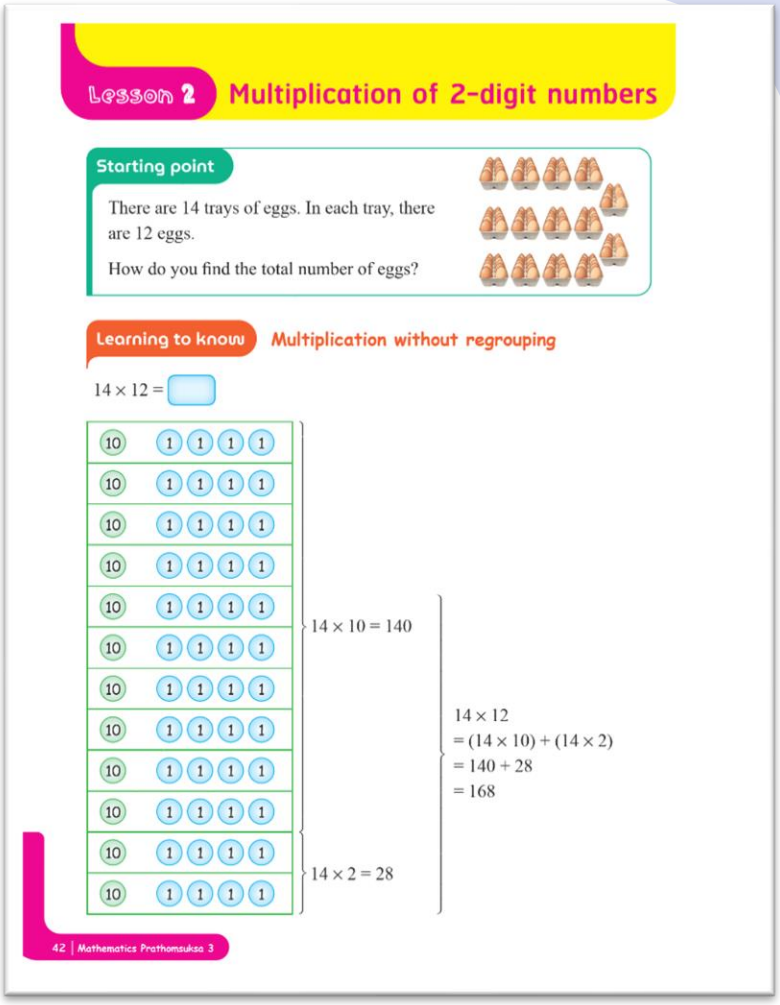
Get the students to complete the practices on pages 30 to 33 in Go Get Maths Workbook P3.

or visit
http://tiny.cc/a1cquz

Activity for Reinforcement

The students need to practice more in order to multiply correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

345 x 3 = ☐
323 x 5 = ☐
5,678 x 6 = ☐
7,894 x 8 = ☐



Lesson 2 Multiplication of 2-digit numbers

Starting point

There are 14 trays of eggs. In each tray, there are 12 eggs.

How do you find the total number of eggs?

Learning to know Multiplication without regrouping

$14 \times 12 =$ ☐

10 1 1 1 1

$14 \times 10 = 140$

$14 \times 2 = 28$

14×12
$= (14 \times 10) + (14 \times 2)$
$= 140 + 28$
$= 168$

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Lesson 2
Multiplication of 2-digit numbers

Lesson objectives

By the end of the lesson, the students should be able to:

1. Multiply 2-digit numbers without regrouping.
2. Multiply 2-digit numbers with regrouping.

Suggested teaching time

4 periods (4 x 50 minutes)

Vocabulary

-

Materials needed

Number discs

Starting point

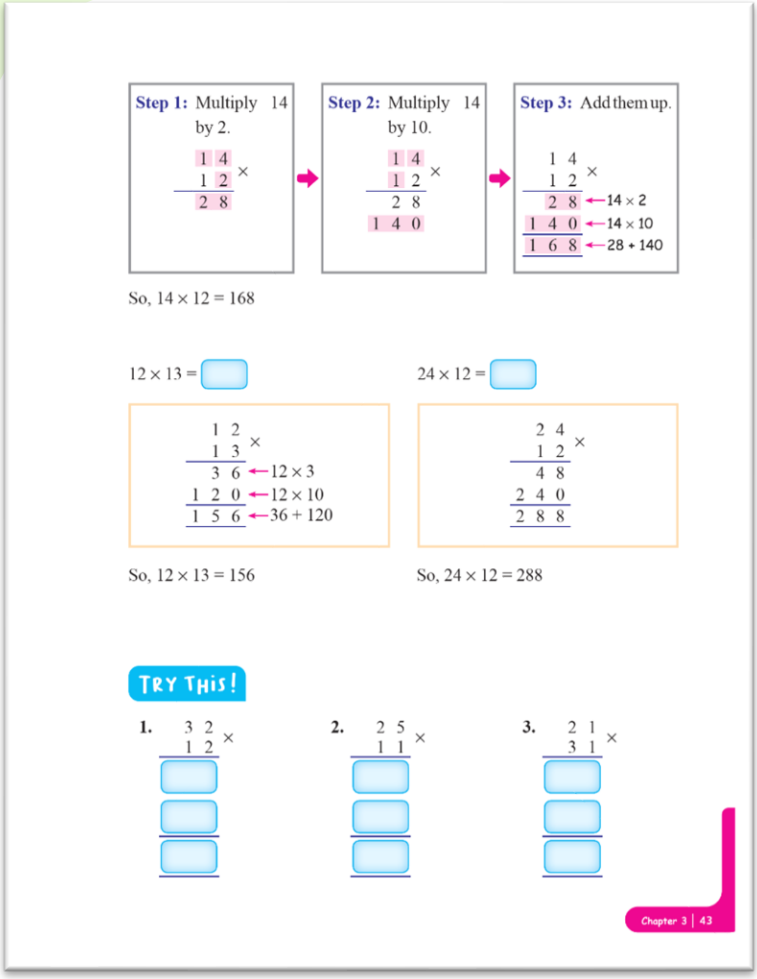
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Write 14 x 12 on the board.
2. Give some number discs to 12 students and ask each of them to use the discs to represent 14.
3. Divide the 12 students into a group of 10 and a group of 2.
4. Ask each group to find the number represented by all their number discs.
5. Then ask them to find the sum of their numbers.

Teaching ideas

6. Guide them to realize that when multiplying a number by a 2-digit number, they are actually finding the sum of the product of the number by the ones of the 2-digit, and the product of the number by the tens of the 2-digit number.
7. Guide them to relate this method with the vertical multiplication.
8. Reiterate that need to add the product of the number by the ones of the 2-digit, and the product of the number by the tens of the 2-digit number.
9. Use the next example to reinforce the understanding of the students without using the number discs.
10. Guide them to write the numbers vertically.
11. Reiterate that the alignment of the numbers based on the place value of each digit is important.



Try This!

Get 3 students to answer it. Ask the rest to verify the answers.

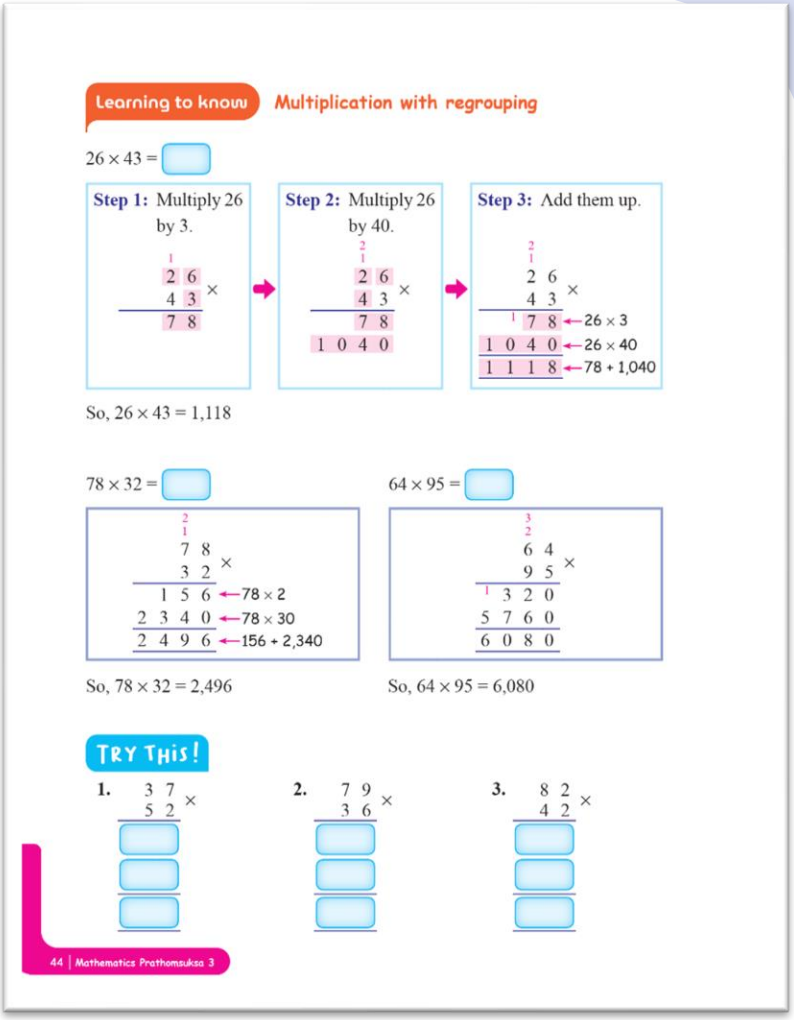
Activity for Reinforcement

The students need to practice more in order to multiply correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

21 x 13 = ☐
33 x 12 = ☐
13 x 21 = ☐
12 x 14 = ☐

Further practices

Get the students to complete the practices on pages 34 and 35 in Go Get Maths Workbook P3.



Learning to know Multiplication with regrouping

$26 \times 43 =$ ☐

Step 1: Multiply 26 by 3.

$$\begin{array}{r} {\scriptstyle 1\ \ } \\ 26 \\ \times\ 43 \\ \hline 78 \end{array}$$

Step 2: Multiply 26 by 40.

$$\begin{array}{r} {\scriptstyle 2\ 1} \\ 26 \\ \times\ 43 \\ \hline 78 \\ 1040 \end{array}$$

Step 3: Add them up.

$$\begin{array}{r} {\scriptstyle 2\ 1} \\ 26 \\ \times\ 43 \\ \hline {\scriptstyle 1}78 \leftarrow 26 \times 3 \\ 1040 \leftarrow 26 \times 40 \\ \hline 1118 \leftarrow 78 + 1{,}040 \end{array}$$

So, $26 \times 43 = 1{,}118$

$78 \times 32 =$ ☐

$$\begin{array}{r} {\scriptstyle 2\ 1} \\ 78 \\ \times\ 32 \\ \hline 156 \leftarrow 78 \times 2 \\ 2340 \leftarrow 78 \times 30 \\ \hline 2496 \leftarrow 156 + 2{,}340 \end{array}$$

So, $78 \times 32 = 2{,}496$

$64 \times 95 =$ ☐

$$\begin{array}{r} {\scriptstyle 3\ 2} \\ 64 \\ \times\ 95 \\ \hline {\scriptstyle 1}320 \\ 5760 \\ \hline 6080 \end{array}$$

So, $64 \times 95 = 6{,}080$

TRY THIS!

1. $\begin{array}{r} 37 \\ \times\ 52 \\ \hline \square \\ \square \\ \square \end{array}$

2. $\begin{array}{r} 79 \\ \times\ 36 \\ \hline \square \\ \square \\ \square \end{array}$

3. $\begin{array}{r} 82 \\ \times\ 42 \\ \hline \square \\ \square \\ \square \end{array}$

Activity for Reinforcement

The students need to practice more in order to multiply correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

15 x 17 = ☐
34 x 23 = ☐
56 x 68 = ☐
79 x 88 = ☐

Teaching ideas

1. Inform the students that we use the same method for multiplication with regrouping.
2. Guide them multiply without the number discs.
3. Reiterate that need to add the product of the number by the ones of the 2-digit, and the product of the number by the tens of the 2-digit number.
4. Use the next examples to reinforce the understanding of the students.
5. Reiterate that the alignment of the numbers based on the place value of each digit is important.
6. Guide the students to refer to **Starting Point** on page 42. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 3 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 35 and 36 in Go Get Maths Workbook P3.

More Tasks

or visit
http://tiny.cc/02cquz

Lesson 3
Word problems

Lesson objectives

By the end of the lesson, the students should be able to:

1. Solve word problems involving multiplication.

Suggested teaching time

4 periods (4 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

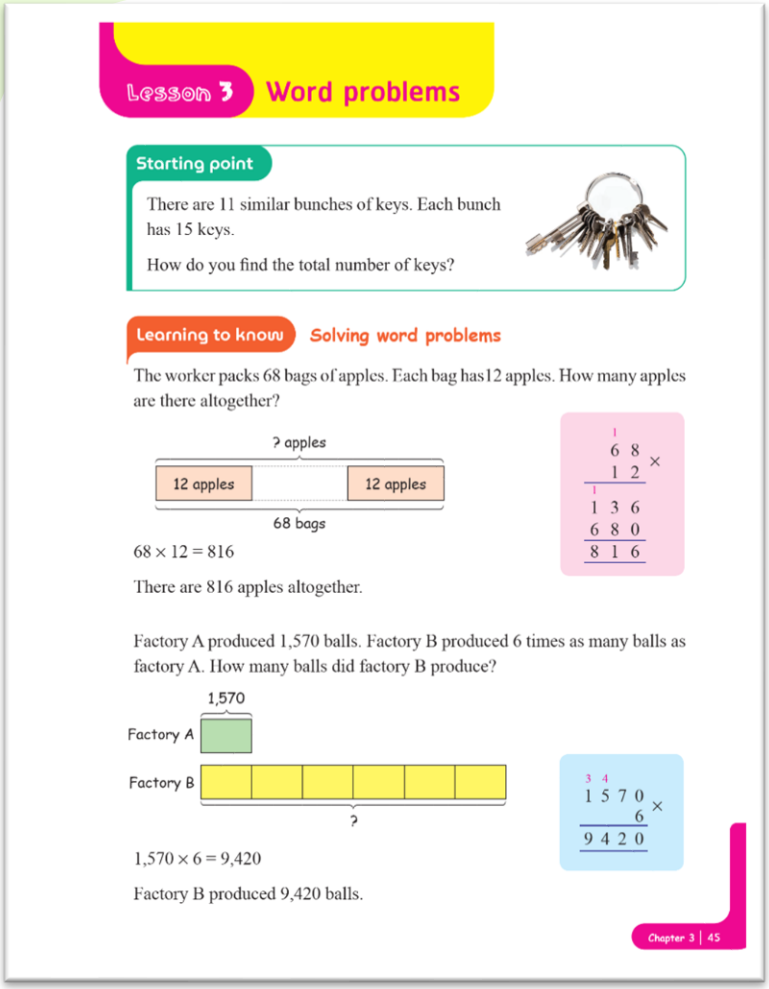
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Introduce the 3 simple steps to solve a word problem.

   Step 1: Understand the problem

   - Ask the students to read the number story and the question silently. Then, read them together with the students. Explain further the number story and the question if the students do not understand.
   - Ask the students these questions to ensure they understand:
     - What information is given?
     - What do you need to find?
     - Are you comparing the items?



Lesson 3 Word problems

Starting point

There are 11 similar bunches of keys. Each bunch has 15 keys.

How do you find the total number of keys?

Learning to know Solving word problems

The worker packs 68 bags of apples. Each bag has12 apples. How many apples are there altogether?

? apples

12 apples | 12 apples

68 bags

$68 \times 12 = 816$

There are 816 apples altogether.

Factory A produced 1,570 balls. Factory B produced 6 times as many balls as factory A. How many balls did factory B produce?

1,570

Factory A

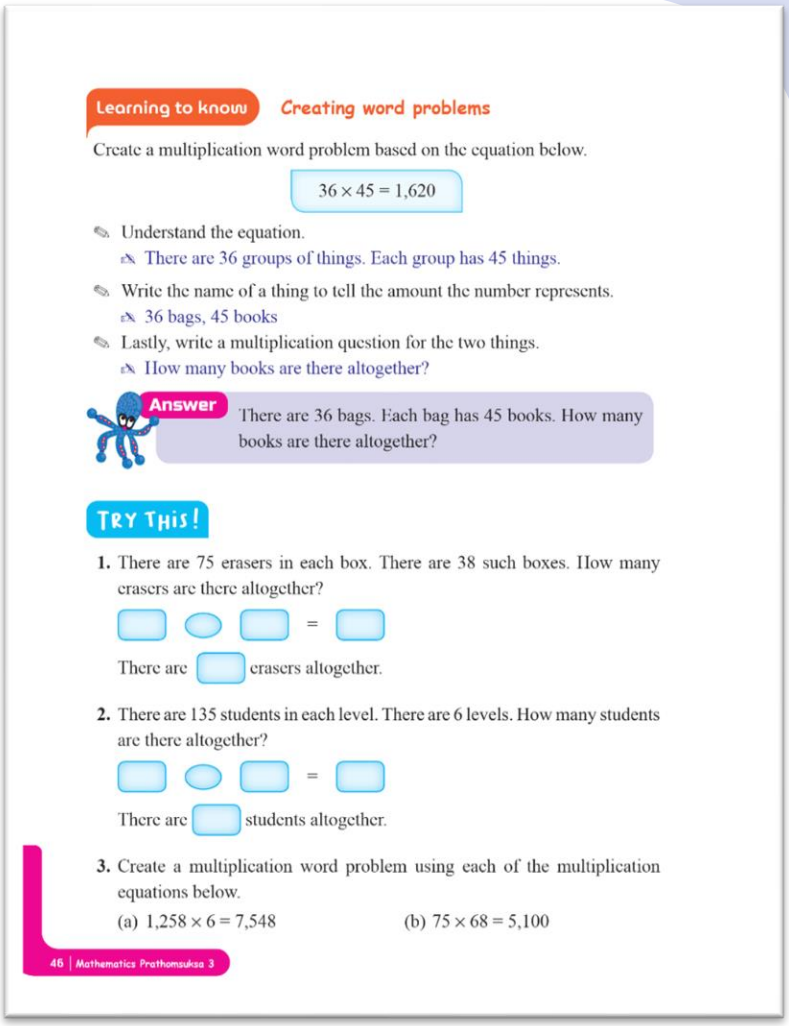
Factory B

?

$1,570 \times 6 = 9,420$

Factory B produced 9,420 balls.

Chapter 3 | 45



Learning to know **Creating word problems**

Create a multiplication word problem based on the equation below.

$36 \times 45 = 1{,}620$

- Understand the equation.
  - There are 36 groups of things. Each group has 45 things.
- Write the name of a thing to tell the amount the number represents.
  - 36 bags, 45 books
- Lastly, write a multiplication question for the two things.
  - How many books are there altogether?

Answer There are 36 bags. Each bag has 45 books. How many books are there altogether?

TRY THIS!

1. There are 75 erasers in each box. There are 38 such boxes. How many erasers are there altogether?

   ▭ ⬭ ▭ = ▭

   There are ▭ erasers altogether.

2. There are 135 students in each level. There are 6 levels. How many students are there altogether?

   ▭ ⬭ ▭ = ▭

   There are ▭ students altogether.

3. Create a multiplication word problem using each of the multiplication equations below.

   (a) $1{,}258 \times 6 = 7{,}548$ (b) $75 \times 68 = 5{,}100$

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Teaching ideas

Step 2: Plan and execute

- Ask the students to draw the suitable bar model including the knowns and unknowns.
- Ask them to find the keyword in the problem that indicates the operation whether to add, subtract, multiply or divide.
- Analyze the bar model drawn.
- Then, write the number equation and solve it.

Step 3: Check the answer

- Always ask the students to check their answer. They need to check if the answer makes sense and is reasonable.

2. Work with them the 3 steps in solving the word problems.

Teaching ideas

1. Write 36 x 45 = 1,620 on the board.
2. Guide them to create a word problem based on the equation. Use the example to explain further.
3. Invite some students to create other word problems based on the same equation.
4. Guide the students to refer to **Starting Point** on page 45. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 37 to 41 in Go Get Maths Workbook P3.

Chapter 4
Division

The big idea

1. Help the students to recall how to divide. Here is an example:
   a. Ask a student to explain how multiplication and division are related.
   b. Write '16 ÷ 2 = ' on the board.
   c. Invite a volunteer to give the answer and explain how he gets the answer.
   d. Get another student to verify.

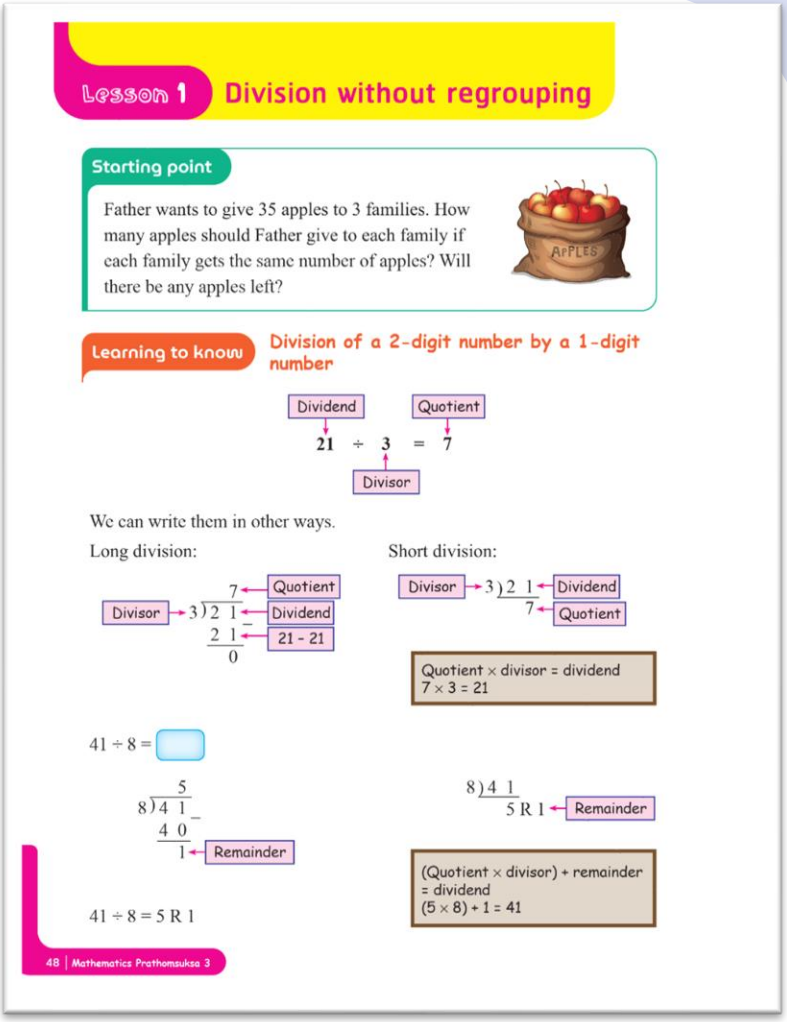
   Repeat with other division questions.
2. Ask the students to look at the picture carefully. Ask them these questions to start a discussion:
   a. What number sentence can you make from the picture?
   b. Do you know how to divide 100 by 6?
   c. If no, is there any other method to find the answer?

Strand 1: Numbers and Algebra

Standard M.1.1 Numbers

Indicators:

M 1.1 Gr3/7 Find the unknown numbers in division equations that dividend is not more than 4 digits and divisor is 1 digit.



Lesson 1 Division without regrouping

Starting point

Father wants to give 35 apples to 3 families. How many apples should Father give to each family if each family gets the same number of apples? Will there be any apples left?

Learning to know: Division of a 2-digit number by a 1-digit number

Dividend 21 ÷ 3 = 7 Quotient

Divisor

We can write them in other ways.

Long division:

7 ← Quotient
Divisor → 3) 2 1 ← Dividend
2 1 ← 21 - 21
0

Short division:

Divisor → 3) 2 1 ← Dividend
7 ← Quotient

Quotient × divisor = dividend
7 × 3 = 21

41 ÷ 8 = ☐

5
8) 4 1
4 0
1 ← Remainder

8) 4 1
5 R 1 ← Remainder

(Quotient × divisor) + remainder = dividend
(5 × 8) + 1 = 41

41 ÷ 8 = 5 R 1

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Extra notes

The short division method is often used when the divisor has 1 digit only. The steps are performed mentally and are not written down.

The long division method is often used when the divisor has 2 or more digits. Each step of the solution is written down.

Lesson 1
Division without regrouping

Lesson objectives

By the end of the lesson, the students should be able to:

1. Divide a dividend that is not more than 4 digits by a 1-digit divisor without regrouping.

Suggested teaching time

3 periods (3 x 50 minutes)

Vocabulary

-

Materials needed

Number discs

Starting point

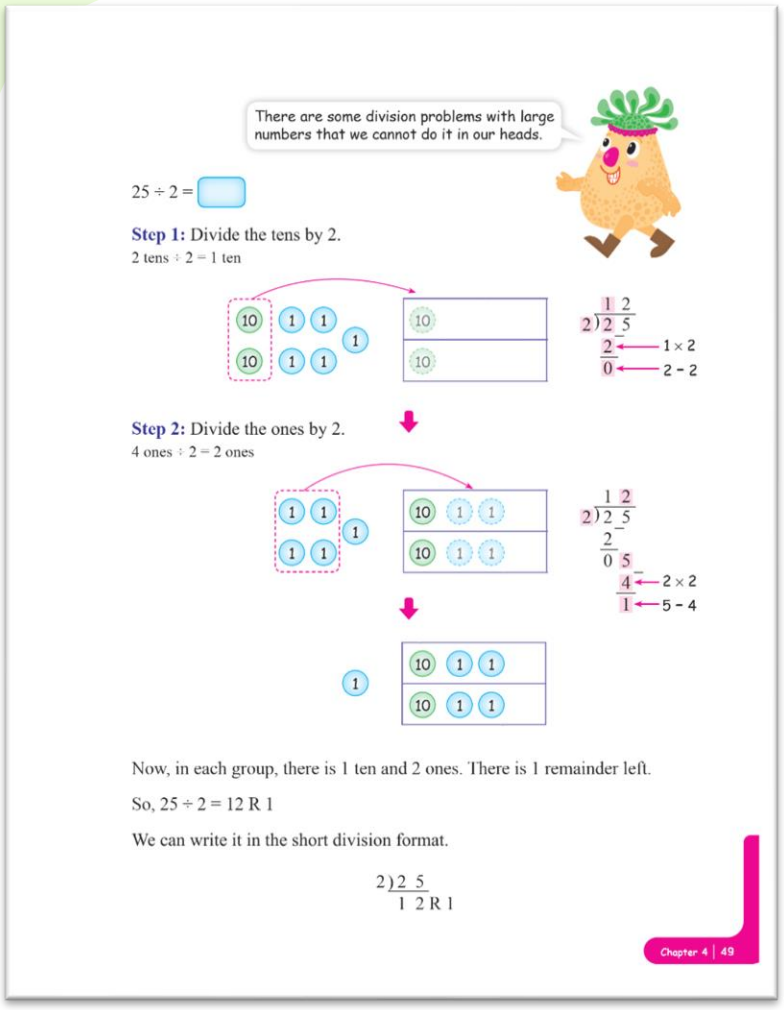
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

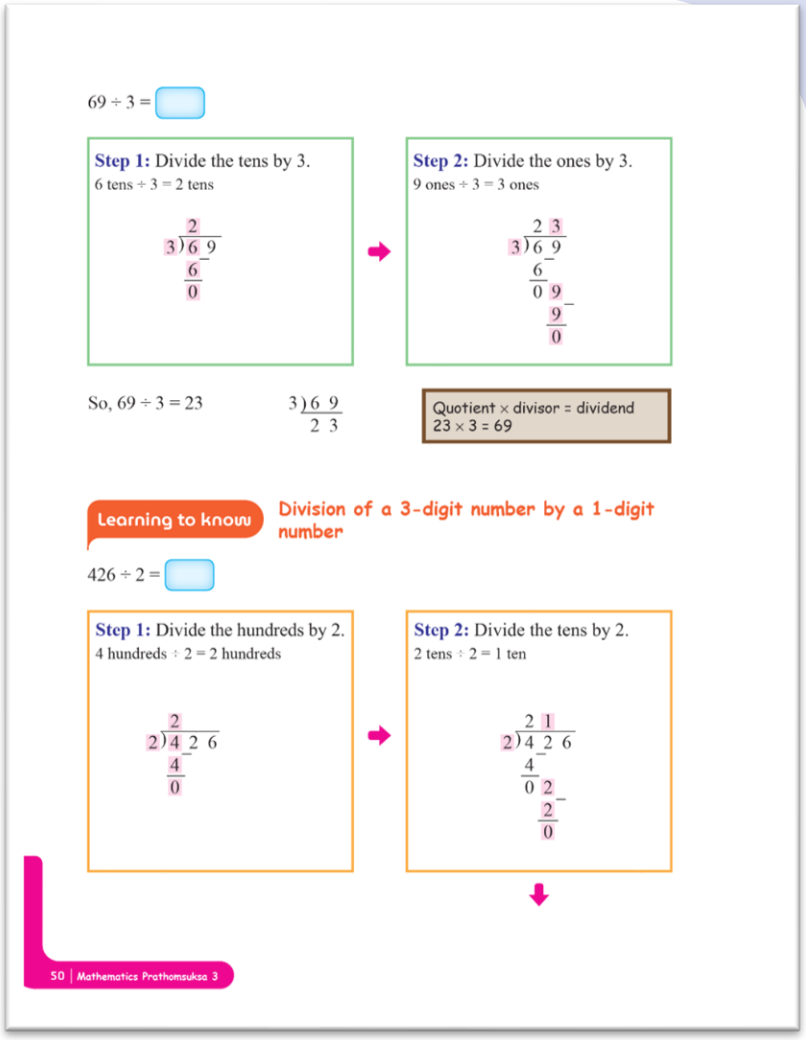
Teaching ideas

1. Help the students to recall which are the dividend, divisor and quotient in a division equation.
2. Guide them to realize where to put the dividend, divisor and quotient when using the long division method and the short division method.
3. Tell them that both methods give the same answer.
4. Guide the students to check the answer by multiplying the answer (quotient) by the divisor before adding the remainder if any.

Teaching ideas

1. Give some number discs to a group of students. Ask them to use the number discs to represent 25.
2. Ask them how to divide the number discs into 2 equal groups. Ask them these questions to start the discussion:
   - Should you divide the ones or the tens first?
   - Divide the tens first. How many tens are there in each group?
   - Then, divide the ones. How many ones are there in each group?
   - Are there any ones left?
   - What is 25 divided by 2?
3. Guide them to divide using the long division method step by step.
4. Remind the students that in division they start to divide the digit with the greatest value first.
5. Guide them to divide using the short division method.





Activity for Reinforcement

The students need to practice more in order to divide correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

36 ÷ 3 = ☐
50 ÷ 5 = ☐
48 ÷ 2 = ☐
84 ÷ 4 = ☐

Teaching ideas

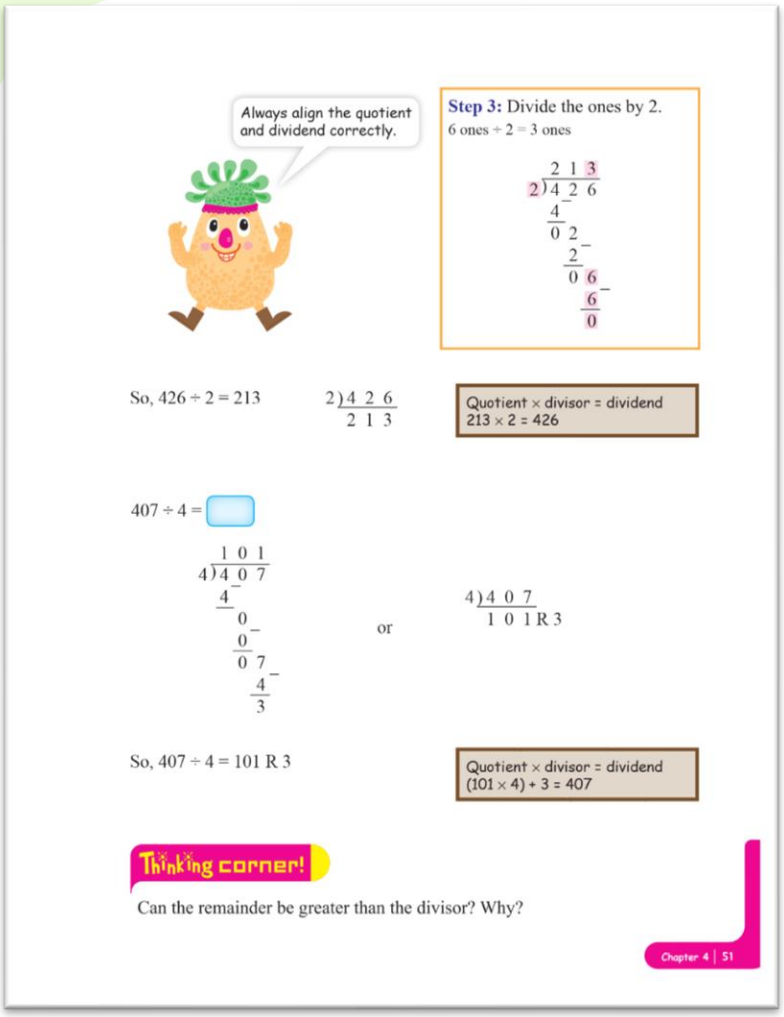
6. Use the next example to reinforce the understanding of the students without using the number discs.
7. Guide them to write the numbers vertically.
8. Reiterate that the alignment of the dividend and quotient based on the place value of each digit is important.
9. Ask the students to always check the answer.

Teaching ideas

1. Inform the students that division of a 2-digit number and a 3-digit number by a 1-digit number are similar.
2. In division of a 3-digit number by a 1-digit number, the students need to divide the hundreds first, follow by the tens and lastly the ones.
3. Use the example to explain further.

Teaching ideas

4. Use the example to explain further.
5. Guide them to divide using the short division method too.



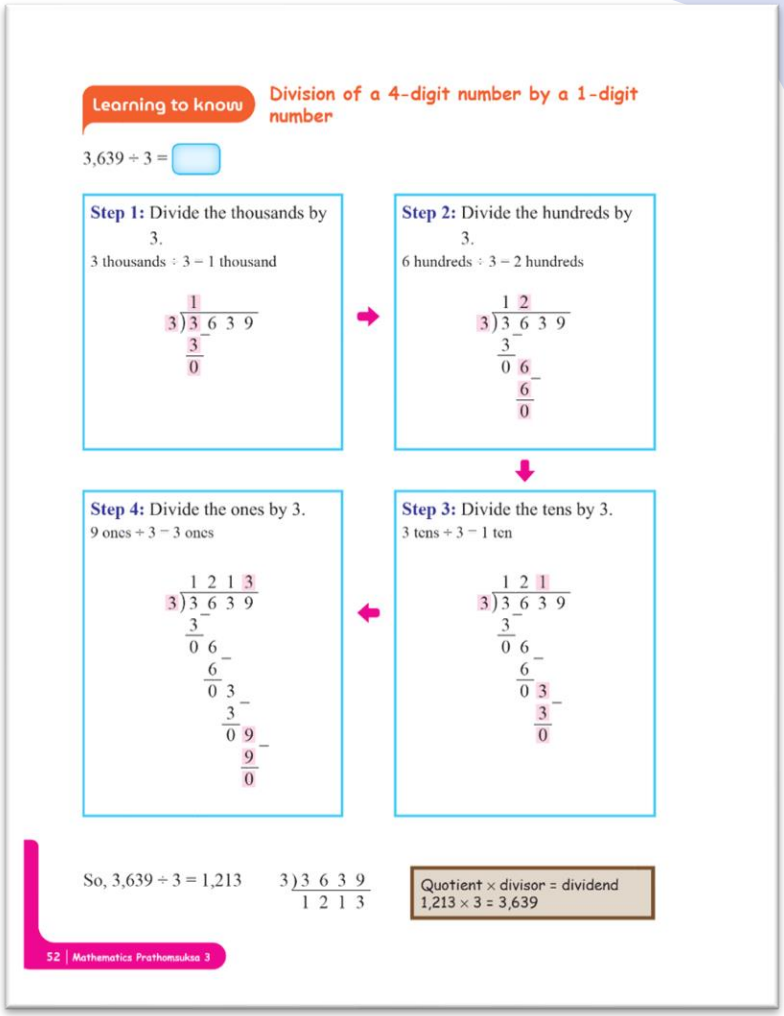
Thinking Corner!

1. Ask the students to imagine that there are 5 oranges remaining when 28 oranges are divided among 3 students. Here the remainder is greater than the divisor. Use these questions to start the discussion.
   - Can we further divide the 5 oranges among the 3 students?
   - Is the division complete?
2. Ask the students to imagine that there are 2 oranges remaining when 28 oranges are divided among 3 students. Here the remainder is smaller than the divisor. Use these questions to start the discussion.
   - Can we further divide the 2 oranges among the 3 students?
   - Is the division complete?
3. Ask the students to conclude if the remainder can be greater than the divisor. Guide them to understand that if the remainder is greater than the divisor, the division is incomplete.

Activity for Reinforcement

The students need to practice more in order to divide correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

550 ÷ 5 = ☐
264 ÷ 2 = ☐
404 ÷ 4 = ☐
369 ÷ 3 = ☐



Learning to know

Division of a 4-digit number by a 1-digit number

3,639 ÷ 3 = ☐

Step 1: Divide the thousands by 3.

3 thousands ÷ 3 = 1 thousand

$$\begin{array}{r} 1 \\ 3\overline{)3\,6\,3\,9} \\ \underline{3} \\ 0 \end{array}$$

Step 2: Divide the hundreds by 3.

6 hundreds ÷ 3 = 2 hundreds

$$\begin{array}{r} 1\,2 \\ 3\overline{)3\,6\,3\,9} \\ \underline{3} \\ 0\,6 \\ \underline{6} \\ 0 \end{array}$$

Step 3: Divide the tens by 3.

3 tens ÷ 3 = 1 ten

$$\begin{array}{r} 1\,2\,1 \\ 3\overline{)3\,6\,3\,9} \\ \underline{3} \\ 0\,6 \\ \underline{6} \\ 0\,3 \\ \underline{3} \\ 0 \end{array}$$

Step 4: Divide the ones by 3.

9 ones ÷ 3 = 3 ones

$$\begin{array}{r} 1\,2\,1\,3 \\ 3\overline{)3\,6\,3\,9} \\ \underline{3} \\ 0\,6 \\ \underline{6} \\ 0\,3 \\ \underline{3} \\ 0\,9 \\ \underline{9} \\ 0 \end{array}$$

So, 3,639 ÷ 3 = 1,213

$$3\overline{)3\,6\,3\,9}$$
$$1\,2\,1\,3$$

Quotient × divisor = dividend
1,213 × 3 = 3,639

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Teaching ideas

1. Inform the students that division of a 4-digit number and a 3-digit number by a 1-digit number are similar.
2. In division of a 4-digit number by a 1-digit number, the students need to divide the thousands first, follow by the hundreds, then by the tens and lastly the ones.
3. Use the example to explain further.

Teaching ideas

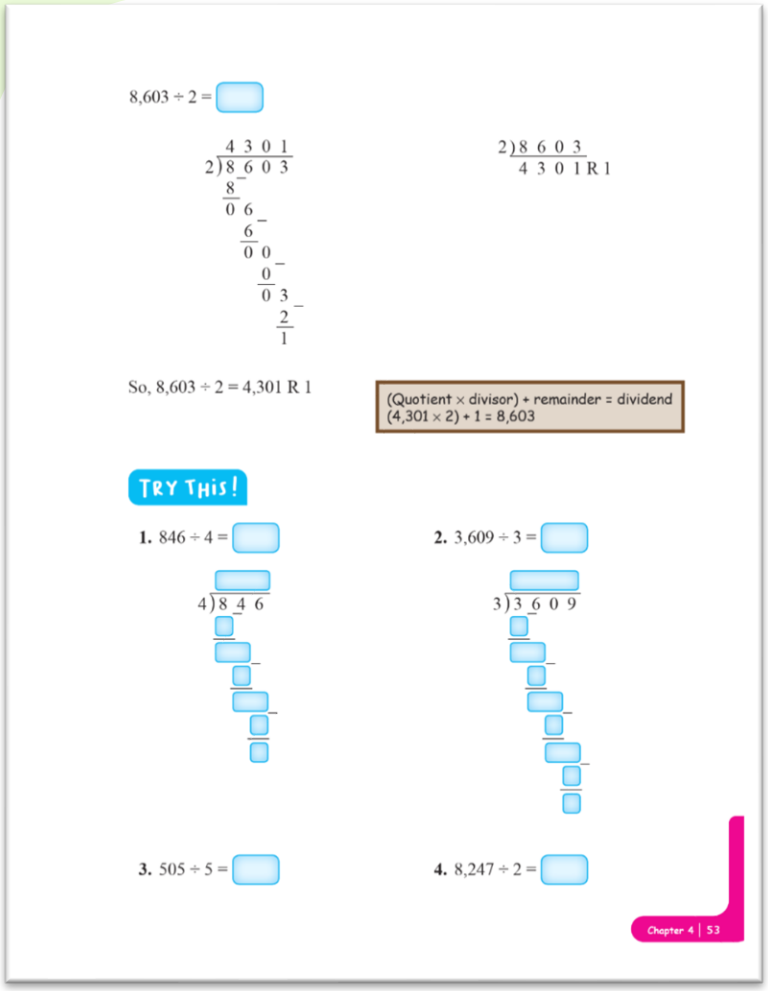
4. Use the example to explain further.
5. Guide the students to refer to **Starting Point** on page 48. Ask them to answer the questions. Have a discussion to conclude the lesson.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 42 to 45 in Go Get Maths Workbook P3.



8,603 ÷ 2 = ☐

$$\begin{array}{r} 4\,3\,0\,1 \\ 2\overline{)\,8\,6\,0\,3} \\ -\,8 \\ \hline 0\,6 \\ -\,6 \\ \hline 0\,0 \\ -\,0 \\ \hline 0\,3 \\ -\,2 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 2\overline{)\,8\,6\,0\,3} \\ 4\,3\,0\,1\,\text{R}\,1 \end{array}$$

So, 8,603 ÷ 2 = 4,301 R 1

(Quotient × divisor) + remainder = dividend
(4,301 × 2) + 1 = 8,603

TRY THIS!

1. 846 ÷ 4 = ☐

$$4\overline{)\,8\,4\,6}$$

2. 3,609 ÷ 3 = ☐

$$3\overline{)\,3\,6\,0\,9}$$

3. 505 ÷ 5 = ☐

4. 8,247 ÷ 2 = ☐

Chapter 4 | 53

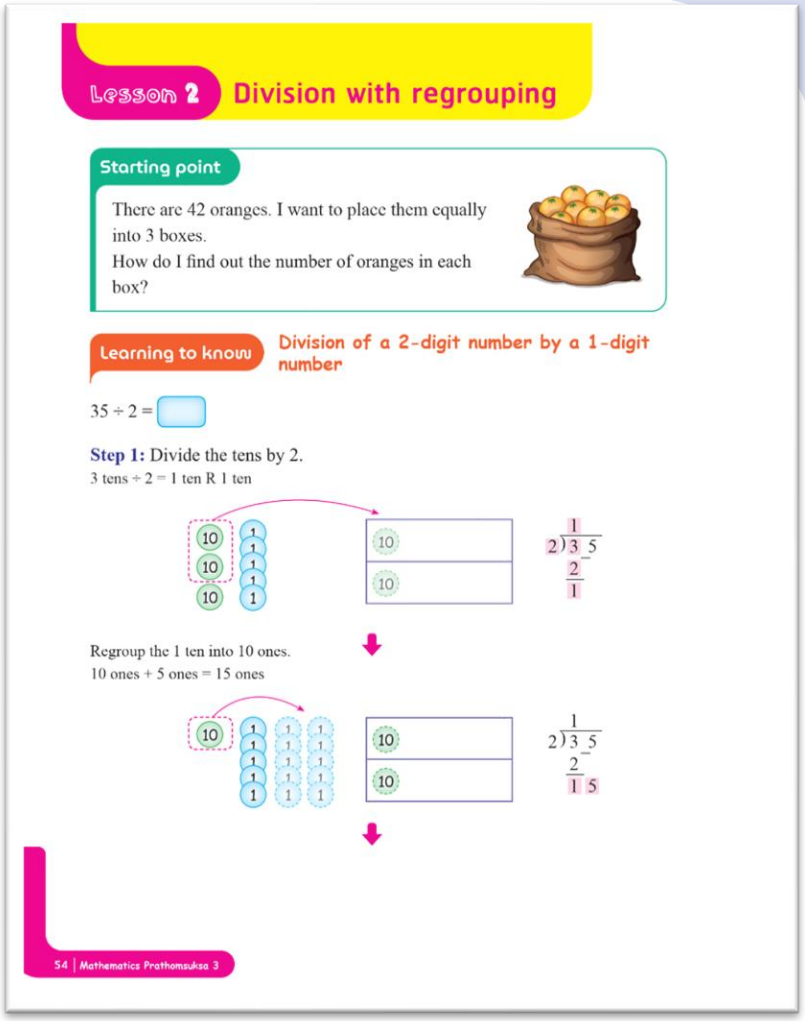
HOTS QS

or visit
http://tiny.cc/h2cquz

Activity for Reinforcement

The students need to practice more in order to divide correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

5,005 ÷ 5 = ☐
8,404 ÷ 4 = ☐
6,426 ÷ 2 = ☐
9,063 ÷ 3 = ☐



Lesson 2 Division with regrouping

Starting point

There are 42 oranges. I want to place them equally into 3 boxes.
How do I find out the number of oranges in each box?

Learning to know: Division of a 2-digit number by a 1-digit number

35 ÷ 2 = ☐

Step 1: Divide the tens by 2.
3 tens ÷ 2 = 1 ten R 1 ten

Regroup the 1 ten into 10 ones.
10 ones + 5 ones = 15 ones

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More Info
or visit
http://tiny.cc/43cquz

Lesson 2
Division with regrouping

Lesson objectives

By the end of the lesson, the students should be able to:

1. Divide a dividend that is not more than 4 digits by a 1-digit divisor with regrouping.

Suggested teaching time

3 periods (3 x 50 minutes)

Vocabulary

-

Materials needed

Number discs

Starting point

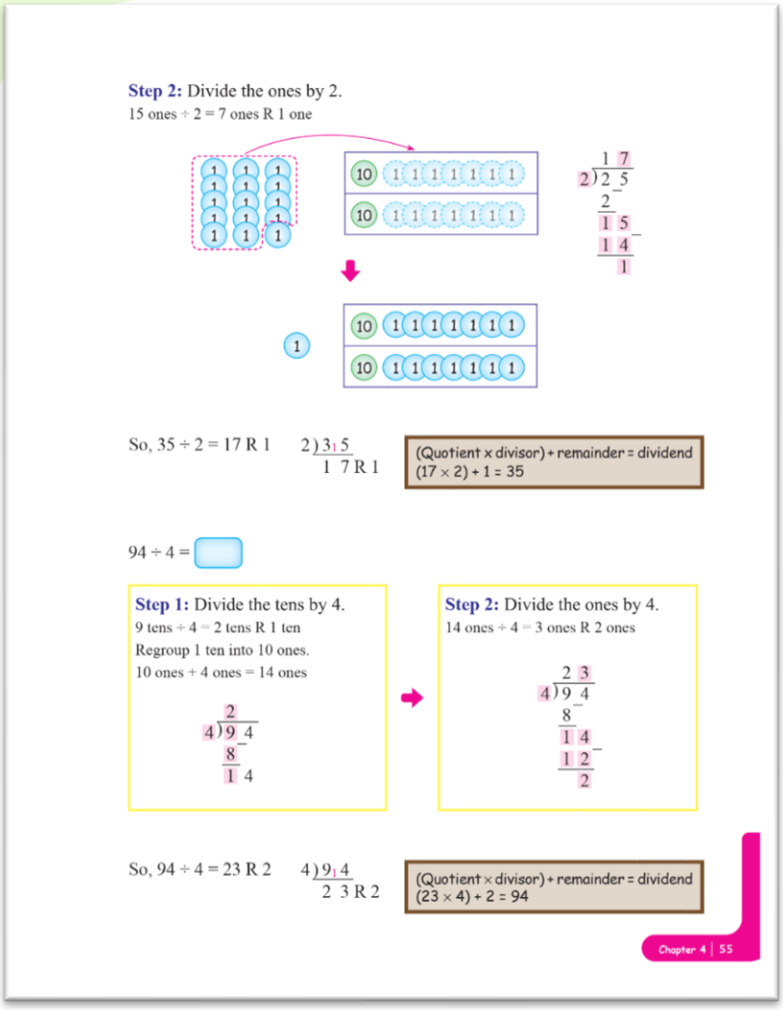
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Give some number discs to a group of students. Ask them to use the number discs to represent 35.
2. Then, tell them that they are going to divide the number discs into 2 equal groups.
3. Ask them to divide the tens into 2. Ask them these questions to start a discussion:
   - Can you divide the 3 tens into 2 groups?
   - How many tens are left?
   - What should you do with the remaining 1 ten?

Teaching ideas

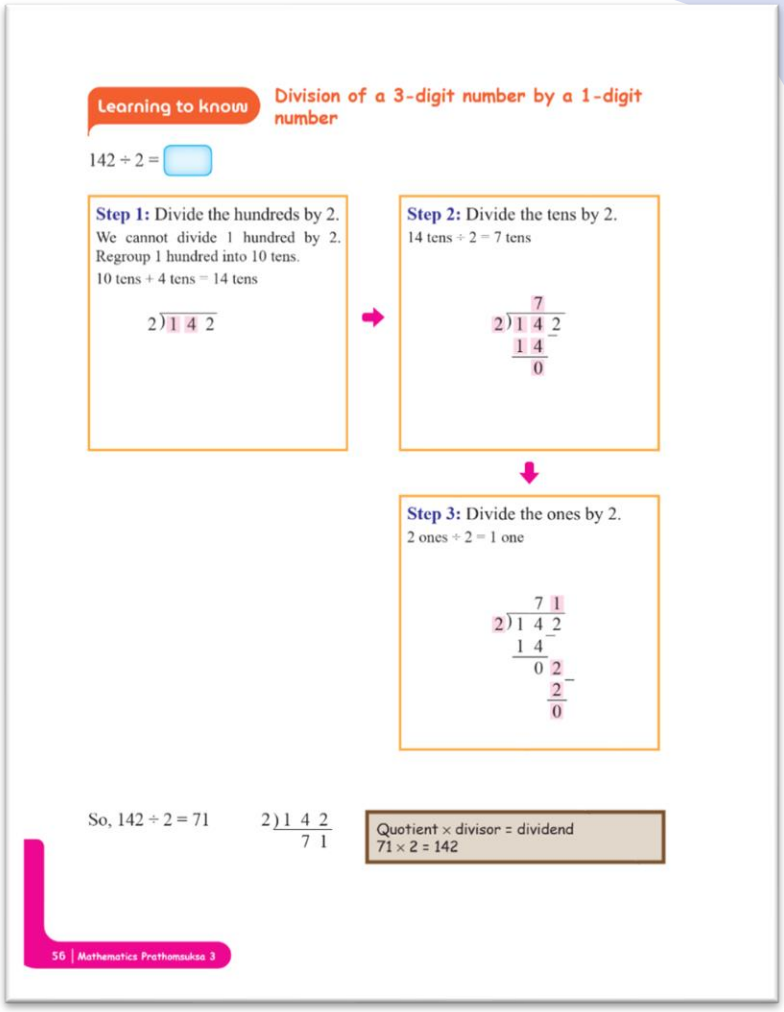
4. Guide them to regroup the tens into ones. How many ones are there?
5. Ask them to divide the ones into 2. Are there any remainders of ones?
6. Ask them to divide using the long division method without using the number discs.
7. Guide them to divide using the short division method.
8. Use the example to explain further.
9. Guide them to check their answers.



Activity for Reinforcement

The students need to practice more in order to divide correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

53 ÷ 2 = ☐
78 ÷ 6 = ☐
57 ÷ 4 = ☐
94 ÷ 7 = ☐



Learning to know

Division of a 3-digit number by a 1-digit number

142 ÷ 2 = ☐

Step 1: Divide the hundreds by 2.
We cannot divide 1 hundred by 2. Regroup 1 hundred into 10 tens.
10 tens + 4 tens = 14 tens

$2\overline{)142}$

Step 2: Divide the tens by 2.
14 tens ÷ 2 = 7 tens

$$\begin{array}{r} 7 \\ 2\overline{)142} \\ \underline{14} \\ 0 \end{array}$$

Step 3: Divide the ones by 2.
2 ones ÷ 2 = 1 one

$$\begin{array}{r} 71 \\ 2\overline{)142} \\ \underline{14} \\ 02 \\ \underline{2} \\ 0 \end{array}$$

So, 142 ÷ 2 = 71

$$\begin{array}{r} 71 \\ 2\overline{)142} \end{array}$$

Quotient × divisor = dividend
71 × 2 = 142

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Activity for Reinforcement

The students need to practice more in order to divide correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

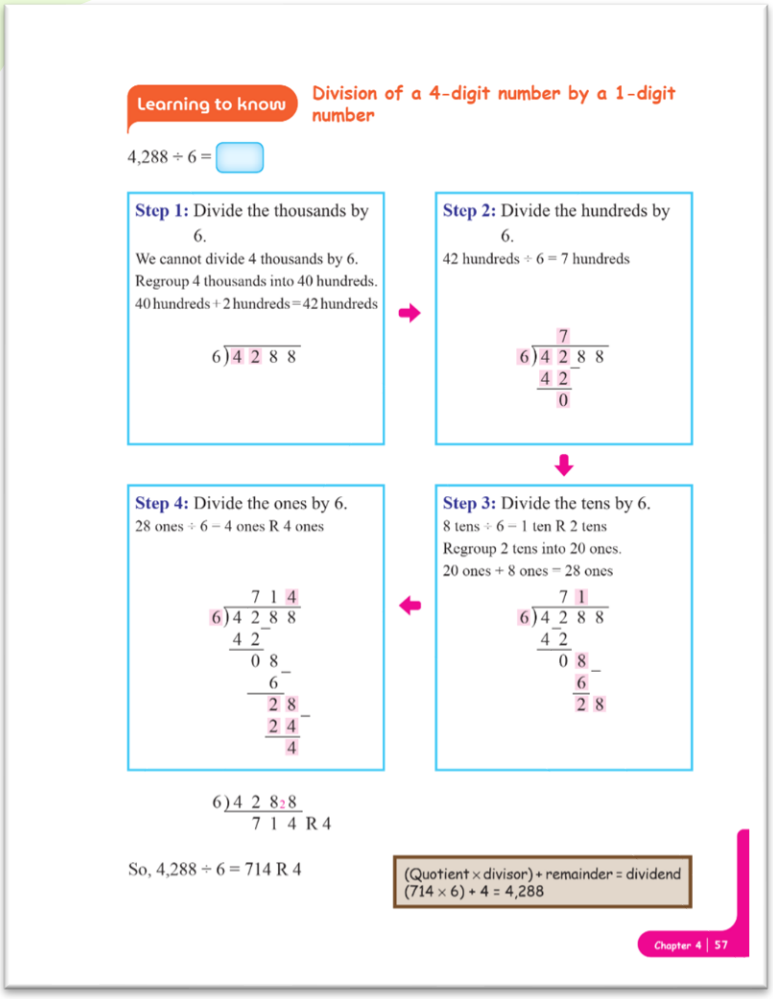
456 ÷ 6 = ☐
851 ÷ 9 = ☐
538 ÷ 8 = ☐
935 ÷ 4 = ☐

Teaching ideas

1. Tell the students that division of a 3-digit number and a 2-digit number by a 1-digit number are the same.
2. Guide them to divide using the long division method step by step.
3. Ask them to regroup when needed.
4. Ask them to always check their answers.

Teaching ideas

1. Tell the students that division of a 4-digit number and a 3-digit number by a 1-digit number are the same.
2. Guide them to divide using the long division method step by step.
3. Ask them to regroup when needed.
4. Ask them to always check their answers.



Learning to know

Division of a 4-digit number by a 1-digit number

4,288 ÷ 6 = ☐

Step 1: Divide the thousands by 6.

We cannot divide 4 thousands by 6.
Regroup 4 thousands into 40 hundreds.
40 hundreds + 2 hundreds = 42 hundreds

$6\overline{)4\,2\,8\,8}$

Step 2: Divide the hundreds by 6.

42 hundreds ÷ 6 = 7 hundreds

$$\begin{array}{r} 7 \\ 6\overline{)4\,2\,8\,8} \\ \underline{4\,2} \\ 0 \end{array}$$

Step 3: Divide the tens by 6.

8 tens ÷ 6 = 1 ten R 2 tens
Regroup 2 tens into 20 ones.
20 ones + 8 ones = 28 ones

$$\begin{array}{r} 7\,1 \\ 6\overline{)4\,2\,8\,8} \\ \underline{4\,2} \\ 0\,8 \\ \underline{6} \\ 2\,8 \end{array}$$

Step 4: Divide the ones by 6.

28 ones ÷ 6 = 4 ones R 4 ones

$$\begin{array}{r} 7\,1\,4 \\ 6\overline{)4\,2\,8\,8} \\ \underline{4\,2} \\ 0\,8 \\ \underline{6} \\ 2\,8 \\ \underline{2\,4} \\ 4 \end{array}$$

$6\overline{)4\,2\,8\,8}$
$7\,1\,4$ R 4

So, 4,288 ÷ 6 = 714 R 4

(Quotient × divisor) + remainder = dividend
(714 × 6) + 4 = 4,288

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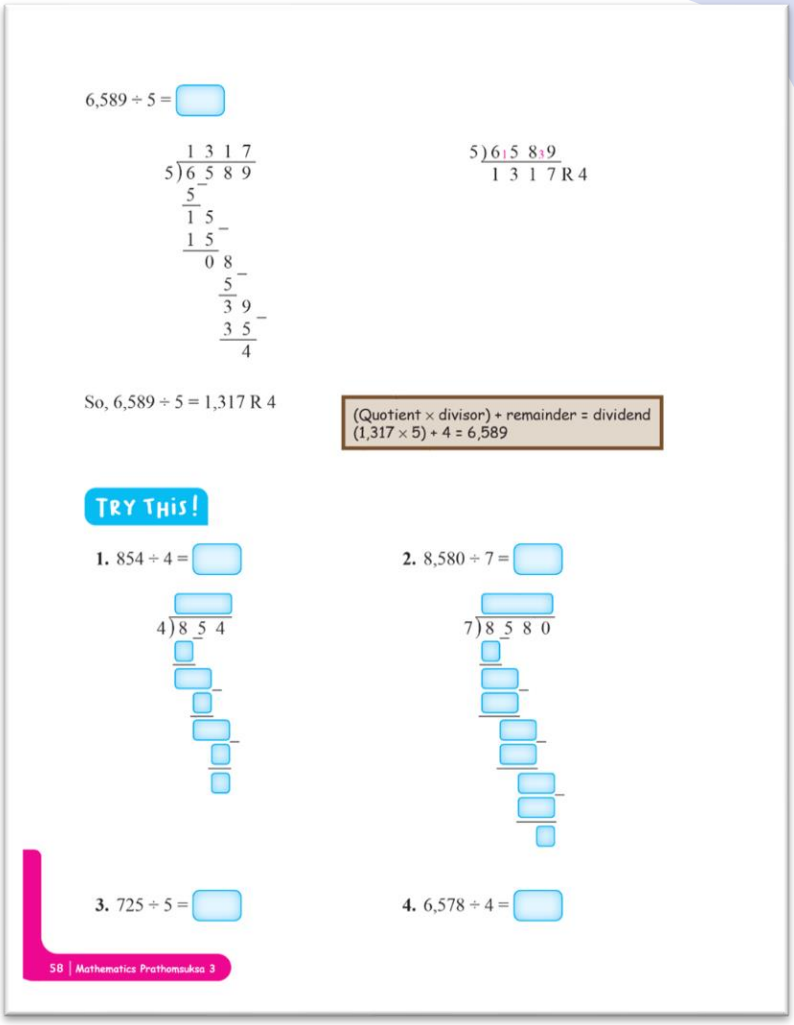
Activity for Reinforcement

The students need to practice more in order to divide correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

5,075 ÷ 3 = ☐
5,906 ÷ 4 = ☐
7,978 ÷ 8 = ☐
7,348 ÷ 6 = ☐



6,589 ÷ 5 = ☐

$$\begin{array}{r} 1\,3\,1\,7 \\ 5\overline{)\,6\,5\,8\,9} \\ \underline{5} \\ 1\,5 \\ \underline{1\,5} \\ 0\,8\,9 \\ \underline{5} \\ 3\,9 \\ \underline{3\,5} \\ 4 \end{array}$$

$$5\overline{)\,6_{1}5\;8_{3}9} \quad 1\,3\,1\,7\,\mathrm{R}\,4$$

So, 6,589 ÷ 5 = 1,317 R 4

(Quotient × divisor) + remainder = dividend
(1,317 × 5) + 4 = 6,589

TRY THIS!

1. 854 ÷ 4 = ☐

$$4\overline{)\,8\,5\,4}$$

2. 8,580 ÷ 7 = ☐

$$7\overline{)\,8\,5\,8\,0}$$

3. 725 ÷ 5 = ☐

4. 6,578 ÷ 4 = ☐

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Teaching ideas

5. Use the example to explain further.
6. Guide the students to refer to **Starting Point** on page 54. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 46 to 50 in Go Get Maths Workbook P3.

Lesson 3
Finding the unknowns in multiplication and division

Lesson objectives
By the end of the lesson, the students should be able to:
1. Find the unknowns in multiplication.
2. Find the unknowns in division.

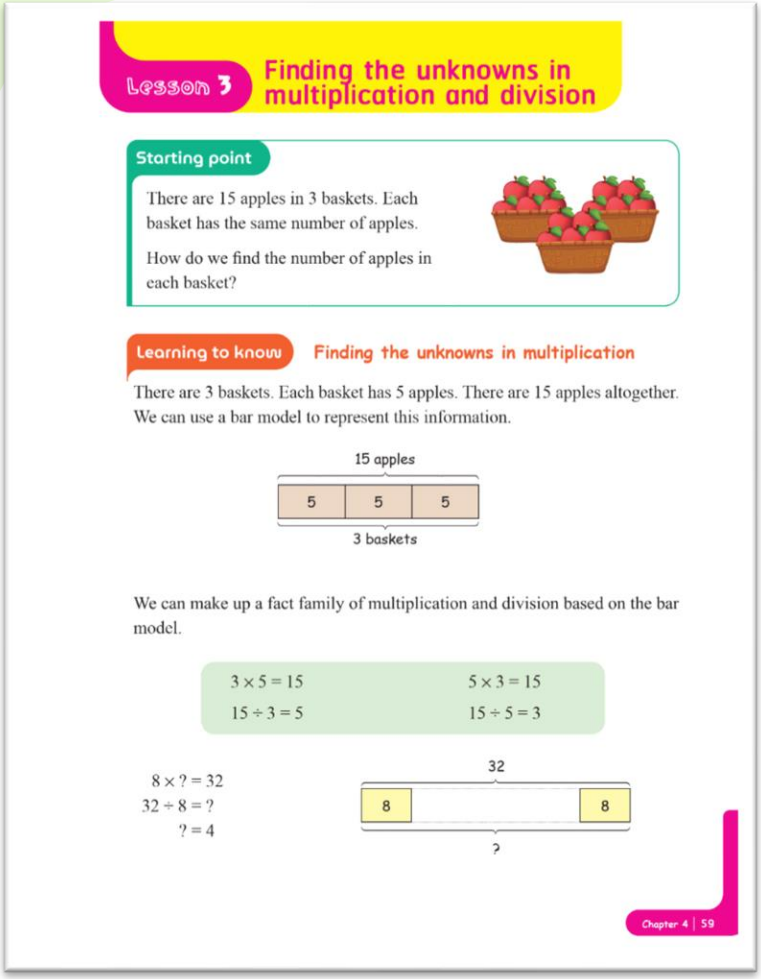
Suggested teaching time
3 periods (3 x 50 minutes)

Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Help the students to recall the relationships between the numbers in a fact family of multiplication and division using the example.
2. Then, draw a bar model for multiplication and ask some students to list all the multiplication and division equations based on it.
3. Use the example to guide the students to find the unknowns in multiplication based on the fact family.



Lesson 3 Finding the unknowns in multiplication and division

Starting point

There are 15 apples in 3 baskets. Each basket has the same number of apples.

How do we find the number of apples in each basket?

Learning to know Finding the unknowns in multiplication

There are 3 baskets. Each basket has 5 apples. There are 15 apples altogether. We can use a bar model to represent this information.

15 apples

5 5 5

3 baskets

We can make up a fact family of multiplication and division based on the bar model.

$3 \times 5 = 15$ $5 \times 3 = 15$

$15 \div 3 = 5$ $15 \div 5 = 3$

$8 \times ? = 32$

$32 \div 8 = ?$

$? = 4$

32

8 8

?

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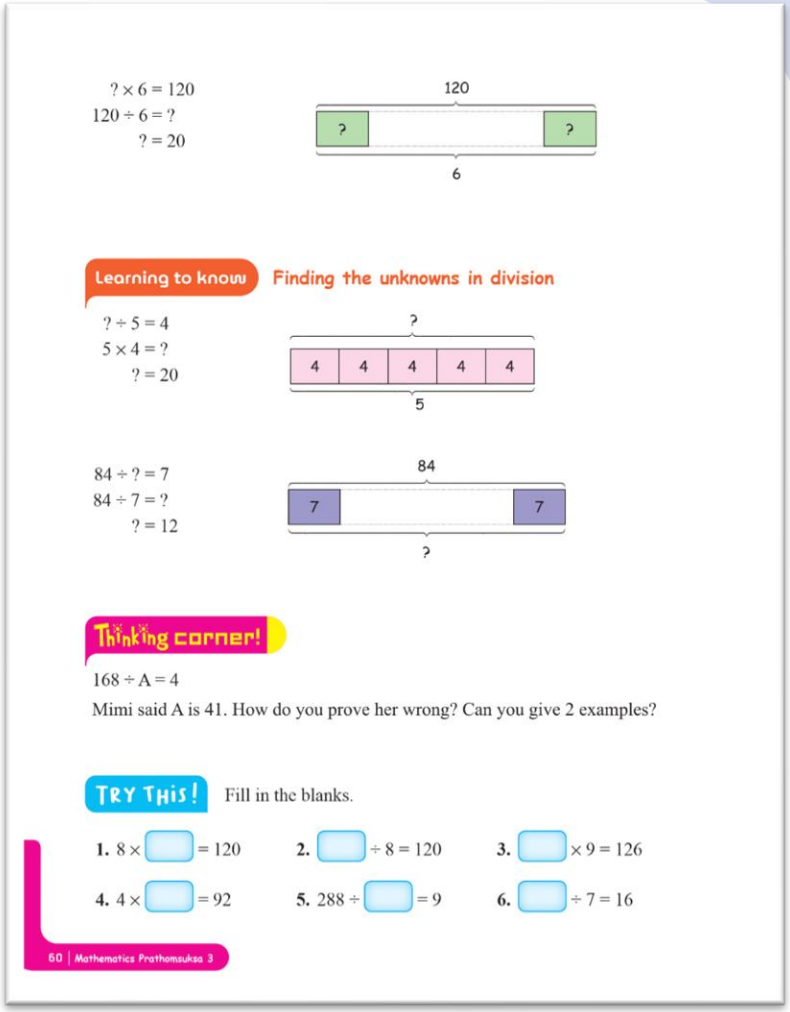
Activity for Reinforcement
Get a few students to write these questions on the board. Then, get others to find the unknowns. Ask them to explain their answers. Invite a few to verify the answers.

6 x ☐ = 282

☐ x 5 = 910

3 x ☐ = 3,726

☐ x 9 = 3,186



? × 6 = 120
120 ÷ 6 = ?
? = 20

Learning to know Finding the unknowns in division

? ÷ 5 = 4
5 × 4 = ?
? = 20

84 ÷ ? = 7
84 ÷ 7 = ?
? = 12

Thinking corner!

168 ÷ A = 4
Mimi said A is 41. How do you prove her wrong? Can you give 2 examples?

TRY THIS! Fill in the blanks.

1. 8 × ☐ = 120
2. ☐ ÷ 8 = 120
3. ☐ × 9 = 126
4. 4 × ☐ = 92
5. 288 ÷ ☐ = 9
6. ☐ ÷ 7 = 16

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Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to find the unknowns. Ask them to explain their answers. Invite a few to verify the answers.

512 ÷ ☐ = 8
☐ ÷ 5 = 630
352 ÷ ☐ = 4
☐ ÷ 2 = 542

Teaching ideas

4. Use the example to explain further.

Teaching ideas

1. Use the examples to guide the students to find the unknowns in division based on the fact family.
2. Guide the students to refer to **Starting Point** on page 59. Ask them to answer the question. Have a discussion to conclude the lesson.

Thinking corner

Ask the students these questions to start a discussion:

- Do you know how to divide a number by a 2-digit number?
- What are the other division and 2 multiplication equations that we can build based on the fact family of multiplication and division?
- Can you use them to prove that A is not 41?

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 51 and 52 in Go Get Maths Workbook P3.

Lesson 4
Word problems

Lesson objectives
By the end of the lesson, the students should be able to:
1. Solve word problems involving division.
2. Create word problems.

Suggested teaching time
4 periods (4 x 50 minutes)

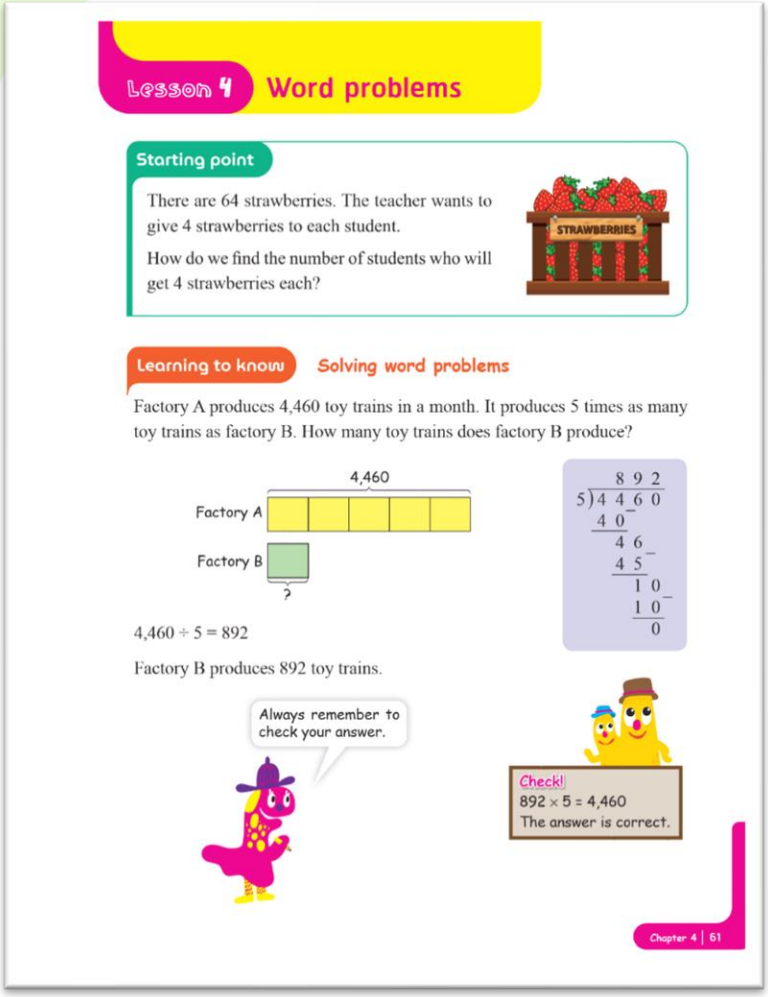
Vocabulary
-

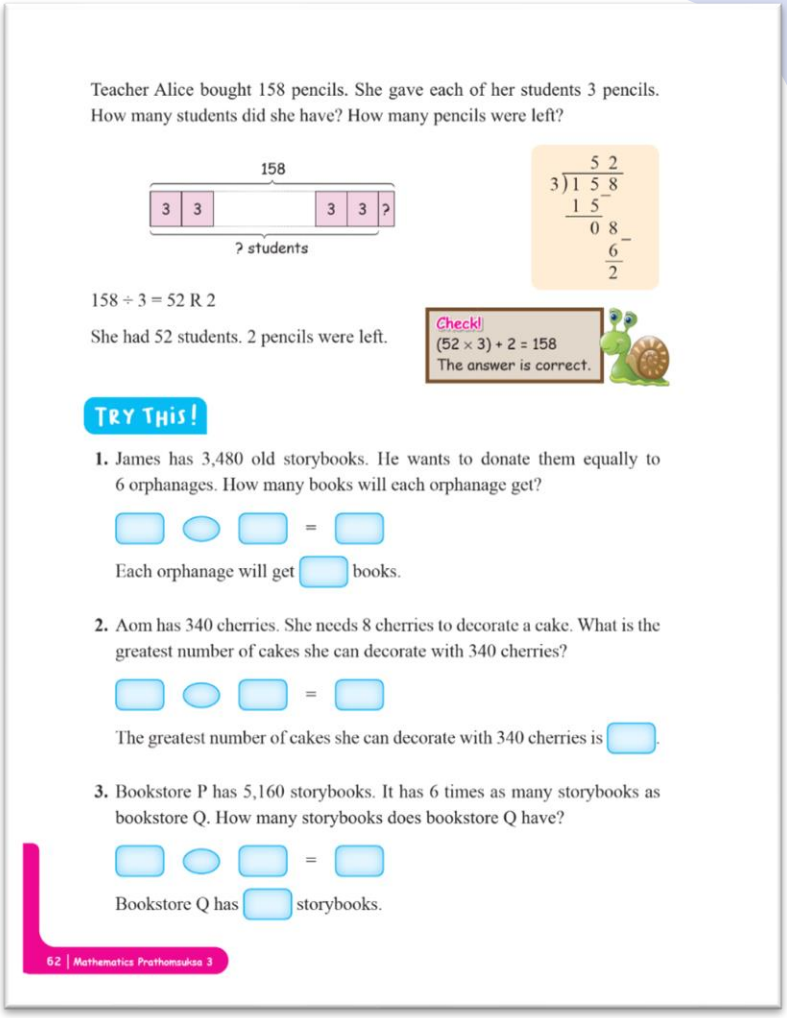
Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Introduce the 3 simple steps to solve a word problem.

   Step 1: Understand the problem
   - Ask the students to read the number story and the question silently. Then, read them together with the students. Explain further the number story and the question if the students do not understand.
   - Ask the students these questions to ensure they understand:
     - What information is given?
     - What do you need to find?
     - Are you comparing the items?





Teacher Alice bought 158 pencils. She gave each of her students 3 pencils. How many students did she have? How many pencils were left?

$$\begin{array}{r} 52 \\ 3\overline{)158} \\ -15 \\ \hline 08 \\ -6 \\ \hline 2 \end{array}$$

158 ÷ 3 = 52 R 2

She had 52 students. 2 pencils were left.

Check!
(52 × 3) + 2 = 158
The answer is correct.

TRY THIS!

1. James has 3,480 old storybooks. He wants to donate them equally to 6 orphanages. How many books will each orphanage get?

□ ○ □ = □

Each orphanage will get □ books.

2. Aom has 340 cherries. She needs 8 cherries to decorate a cake. What is the greatest number of cakes she can decorate with 340 cherries?

□ ○ □ = □

The greatest number of cakes she can decorate with 340 cherries is □.

3. Bookstore P has 5,160 storybooks. It has 6 times as many storybooks as bookstore Q. How many storybooks does bookstore Q have?

□ ○ □ = □

Bookstore Q has □ storybooks.

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Teaching ideas

Step 2: Plan and execute

- Ask the students to draw the suitable bar model including the knowns and unknowns.
- Ask them to find the keyword in the problem that indicates the operation whether to add, subtract, multiply or divide.
- Analyze the bar model drawn.
- Then, write the number equation and solve it.

Step 3: Check the answer

- Always ask the students to check their answer. They need to check if the answer makes sense and is reasonable.

2. Work with them the 3 steps in solving the word problems.

Try This!

Get 3 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 53 to 55 in Go Get Maths Workbook P3.

Teaching ideas

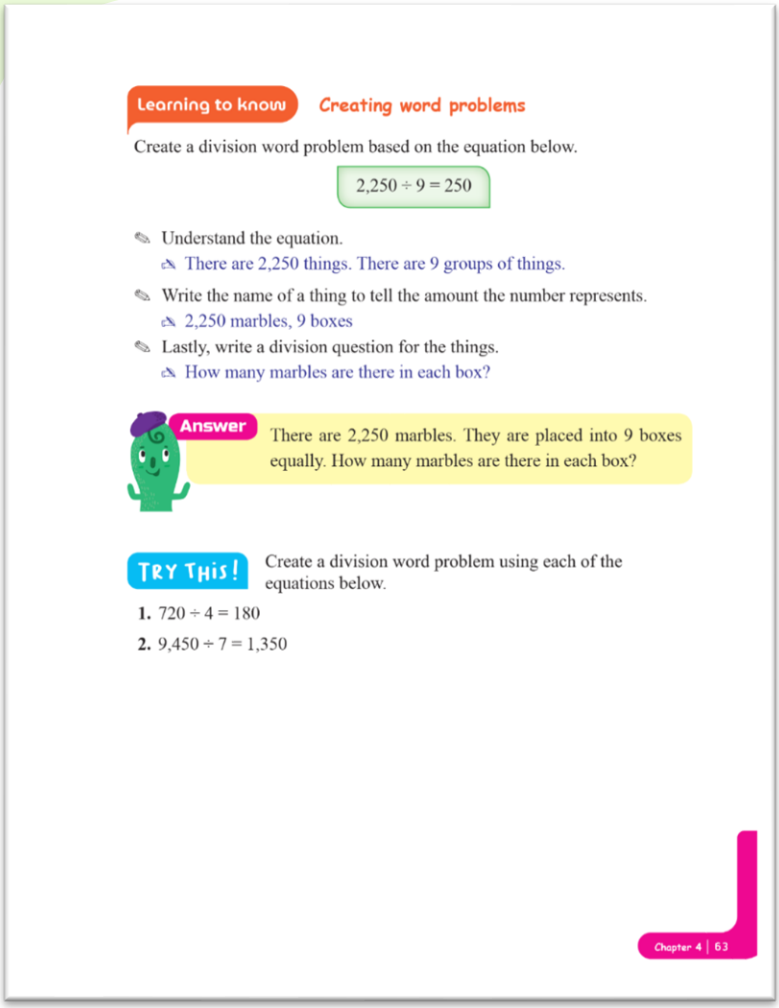
1. Write 2,250 ÷ 9 = 250 on the board.
2. Guide them to create a word problem based on the equation. Use the example to explain further.
3. Invite some students to create other word problems based on the same equation.
4. Guide the students to refer to **Starting Point** on page 61. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 2 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 56 and 57 in Go Get Maths Workbook P3.



Learning to know **Creating word problems**

Create a division word problem based on the equation below.

2,250 ÷ 9 = 250

- Understand the equation.
  - There are 2,250 things. There are 9 groups of things.
- Write the name of a thing to tell the amount the number represents.
  - 2,250 marbles, 9 boxes
- Lastly, write a division question for the things.
  - How many marbles are there in each box?

Answer There are 2,250 marbles. They are placed into 9 boxes equally. How many marbles are there in each box?

TRY THIS! Create a division word problem using each of the equations below.

1. 720 ÷ 4 = 180
2. 9,450 ÷ 7 = 1,350

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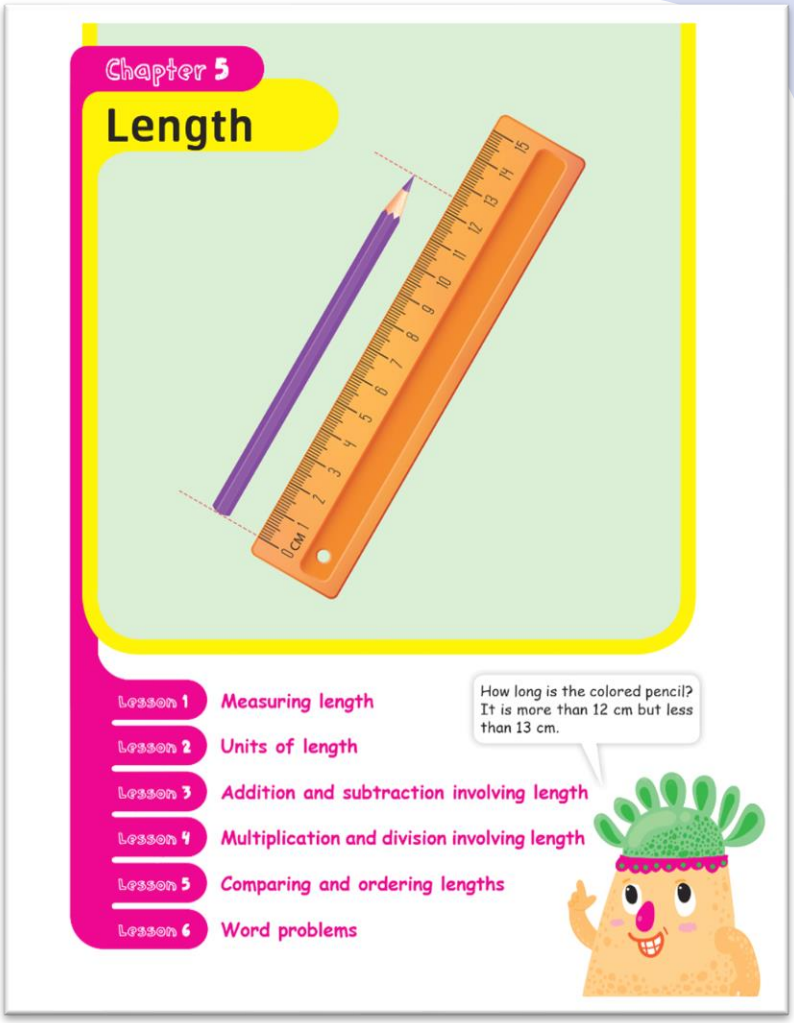


Chapter 5
Length

The big idea

1. Ask the students to look carefully at their ruler. Ask them these questions to start a discussion:
   - How long is your ruler?
   - Is there a 0 mark on the ruler?
   - When you are measuring the length of an object, should you put one end of the object on the 0 mark? Can you put the end of the object on any other marks beside the 0 mark?
   - Do you see the fine lines between any 2 consecutive marks?
   - How many fine lines are there between any 2 consecutive marks?
2. Ask the students to look at the picture carefully. Ask them these questions to start a discussion:
   - Is the pencil longer than 12 cm?
   - Is the pencil longer than 13 cm?
   - How long is the pencil?

Strand 2: Measurement and geometry

Standard M.2.1
Indicators:

M 2.1 Gr3/3 Use appropriate measurement tools to measure and tell length of various objects in centimetres and millimetres, metres and centimetres.

M 2.1 Gr3/4 Estimate length in metres and centimetres.

M 2.1 Gr3/5 Compare the length between centimetres and millimetres, metres and centimetres, kilometres and metres in various situations.

M 2.1 Gr3/6 Demonstrate the methods of finding answers to word problems involving length in centimetres and millimetres, metres and centimetres, kilometres and metres.

Lesson 1
Measuring length

Lesson objectives
By the end of the lesson, the students should be able to:
1. Use appropriate tools to measure length.
2. Measure length in cm and m, and mm and cm.
3. Estimate length in cm and m.

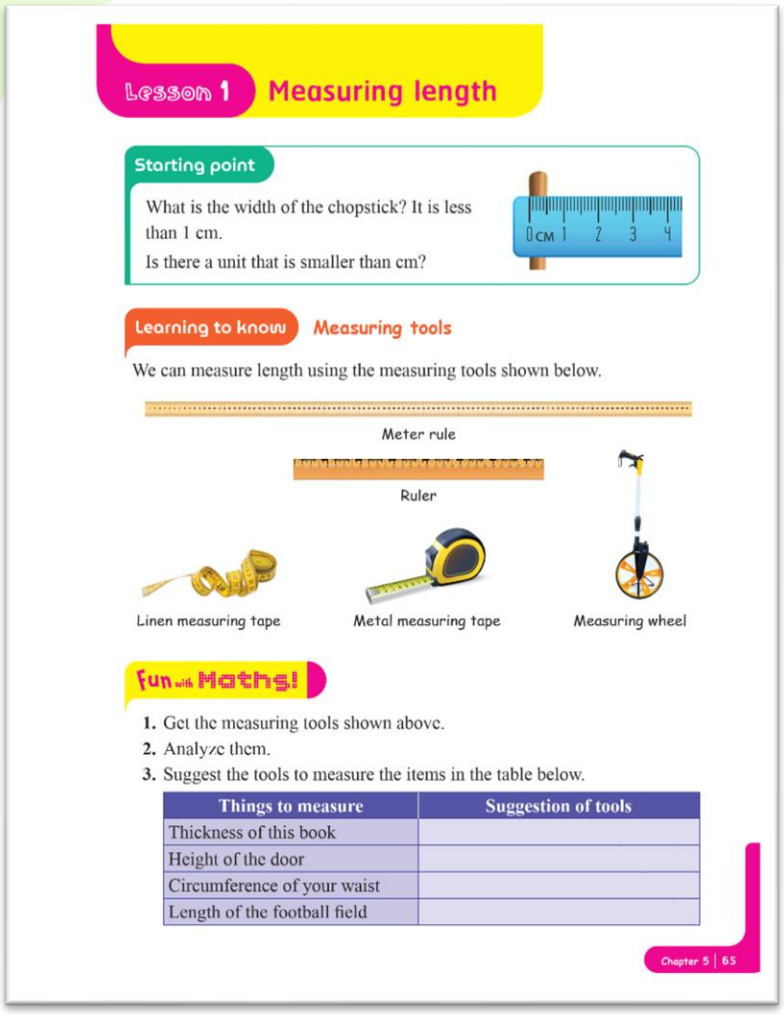
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
meter, centimeter, millimeter

Materials needed
String, meter rule, ruler, linen measuring tape, metal measuring tape, measuring wheel

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Show the students a meter rule, a ruler, a linen measuring tape, a metal measuring tape and a measuring wheel. Ask them to analyze the tools and start the discussion by asking these questions:
   - Have you seen these tools before?
   - Where are the markings for 1 cm and 1 m for each measuring tool?
   - Are the lengths of 1 cm and 1 m the same for every tool?
   - What are the differences between these tools?



Lesson 1 Measuring length

Starting point

What is the width of the chopstick? It is less than 1 cm.
Is there a unit that is smaller than cm?

Learning to know Measuring tools

We can measure length using the measuring tools shown below.

Meter rule

Ruler

Linen measuring tape

Metal measuring tape

Measuring wheel

Fun with Maths!

1. Get the measuring tools shown above.
2. Analyze them.
3. Suggest the tools to measure the items in the table below.

Things to measure	Suggestion of tools
Thickness of this book	
Height of the door	
Circumference of your waist	
Length of the football field	

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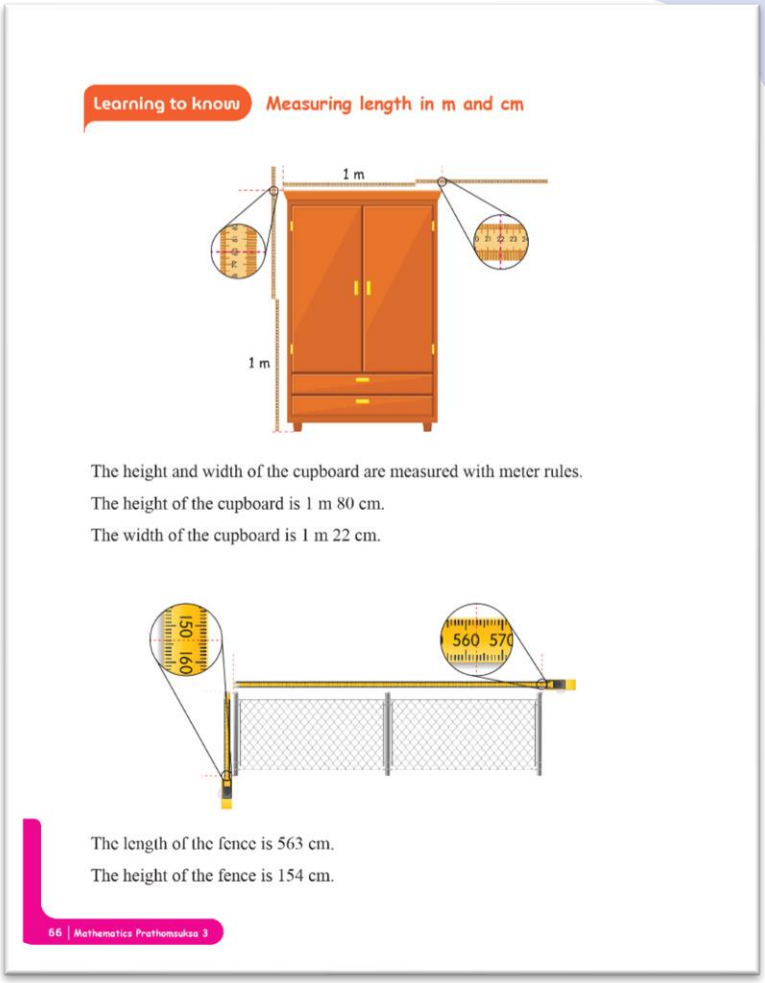
Fun with Maths!
Materials required: Meter rule, ruler, linen measuring tape, metal measuring tape, measuring wheel

Objective of the activity: Knowing how to use the measuring tools

The students should be able to tell that for measuring short lengths, they can use a ruler. For very long lengths, they can use the metal measuring tape or the measuring wheel. Linen measuring tapes are very flexible. They can be used to measure unlevelled lengths such as our waist length.



Learning to know Measuring length in m and cm

1 m

1 m

The height and width of the cupboard are measured with meter rules.

The height of the cupboard is 1 m 80 cm.

The width of the cupboard is 1 m 22 cm.

150 160

560 570

The length of the fence is 563 cm.

The height of the fence is 154 cm.

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Activity for Reinforcement

Materials required: Metal measuring tapes, meter rules

Objective of the activity: Measuring length using metal measuring tapes and meter rules

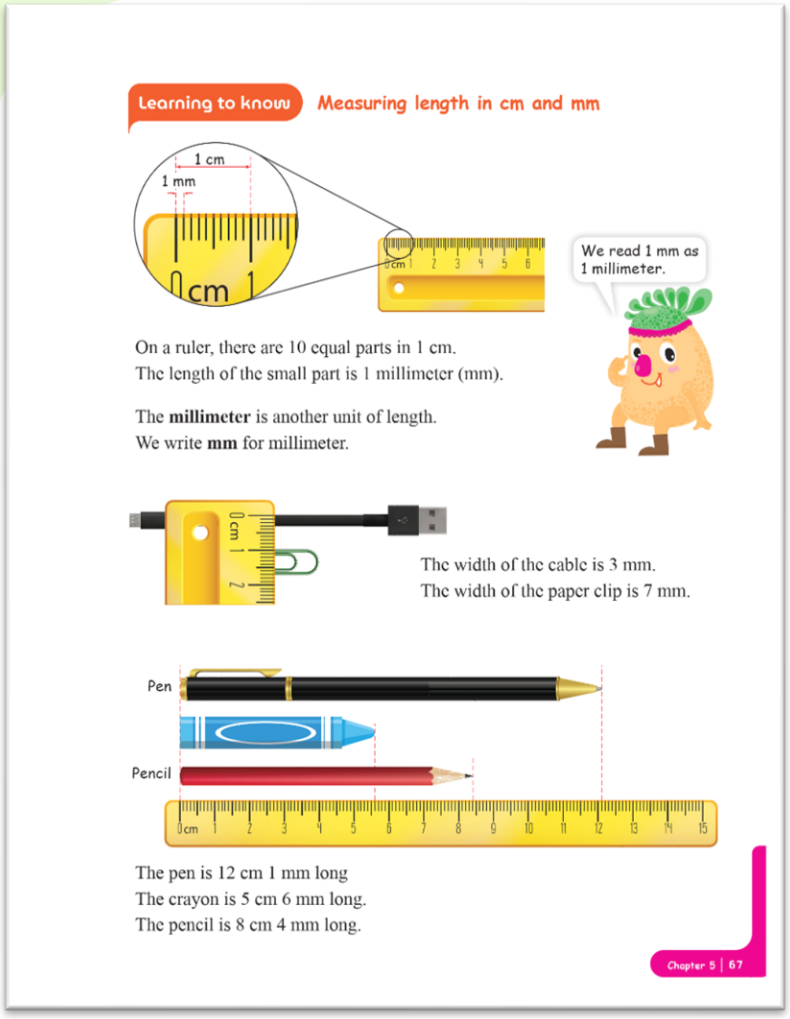
1. Ask the students to work in pairs.
2. Ask each of them to measure the length and width/height of the white board, door, window and classroom with a meter rule and then with a metal measuring tape.
3. Discuss with them which tool they prefer and their reasons.

Teaching ideas

1. Use the example to let the students have an idea on how to measure the height and width of a cupboard using a meter rule in cm and m.
2. Tell them that the height and width of the cupboard is between 1 m and 2 m.
3. Show the student a cupboard. Ask them to estimate the height and width of the cupboard.
4. Then, show the students how to measure the height and width of the cupboard with a meter rule.
5. Guide them to read the measurements in cm and m.
6. Use the example to let the students have an idea on how to measure the height and width of a fence using a metal measuring tape in cm.
7. Show the student a table. Ask them to estimate the height and length of the table.
8. Then, show the students how to measure the height and length of the table with a metal measuring tape.
9. Guide them to read the measurements in cm.

Teaching ideas

1. Ask the students to look carefully at their ruler.
2. Ask them to count the fine lines between 2 consecutive marks.
3. Ask them to count the equal parts between any 2 consecutive marks.
4. Tell them the length of each small part is 1 mm and 10 mm equal to 1 cm.
5. Use the example to show how to measure the width of the cable and the paper clip.
6. Ask them to measure the thickness of this book and also the workbook.
7. Use the example to show how to measure the length of the pencil, crayon and pen in mm and cm.
8. Ask them to measure the length and width of this book in cm and mm.

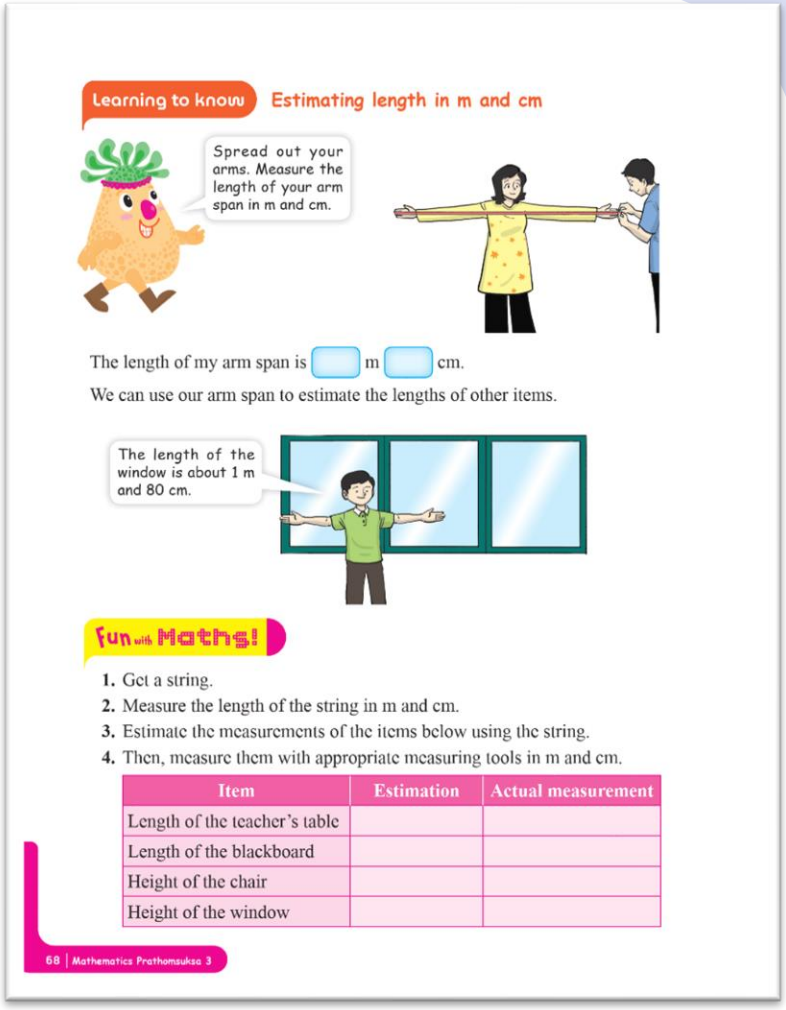


Activity for Reinforcement

Materials required: Rules, coins

Objective of the activity: Measuring using rulers

1. Ask the students to work in pairs.
2. Ask each of them to measure the thickness of coins they have in mm.
3. Then, measure the length across (diameter) of the coins in mm and cm.
4. Ask them to tell the thickest coin and the widest coin.



Learning to know Estimating length in m and cm

Spread out your arms. Measure the length of your arm span in m and cm.

The length of my arm span is ____ m ____ cm.

We can use our arm span to estimate the lengths of other items.

The length of the window is about 1 m and 80 cm.

Fun with Maths!

1. Get a string.
2. Measure the length of the string in m and cm.
3. Estimate the measurements of the items below using the string.
4. Then, measure them with appropriate measuring tools in m and cm.

Item	Estimation	Actual measurement
Length of the teacher's table		
Length of the blackboard		
Height of the chair		
Height of the window		

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Teaching ideas

1. Ask the students to work in pairs to measure each other's' arm span in cm and m.
2. Then, ask them to estimate the length of the window by comparing it to their arm span.
3. Guide the students to refer to **Starting Point** on page 65. Ask them to answer the question. Have a discussion to conclude the lesson.

Fun with Maths!

Materials required: String

Objective of the activity: Estimating length with a known length

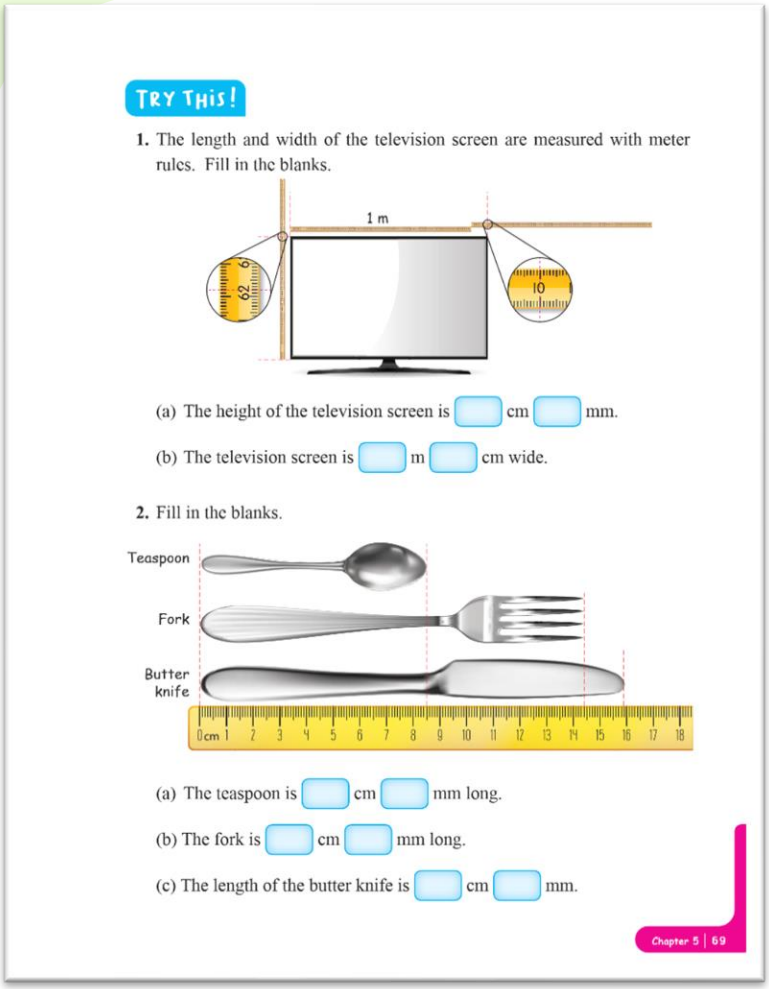
Tell the students that the skill of estimation is an important skill in our daily life.

Try This!

Get 5 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 58 to 60 in Go Get Maths Workbook P3.



TRY THIS!

1. The length and width of the television screen are measured with meter rules. Fill in the blanks.

(a) The height of the television screen is ____ cm ____ mm.

(b) The television screen is ____ m ____ cm wide.

2. Fill in the blanks.

(a) The teaspoon is ____ cm ____ mm long.

(b) The fork is ____ cm ____ mm long.

(c) The length of the butter knife is ____ cm ____ mm.

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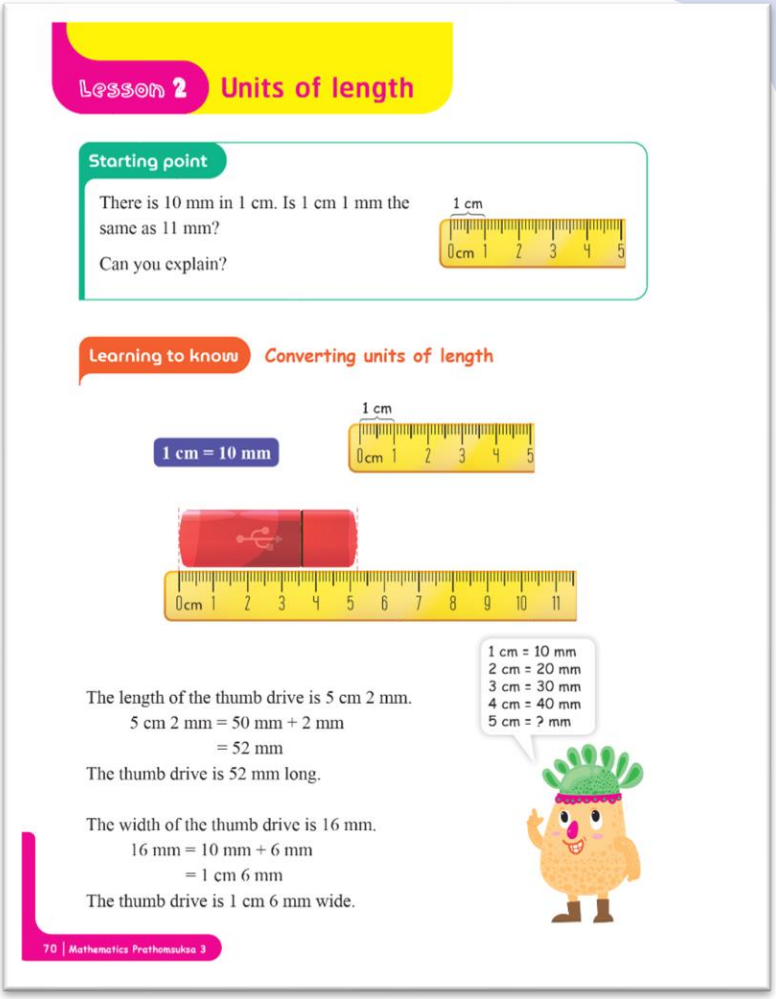

Lesson 2 Units of length

Starting point

There is 10 mm in 1 cm. Is 1 cm 1 mm the same as 11 mm?

Can you explain?

1 cm

0cm 1 2 3 4 5

Learning to know Converting units of length

1 cm = 10 mm

1 cm

0cm 1 2 3 4 5

0cm 1 2 3 4 5 6 7 8 9 10 11

1 cm = 10 mm
2 cm = 20 mm
3 cm = 30 mm
4 cm = 40 mm
5 cm = ? mm

The length of the thumb drive is 5 cm 2 mm.

5 cm 2 mm = 50 mm + 2 mm

= 52 mm

The thumb drive is 52 mm long.

The width of the thumb drive is 16 mm.

16 mm = 10 mm + 6 mm

= 1 cm 6 mm

The thumb drive is 1 cm 6 mm wide.

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Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to convert mm and cm into cm, and vice versa. Ask them to explain their answers. Invite a few to verify the answers.

23 mm = ☐ cm ☐ mm

57 mm = ☐ cm ☐ mm

1 cm 5 mm = ☐ mm

4 cm 8 mm = ☐ mm

Lesson 2
Units of length

Lesson objectives

By the end of the lesson, the students should be able to:

1. Convert units of length.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

mm, cm, m, km

Materials needed

-

Starting point

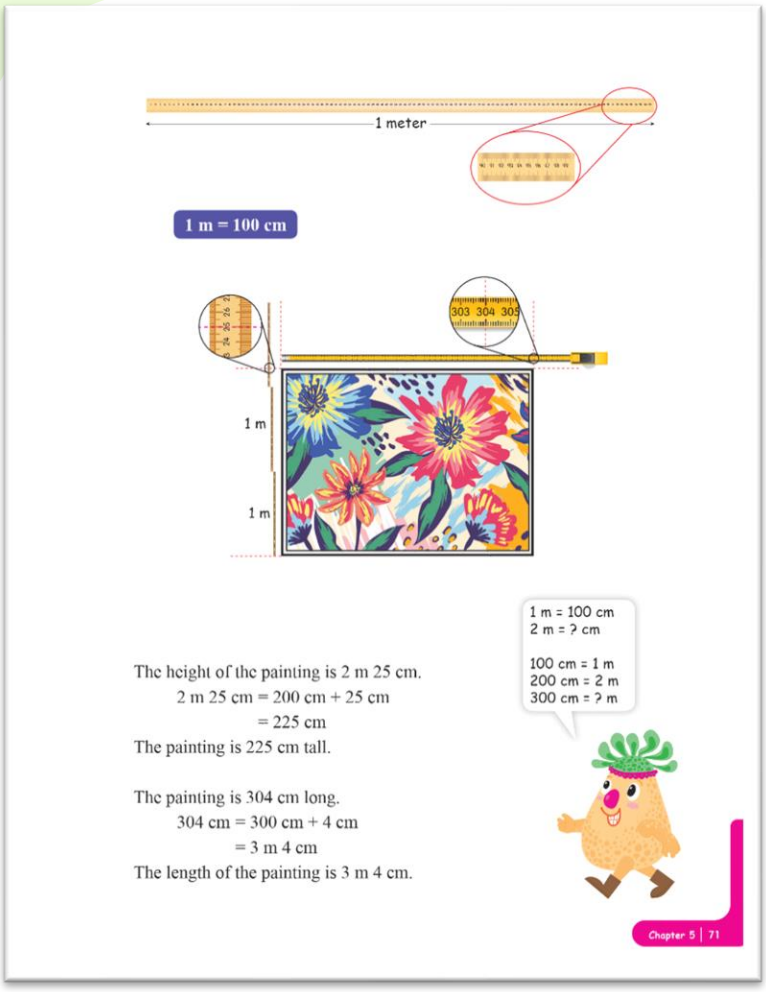
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas

1. Ask the students to analyze a ruler. Ask them these questions:
   - Do you notice the indicator for 1 cm?
   - Do you notice the length of 1 mm on the ruler?
   - How many mm are there in 1 cm?
   - Is 1 cm equal to 10 mm?
2. Guide the students to understand that 10 mm is equal to 1 cm.
3. Use the examples to show how to convert mm and cm into mm, and vice versa.

Teaching ideas

4. Ask the students to analyze a meter rule. Ask them these questions:
   - Do you notice the indicator for 1 cm?
   - Do you notice the length of 1 cm on the rule?
   - How long is the rule?
   - How many cm are there on the rule?
   - Is 100 cm equal to 1 m?
5. Guide the students to understand that 100 cm is equal to 1 m.
6. Use the examples to show how to convert cm and m into cm, and vice versa.



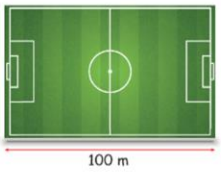
Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to convert cm and m into cm, and vice versa. Ask them to explain their answers. Invite a few to verify the answers.

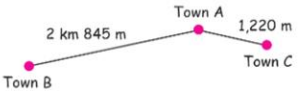
560 cm = ☐ m ☐ cm
185 cm = ☐ m ☐ cm
2 m 5 cm = ☐ cm
7 m 55 cm = ☐ cm

This football field is 100 m long.
The length of 10 such football fields is 1,000 m or 1 kilometer.

1 km = 1,000 m



The **kilometer** is another unit of length.
We write **km** for kilometer.
We usually measure long distances in km.



The distance between Town A and Town B is 2 km 845 m.
2 km 845 m = 2,000 m + 845 m
= 2,845 m
The distance between Town A and Town B is 2,845 m.

The distance between Town A and Town C is 1,220 m.
1,220 m = 1,000 m + 220 m
= 1 km 220 m
The distance between Town A and Town C is 1 km 220 m.

TRY THIS! Fill in the blanks.

1. 5 cm = ☐ mm
2. 4 cm 8 mm = ☐ mm
3. 6 m = ☐ cm
4. 758 cm = ☐ m ☐ cm
5. 3 km = ☐ m
6. 4 km 500 m = ☐ m

Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to convert m and km into m, and vice versa. Ask them to explain their answers. Invite a few to verify the answers.

2 km 670 m = ☐ m
1 km 4 m = ☐ m
3,700 m = ☐ km ☐ m
3,063 m = ☐ km ☐ m

Teaching ideas

7. Inform the students that we use km for great lengths.
8. Guide the students to understand that 1,000 m is equal to 1 km.
9. Use the examples to show how to convert km and m into m, and vice versa.
10. Guide the students to refer to **Starting Point** on page 70. Ask them to answer the questions. Have a discussion to conclude the lesson.

Try This!

Get 6 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 61 and 62 in Go Get Maths Workbook P3.

More Info

or visit
http://tiny.cc/44dquz

More Tasks

or visit
https://wordwall.net/resource/31105487

Lesson 3
Addition and subtraction involving length

Lesson objectives
By the end of the lesson, the students should be able to:
1. Add lengths involving different units.
2. Subtract lengths involving different units.

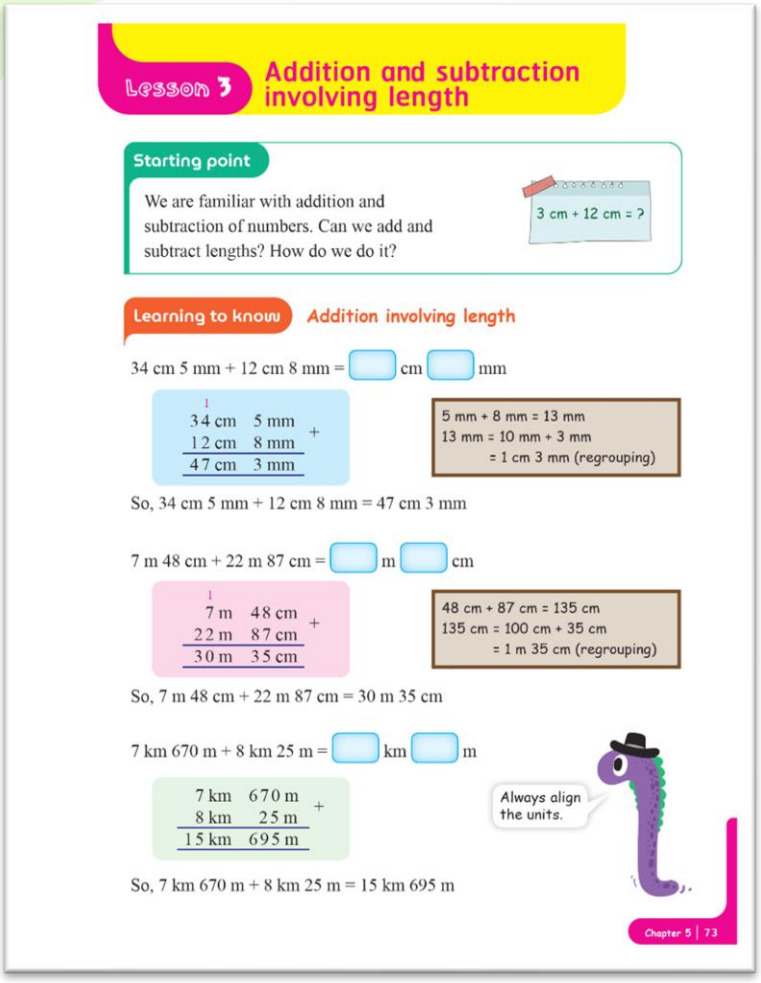
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas
1. Guide the students to add vertically.
2. Firstly, ask the students write the lengths vertically, with the same unit in the same column.
3. Tell them to align the digits in each unit based on their place values. This is very important.
4. Ask them to add the smaller unit first. Regroup when needed as 10 mm equals to 1 cm, 100 cm equals to 1 m and 1,000 m equals to 1 km.
5. Use the examples to explain further.


Lesson 3 Addition and subtraction involving length

Starting point

We are familiar with addition and subtraction of numbers. Can we add and subtract lengths? How do we do it?

3 cm + 12 cm = ?

Learning to know Addition involving length

34 cm 5 mm + 12 cm 8 mm = ☐ cm ☐ mm

34 cm 5 mm
12 cm 8 mm +
47 cm 3 mm

5 mm + 8 mm = 13 mm
13 mm = 10 mm + 3 mm
= 1 cm 3 mm (regrouping)

So, 34 cm 5 mm + 12 cm 8 mm = 47 cm 3 mm

7 m 48 cm + 22 m 87 cm = ☐ m ☐ cm

7 m 48 cm
22 m 87 cm +
30 m 35 cm

48 cm + 87 cm = 135 cm
135 cm = 100 cm + 35 cm
= 1 m 35 cm (regrouping)

So, 7 m 48 cm + 22 m 87 cm = 30 m 35 cm

7 km 670 m + 8 km 25 m = ☐ km ☐ m

7 km 670 m
8 km 25 m +
15 km 695 m

Always align the units.

So, 7 km 670 m + 8 km 25 m = 15 km 695 m

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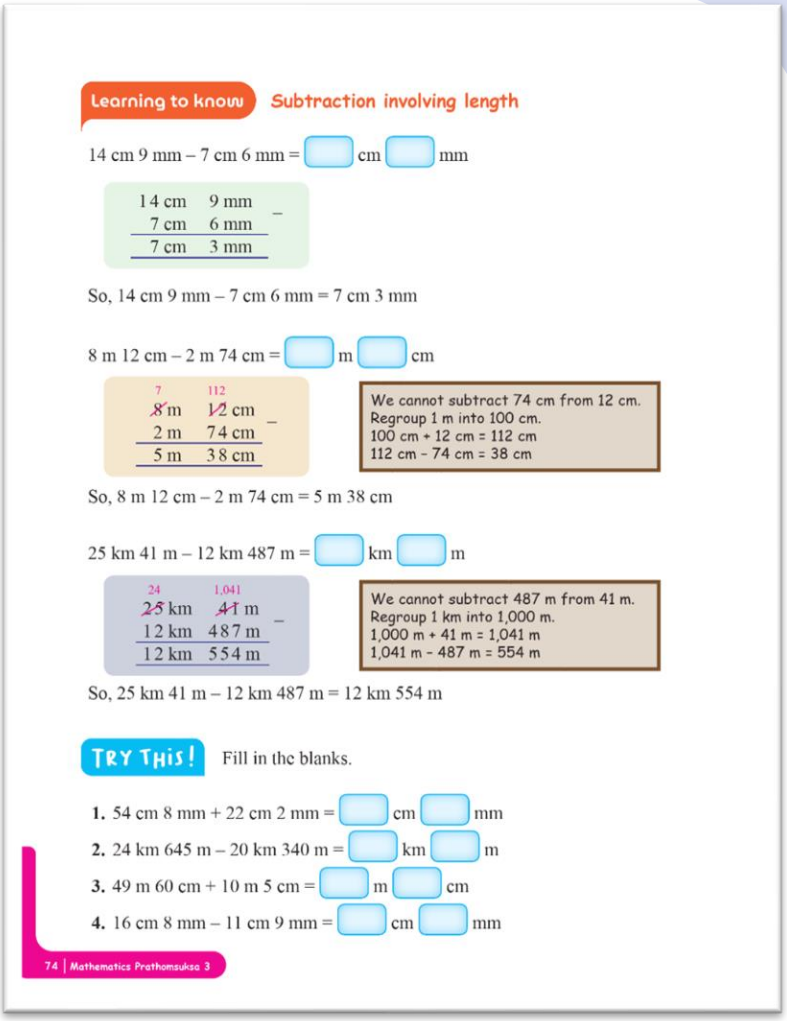
Activity for Reinforcement
Get a few students to write these questions on the board. Then, get others to add. Ask them to explain their answers. Invite a few to verify the answers.

5 cm 6 mm + 4 cm 8 mm = ☐ cm ☐ mm
6 m 23 cm + 10 m 86 cm = ☐ m ☐ cm
2 m 57 cm + 4 m 28 cm = ☐ m ☐ cm
3 km 745 m + 1 km 590 m = ☐ km ☐ m



Learning to know Subtraction involving length

14 cm 9 mm – 7 cm 6 mm = ☐ cm ☐ mm

14 cm	9 mm
7 cm	6 mm
7 cm	3 mm

So, 14 cm 9 mm – 7 cm 6 mm = 7 cm 3 mm

8 m 12 cm – 2 m 74 cm = ☐ m ☐ cm

~~8~~ m	~~12~~ cm
2 m	74 cm
5 m	38 cm

We cannot subtract 74 cm from 12 cm.
Regroup 1 m into 100 cm.
100 cm + 12 cm = 112 cm
112 cm – 74 cm = 38 cm

So, 8 m 12 cm – 2 m 74 cm = 5 m 38 cm

25 km 41 m – 12 km 487 m = ☐ km ☐ m

~~25~~ km	~~41~~ m
12 km	487 m
12 km	554 m

We cannot subtract 487 m from 41 m.
Regroup 1 km into 1,000 m.
1,000 m + 41 m = 1,041 m
1,041 m – 487 m = 554 m

So, 25 km 41 m – 12 km 487 m = 12 km 554 m

TRY THIS! Fill in the blanks.

1. 54 cm 8 mm + 22 cm 2 mm = ☐ cm ☐ mm
2. 24 km 645 m – 20 km 340 m = ☐ km ☐ m
3. 49 m 60 cm + 10 m 5 cm = ☐ m ☐ cm
4. 16 cm 8 mm – 11 cm 9 mm = ☐ cm ☐ mm

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Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to subtract. Ask them to explain their answers. Invite a few to verify the answers.

3 cm 2 mm - 1 cm 8 mm = ☐ cm ☐ mm
6 m 66 cm - 2 m 49 cm = ☐ m ☐ cm
4 km 57 m - 1 km 88 m = ☐ km ☐ m
7 km 623 m - 3 km 167 m = ☐ km ☐ m

Teaching ideas

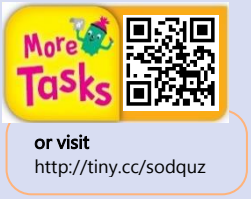
1. Guide the students to subtract vertically.
2. Firstly, ask the students write the lengths vertically, with the same unit in the same column.
3. Tell them to align the digits in each unit based on their place values. This is very important.
4. Ask them to subtract the smaller unit first. Regroup when needed as 1 cm equals to 10 mm, 1 m equals to 100 cm, and 1 km equals to 1,000 m.
5. Use the examples to explain further.
6. Guide the students to refer to **Starting Point** on page 73. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 63 and 64 in Go Get Maths Workbook P3.



or visit
http://tiny.cc/sodquz

Lesson 4
Multiplication and division involving length

Lesson objectives
By the end of the lesson, the students should be able to:

1. Multiply lengths involving different units.
2. Divide lengths involving different units.

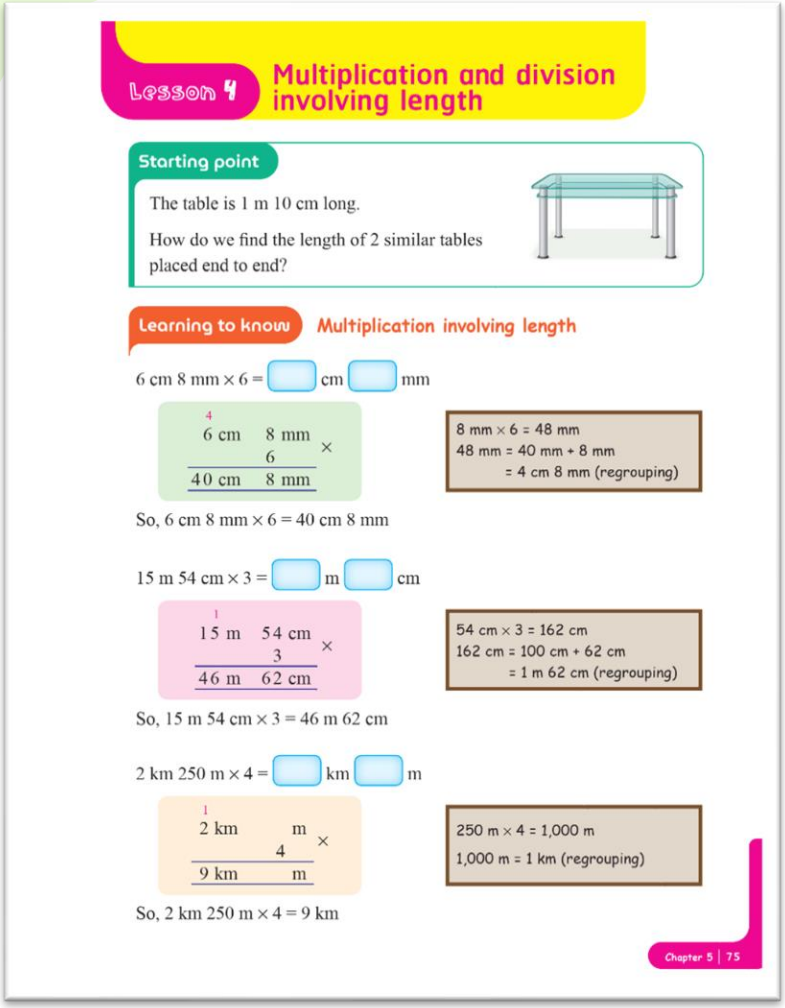
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Guide the students to multiply vertically.
2. Firstly, ask the students write the length vertically.
3. Ask them to multiply the smaller unit first. Regroup when needed as 10 mm equals to 1 cm, 100 cm equals to 1 m and 1,000 m equals to 1 km.
4. Use the examples to explain further.



Lesson 4 Multiplication and division involving length

Starting point

The table is 1 m 10 cm long.

How do we find the length of 2 similar tables placed end to end?

Learning to know Multiplication involving length

6 cm 8 mm × 6 = ☐ cm ☐ mm

4
6 cm 8 mm
× 6
40 cm 8 mm

8 mm × 6 = 48 mm
48 mm = 40 mm + 8 mm
= 4 cm 8 mm (regrouping)

So, 6 cm 8 mm × 6 = 40 cm 8 mm

15 m 54 cm × 3 = ☐ m ☐ cm

1
15 m 54 cm
× 3
46 m 62 cm

54 cm × 3 = 162 cm
162 cm = 100 cm + 62 cm
= 1 m 62 cm (regrouping)

So, 15 m 54 cm × 3 = 46 m 62 cm

2 km 250 m × 4 = ☐ km ☐ m

1
2 km m
× 4
9 km m

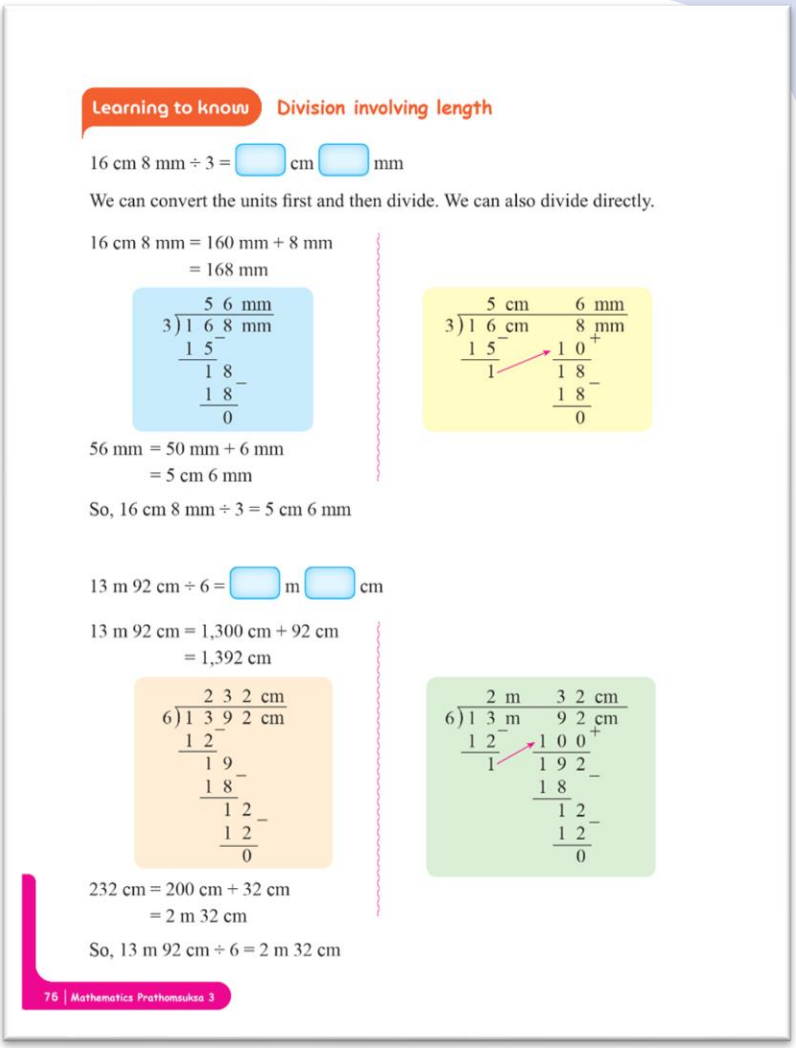
250 m × 4 = 1,000 m
1,000 m = 1 km (regrouping)

So, 2 km 250 m × 4 = 9 km

Chapter 5 | 75

Activity for Reinforcement
Get a few students to write these questions on the board. Then, get others to multiply. Ask them to explain their answers. Invite a few to verify the answers.

3 cm 4 mm x 3 = ☐ cm ☐ mm
4 m 15 cm x 6 = ☐ m ☐ cm
5 m 62 cm x 5 = ☐ m ☐ cm
1 km 250 m x 4 = ☐ km ☐ m



Learning to know Division involving length

16 cm 8 mm ÷ 3 = ☐ cm ☐ mm

We can convert the units first and then divide. We can also divide directly.

16 cm 8 mm = 160 mm + 8 mm
= 168 mm

```
   5 6 mm
3)1 6 8 mm
  1 5
  ---
    1 8
    1 8
    ---
      0
```

```
   5 cm    6 mm
3)1 6 cm   8 mm
  1 5        1 0
  ---        1 8
   1         ---
             0
```

56 mm = 50 mm + 6 mm
= 5 cm 6 mm

So, 16 cm 8 mm ÷ 3 = 5 cm 6 mm

13 m 92 cm ÷ 6 = ☐ m ☐ cm

13 m 92 cm = 1,300 cm + 92 cm
= 1,392 cm

```
   2 3 2 cm
6)1 3 9 2 cm
  1 2
  ---
    1 9
    1 8
    ---
      1 2
      1 2
      ---
        0
```

```
   2 m    3 2 cm
6)1 3 m   9 2 cm
  1 2       1 0 0
  ---       1 9 2
   1        ---
            1 8
            ---
              1 2
              1 2
              ---
                0
```

232 cm = 200 cm + 32 cm
= 2 m 32 cm

So, 13 m 92 cm ÷ 6 = 2 m 32 cm

Teaching ideas

1. Guide the students to divide vertically.
2. Tell them that they can either convert the different units into the smaller unit first before dividing, or divide the different units together.
3. If they are going to divide the different units together, they should divide the greater unit first. Regroup when needed as 1 cm equals to 10 mm, 1 m equals to 100 cm, and 1 km equals to 1,000 m.
4. Use the examples to explain further.

Teaching ideas

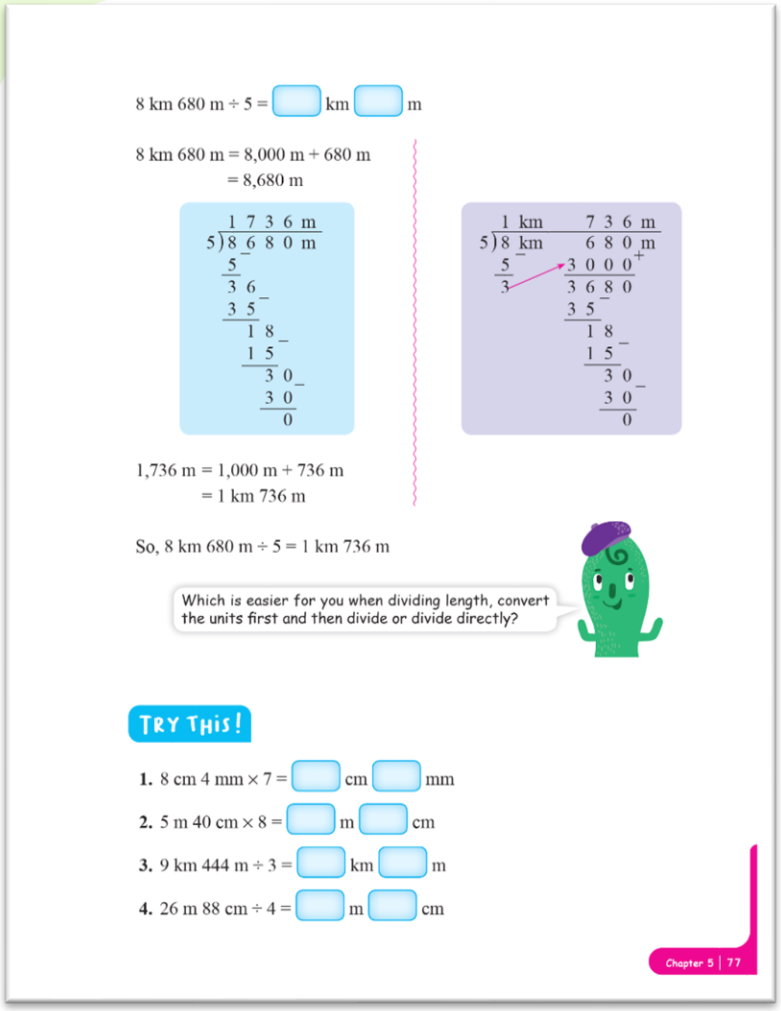
5. Use the example to explain further.
6. Guide the students to refer to **Starting Point** on page 75. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 65 to 67 in Go Get Maths Workbook P3.



8 km 680 m ÷ 5 = ☐ km ☐ m

8 km 680 m = 8,000 m + 680 m
= 8,680 m

$$5\overline{)8\,680\text{ m}} = 1\,736\text{ m}$$

$$5\overline{)8\text{ km}\ 680\text{ m}} = 1\text{ km}\ 736\text{ m}$$

1,736 m = 1,000 m + 736 m
= 1 km 736 m

So, 8 km 680 m ÷ 5 = 1 km 736 m

Which is easier for you when dividing length, convert the units first and then divide or divide directly?

TRY THIS!

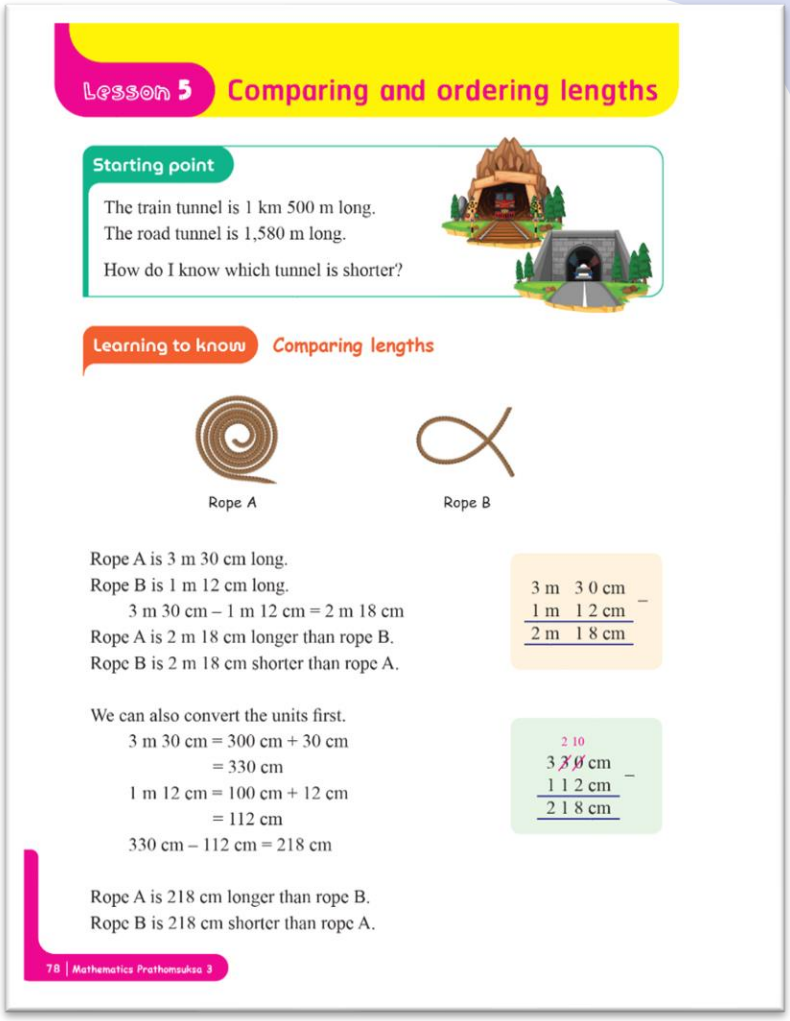
1. 8 cm 4 mm × 7 = ☐ cm ☐ mm
2. 5 m 40 cm × 8 = ☐ m ☐ cm
3. 9 km 444 m ÷ 3 = ☐ km ☐ m
4. 26 m 88 cm ÷ 4 = ☐ m ☐ cm

Chapter 5 | 77

Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to divide. Ask them to explain their answers. Invite a few to verify the answers.

21 cm 5 mm ÷ 5 = ☐ cm ☐ mm
15 m 12 cm ÷ 7 = ☐ m ☐ cm
13 m 736 cm ÷ 8 = ☐ m ☐ cm
16 km 428 m ÷ 3 = ☐ km ☐ m



Lesson 5 Comparing and ordering lengths

Starting point

The train tunnel is 1 km 500 m long.
The road tunnel is 1,580 m long.

How do I know which tunnel is shorter?

Learning to know Comparing lengths

Rope A

Rope B

Rope A is 3 m 30 cm long.
Rope B is 1 m 12 cm long.
3 m 30 cm – 1 m 12 cm = 2 m 18 cm
Rope A is 2 m 18 cm longer than rope B.
Rope B is 2 m 18 cm shorter than rope A.

3 m 30 cm
1 m 12 cm
2 m 18 cm

We can also convert the units first.
3 m 30 cm = 300 cm + 30 cm
= 330 cm
1 m 12 cm = 100 cm + 12 cm
= 112 cm
330 cm – 112 cm = 218 cm

2 10
3 3 0 cm
1 1 2 cm
2 1 8 cm

Rope A is 218 cm longer than rope B.
Rope B is 218 cm shorter than rope A.

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Lesson 5 Comparing and ordering lengths

Lesson objectives

By the end of the lesson, the students should be able to:

1. Compare lengths with different units.
2. Order lengths with different units.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

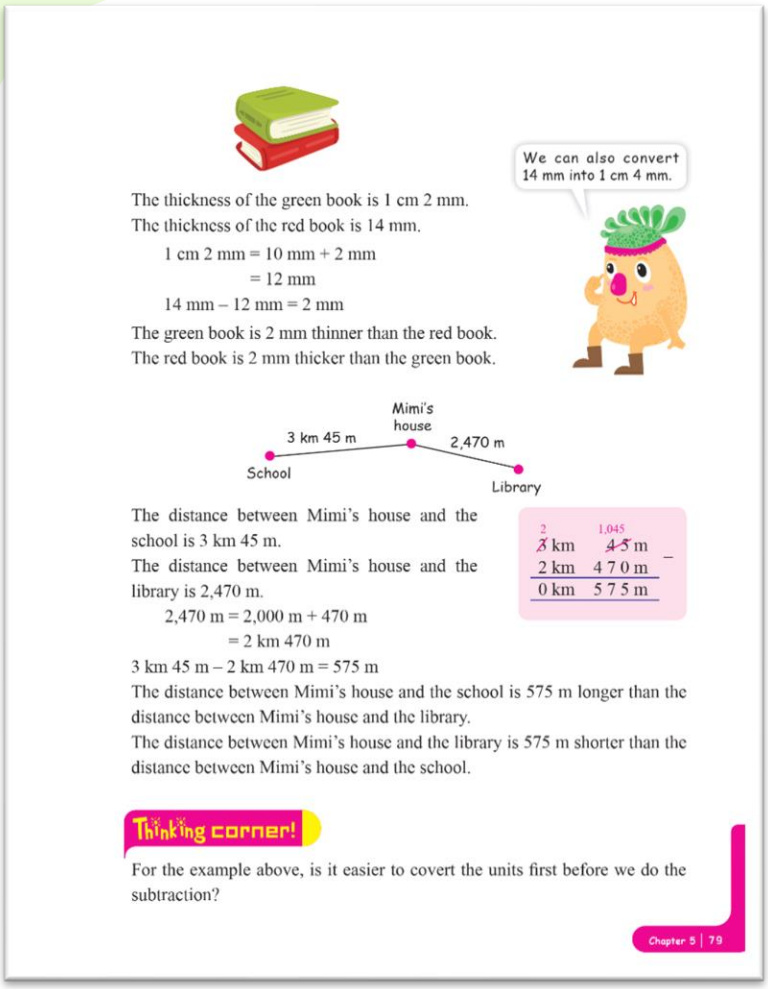
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Based on the example, tell the students that we can find the difference in length by subtracting one from the other.
2. Take note that both lengths are in cm and m. Here we can subtract directly or convert the different units into one unit first before subtracting.
3. Guide them to make statements regarding the difference in length between rope A and rope B. Remind them to use the comparative adjectives.

Teaching ideas

4. Based on the first example, the units used are different. One is in mm and cm, the other is in mm.
5. Tell the students that they can either convert mm and cm into mm, or mm into mm and cm.
6. Guide them to convert the units, and make statements regarding the difference in thickness between the green book and the red book. Remind them to use the comparative adjectives.
7. In the second example, the units used are different. One is in m and km, and the other is in m.
8. Tell the students that we need to convert them into the same unit, either into m or m and km.
9. Guide them to convert the units, and make statements regarding the difference in distance between the school and Mimi's house, and between Mimi's house and the library. Remind them to use the comparative adjectives.
10. Remind the students to always take note of the units when comparing. When they are different, we need to convert them into similar unit.



The thickness of the green book is 1 cm 2 mm.
The thickness of the red book is 14 mm.

1 cm 2 mm = 10 mm + 2 mm
= 12 mm
14 mm – 12 mm = 2 mm

The green book is 2 mm thinner than the red book.
The red book is 2 mm thicker than the green book.

The distance between Mimi's house and the school is 3 km 45 m.
The distance between Mimi's house and the library is 2,470 m.

2,470 m = 2,000 m + 470 m
= 2 km 470 m

	2	1,045
	~~3~~ km	~~4 5~~ m
	2 km	4 7 0 m
	0 km	5 7 5 m

3 km 45 m – 2 km 470 m = 575 m

The distance between Mimi's house and the school is 575 m longer than the distance between Mimi's house and the library.
The distance between Mimi's house and the library is 575 m shorter than the distance between Mimi's house and the school.

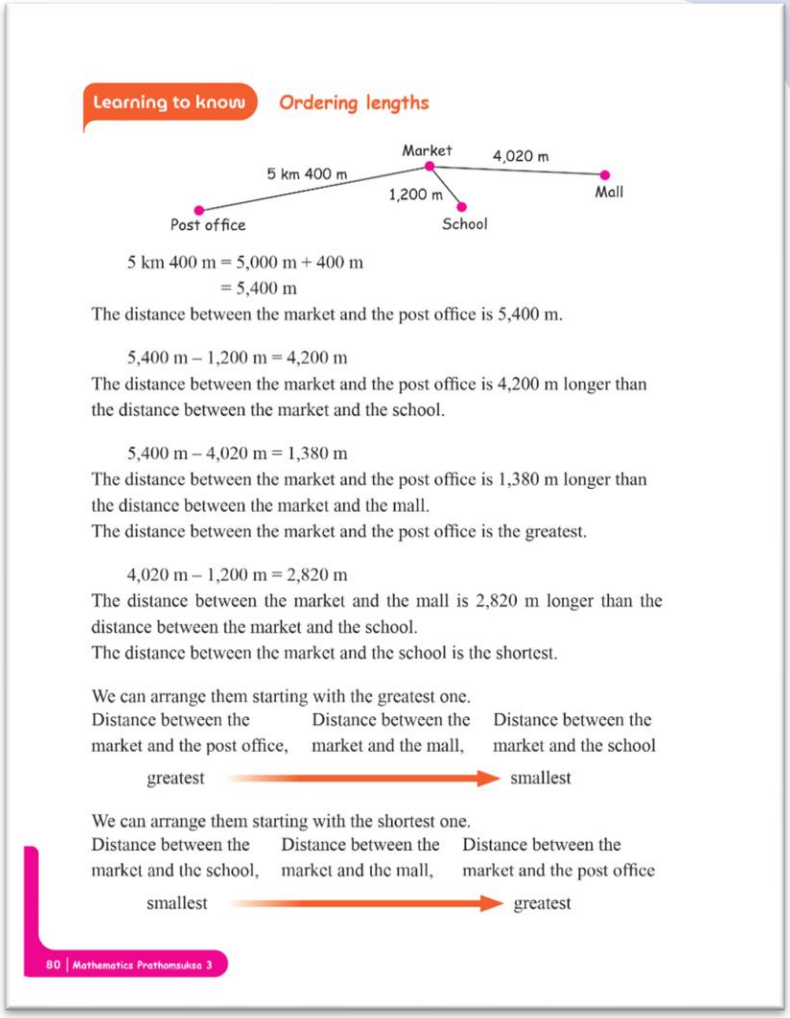
Thinking corner!

For the example above, is it easier to covert the units first before we do the subtraction?

Chapter 5 | 79

Thinking Corner!

Ask the students to convert the km and m into m first before comparing. Tell them that it is their preference.



Learning to know **Ordering lengths**

5 km 400 m = 5,000 m + 400 m
= 5,400 m
The distance between the market and the post office is 5,400 m.

5,400 m – 1,200 m = 4,200 m
The distance between the market and the post office is 4,200 m longer than the distance between the market and the school.

5,400 m – 4,020 m = 1,380 m
The distance between the market and the post office is 1,380 m longer than the distance between the market and the mall.
The distance between the market and the post office is the greatest.

4,020 m – 1,200 m = 2,820 m
The distance between the market and the mall is 2,820 m longer than the distance between the market and the school.
The distance between the market and the school is the shortest.

We can arrange them starting with the greatest one.

Distance between the market and the post office,	Distance between the market and the mall,	Distance between the market and the school
greatest →		smallest

We can arrange them starting with the shortest one.

Distance between the market and the school,	Distance between the market and the mall,	Distance between the market and the post office
smallest →		greatest

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Teaching ideas

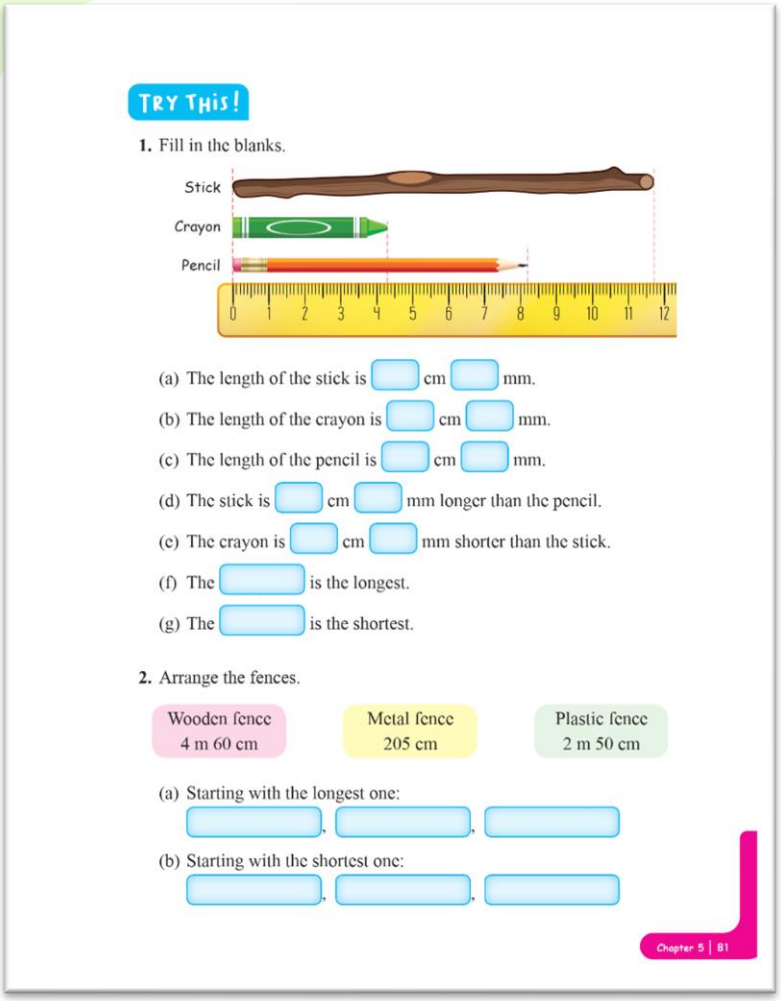
1. Guide the students to compare the distances shown in the example by asking them these questions:
   - Are all the units the same?
   - Do you need to convert them into the same unit?
   - Which distance is greater, the distance between the market and the post office or the distance between the market and the school?
   - Which distance is greater, the distance between the market and the post office, or the distance between the market and the mall?
   - Which distance is greater, the distance between the market and the mall, or the distance between the market and the school?
   - Which distance is the greatest?
   - Which distance is the shortest?
2. Guide the students to arrange the distances. Tell them that we can arrange them starting with the shortest or the greatest one. Always fill in the shortest and the greatest first and then only fill in the last one in between them.
3. Guide the students to refer to **Starting Point** on page 78. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 9 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 68 and 69 in Go Get Maths Workbook P3.



TRY THIS!

1. Fill in the blanks.

Stick
Crayon
Pencil
0 1 2 3 4 5 6 7 8 9 10 11 12

(a) The length of the stick is ____ cm ____ mm.

(b) The length of the crayon is ____ cm ____ mm.

(c) The length of the pencil is ____ cm ____ mm.

(d) The stick is ____ cm ____ mm longer than the pencil.

(e) The crayon is ____ cm ____ mm shorter than the stick.

(f) The ____ is the longest.

(g) The ____ is the shortest.

2. Arrange the fences.

Wooden fence	Metal fence	Plastic fence
4 m 60 cm	205 cm	2 m 50 cm

(a) Starting with the longest one:

____, ____, ____

(b) Starting with the shortest one:

____, ____, ____

Chapter 5 | 81

Lesson 6 Word problems

Starting point

I have a ribbon. It is 3 m 45 cm long. I use 170 cm of it to wrap a present.

How do I know the length of the ribbon that is left in cm?

Learning to know Solving word problems

The salesgirl uses a ribbon with a length of 655 mm to tie a present. She uses another ribbon with a length of 40 cm 7 mm to tie some flowers. What is the total length of ribbon used in cm and mm?

655 mm = 650 mm + 5 mm
= 65 cm 5 mm

?

65 cm 5 mm	40 cm 7 mm

	cm	mm
	65	5
+	40	7
	106	2

65 cm 5 mm + 40 cm 7 mm = 106 cm 2 mm

The total length of ribbon used is 106 cm 2 mm.

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Lesson 6
Word problems

Lesson objectives

By the end of the lesson, the students should be able to:

1. Solve word problems involving length.

Suggested teaching time

3 periods (3 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Reiterate the 3 simple steps to solve a word problem.

   Step 1: Understand the problem

   - Ask the students to read the number story and the question silently. Then, read them together with the students. Explain further the number story and the question if the students do not understand.
   - Ask the students these questions to ensure they understand:
     - What information is given?
     - What do you need to find?
     - Are you comparing the items?

Teaching ideas

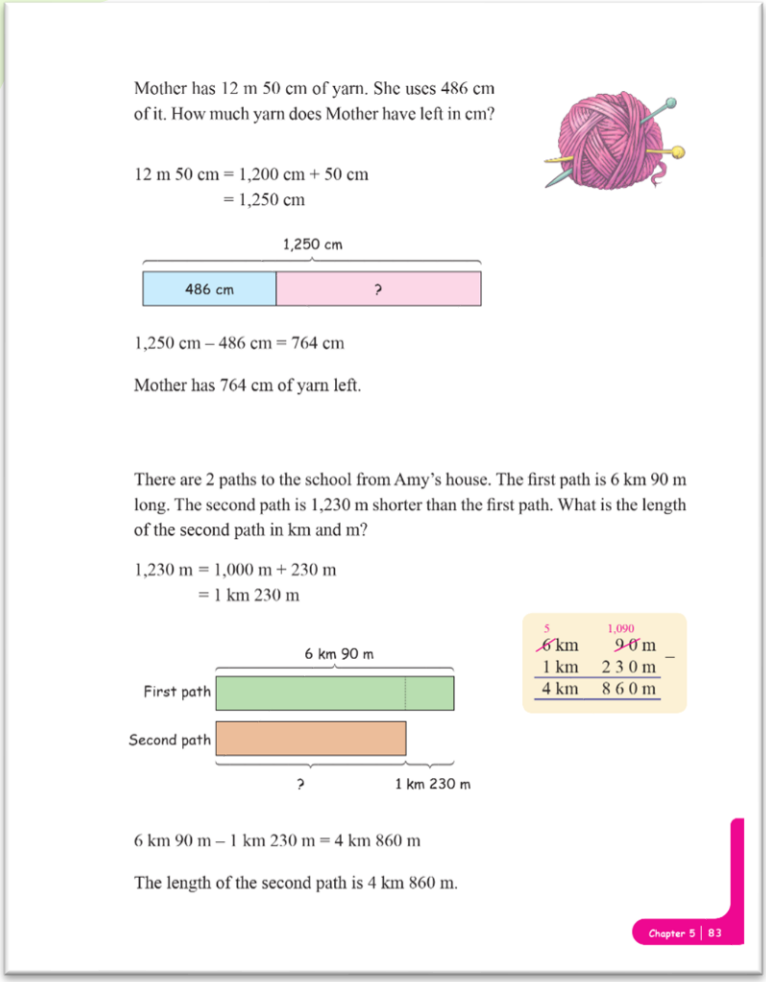
Step 2: Plan and execute

- Ask the students to draw the suitable bar model including the knowns and unknowns.
- Ask them to find the keyword in the problem that indicates the operation whether to add, to subtract, to multiply or to divide.
- Analyze the bar model drawn.
- Then, write the number equation and solve it.

Step 3: Check the answer

- Always ask the students to check their answer. They need to check if the answer makes sense and is reasonable.

2. Remind the students to always take note of the units.
3. Work with them the 3 steps in solving the word problems.



Mother has 12 m 50 cm of yarn. She uses 486 cm of it. How much yarn does Mother have left in cm?

12 m 50 cm = 1,200 cm + 50 cm
= 1,250 cm

1,250 cm – 486 cm = 764 cm

Mother has 764 cm of yarn left.

There are 2 paths to the school from Amy's house. The first path is 6 km 90 m long. The second path is 1,230 m shorter than the first path. What is the length of the second path in km and m?

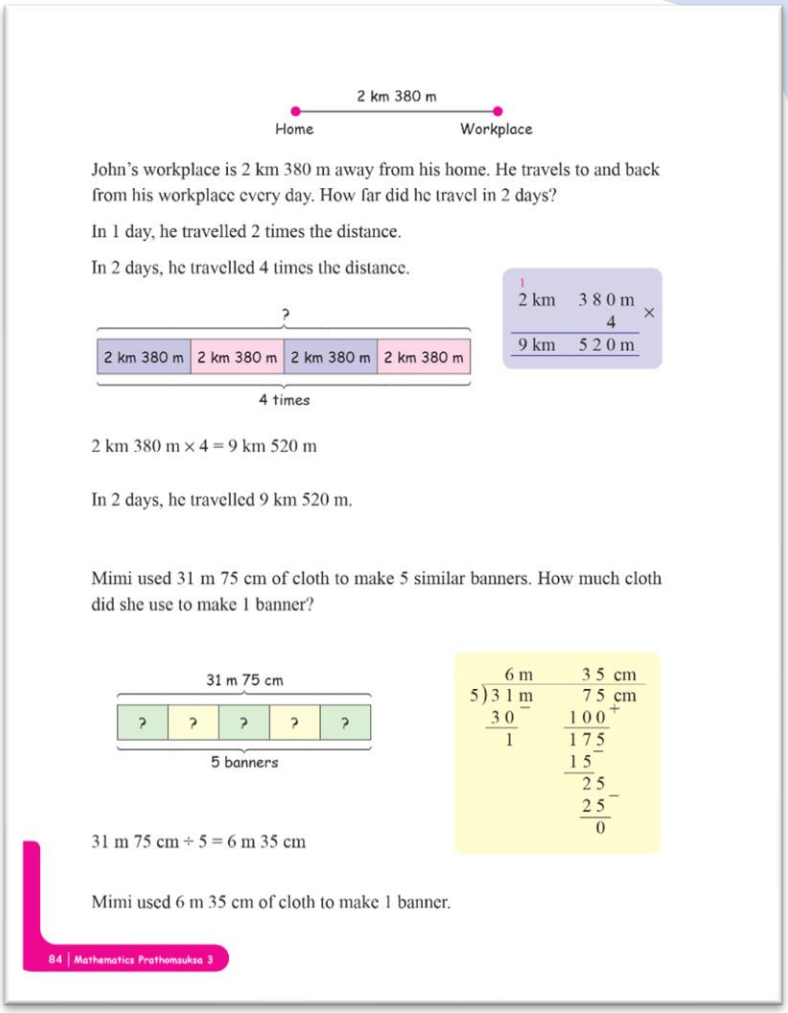
1,230 m = 1,000 m + 230 m
= 1 km 230 m

5 1,090
~~6~~ km ~~9 0~~ m
1 km 2 3 0 m
4 km 8 6 0 m

6 km 90 m – 1 km 230 m = 4 km 860 m

The length of the second path is 4 km 860 m.

Chapter 5 | 83



Teaching ideas

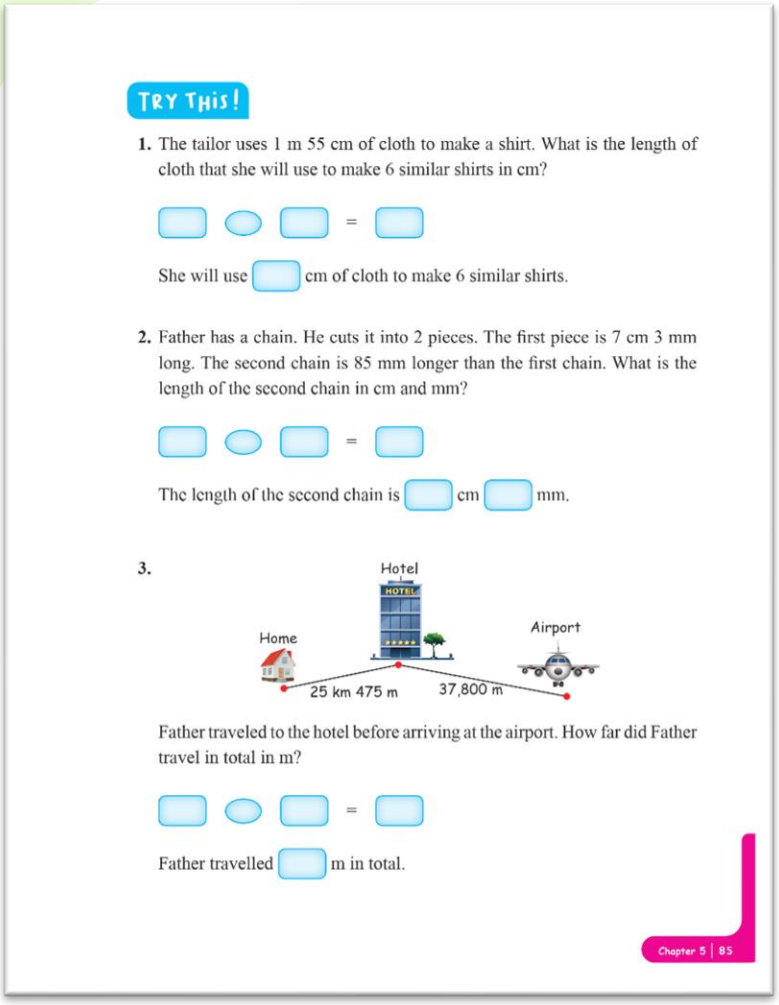
4. Work with them the 3 steps in solving the word problems.
5. Guide the students to refer to **Starting Point** on page 82. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 3 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 70 to 73 in Go Get Maths Workbook P3.



TRY THIS!

1. The tailor uses 1 m 55 cm of cloth to make a shirt. What is the length of cloth that she will use to make 6 similar shirts in cm?

□ ⬭ □ = □

She will use □ cm of cloth to make 6 similar shirts.

2. Father has a chain. He cuts it into 2 pieces. The first piece is 7 cm 3 mm long. The second chain is 85 mm longer than the first chain. What is the length of the second chain in cm and mm?

□ ⬭ □ = □

The length of the second chain is □ cm □ mm.

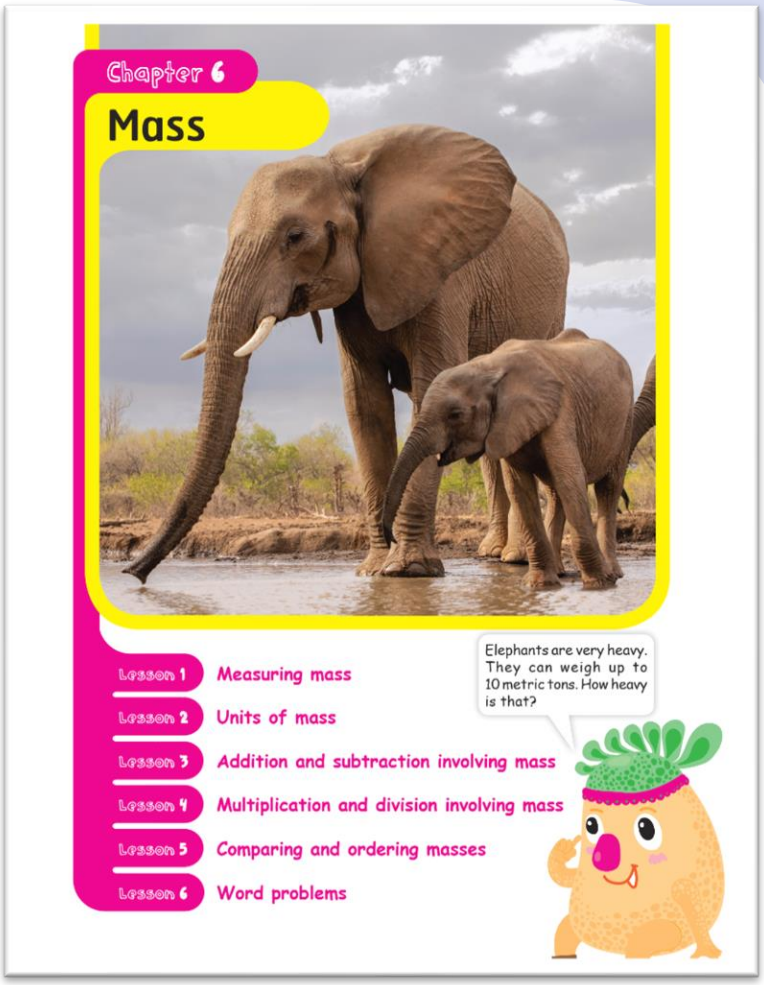
3.

Father traveled to the hotel before arriving at the airport. How far did Father travel in total in m?

□ ⬭ □ = □

Father travelled □ m in total.

Chapter 5 | 85



Chapter 6
Mass

The big idea

Ask the students to look at the picture carefully. Ask them these questions to start a discussion:

a. Have you seen an elephant?

b. Is an elephant big?

c. Is it taller than you?

d. Do you think an adult elephant is heavy? Why?

e. How heavy do you think an adult elephant weighs?

Strand 2: measurement and geometry

Standard M.2.1

Indicators:

M 2.1 Gr3/7 Choose appropriate weighing machines, measure and tell weight in kilogrammes and kheeds, kilogrammes and grammes.

M 2.1 Gr3/8 Estimate weight in kilogrammes and kheeds.

M 2.1 Gr3/9 Compare weight between kilogrammes and grammes, metric tons and kilogrammes in various situations.

M 2.1 Gr3/10 Demonstrate the methods of finding answers to word problems involving weight in kilogrammes and grammes, metric tons and kilogrammes.

Lesson 1
Measuring mass

Lesson objectives
By the end of the lesson, the students should be able to:

1. Use appropriate tools to measure mass.
2. Measure length in kg and kheed, and kg and g.
3. Estimate length in kg and kheed.

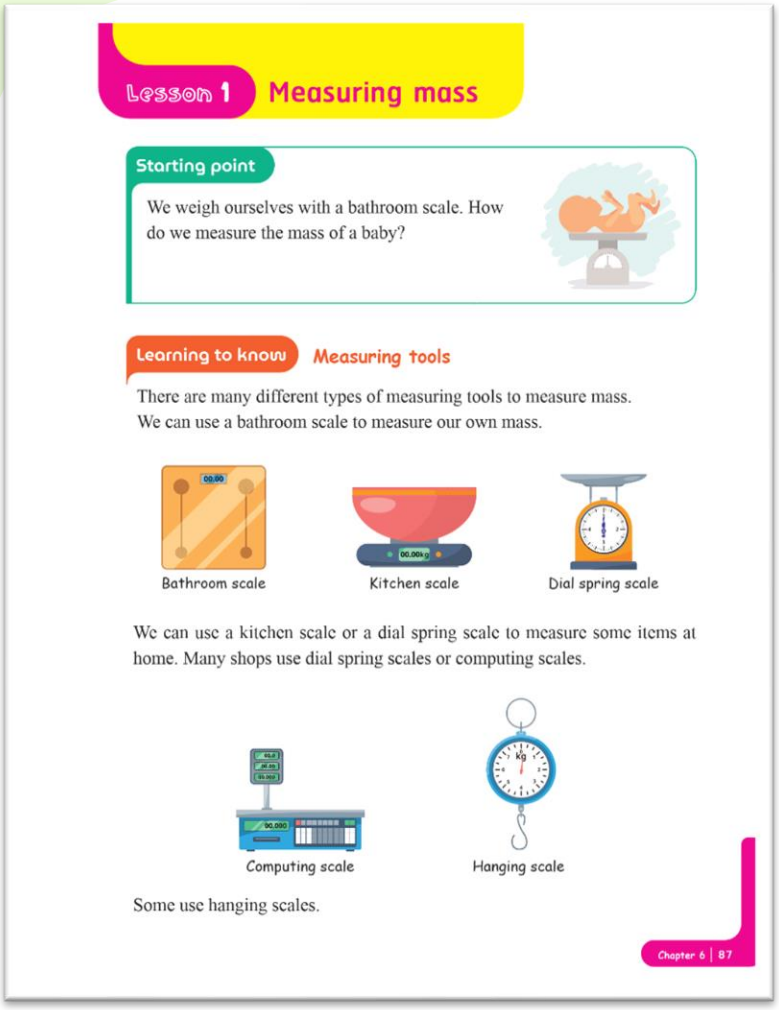
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
-

Materials needed
Bathroom scale, kitchen scale, dial spring scale, computing scale, hanging scale, equal-arm balance scale, lab scale, platform scale

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Show the students a bathroom scale, a kitchen scale, a dial spring scale, a computing scale and a hanging scale.
2. Discuss how these scales are used and where they are usually used.



Lesson 1 Measuring mass

Starting point

We weigh ourselves with a bathroom scale. How do we measure the mass of a baby?

Learning to know Measuring tools

There are many different types of measuring tools to measure mass. We can use a bathroom scale to measure our own mass.

Bathroom scale Kitchen scale Dial spring scale

We can use a kitchen scale or a dial spring scale to measure some items at home. Many shops use dial spring scales or computing scales.

Computing scale Hanging scale

Some use hanging scales.

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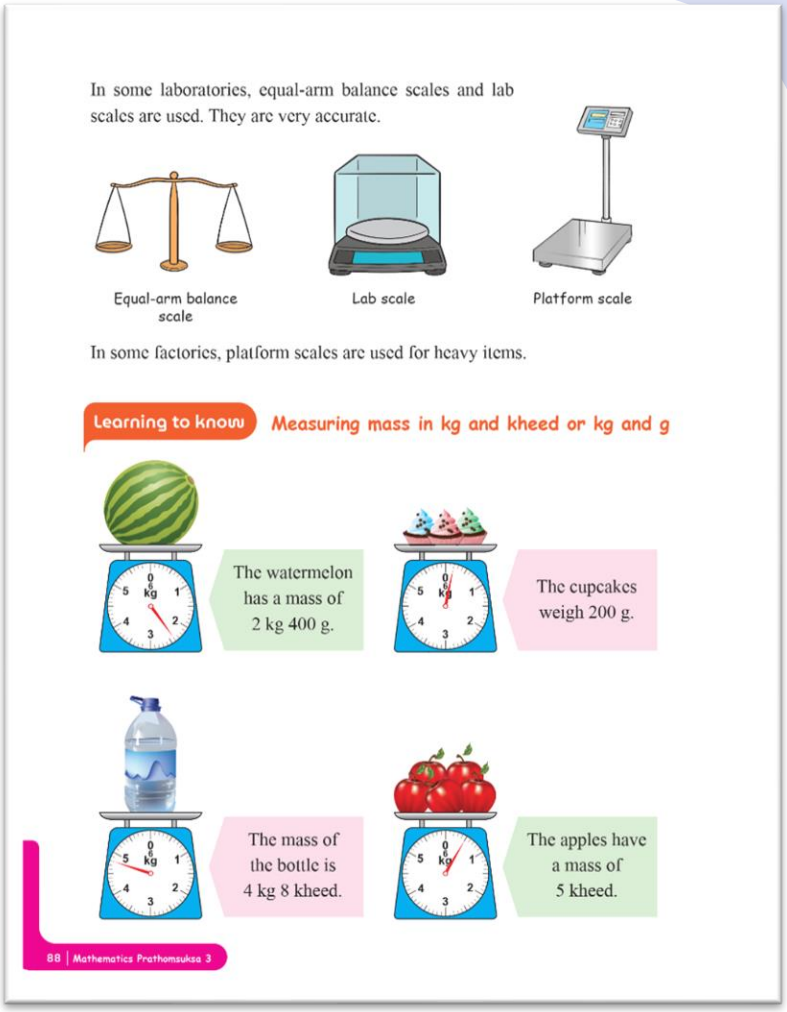

In some laboratories, equal-arm balance scales and lab scales are used. They are very accurate.

Equal-arm balance scale

Lab scale

Platform scale

In some factories, platform scales are used for heavy items.

Learning to know Measuring mass in kg and kheed or kg and g

The watermelon has a mass of 2 kg 400 g.

The cupcakes weigh 200 g.

The mass of the bottle is 4 kg 8 kheed.

The apples have a mass of 5 kheed.

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Activity for Reinforcement

Materials required: A weighing scale, things in the classroom

Objective of the activity: Reading mass in kg and kheed, and kg and g

1. Ask the students to work in pairs.
2. Ask each group to weigh the mass of anything they have such as their pencil box, book, bag and water bottle.
3. Ask one of them to read the mass in kg and kheed, and another in kg and g.
4. Ask the other student to verify the reading.
5. Ask them to exchange their roles.

Teaching ideas

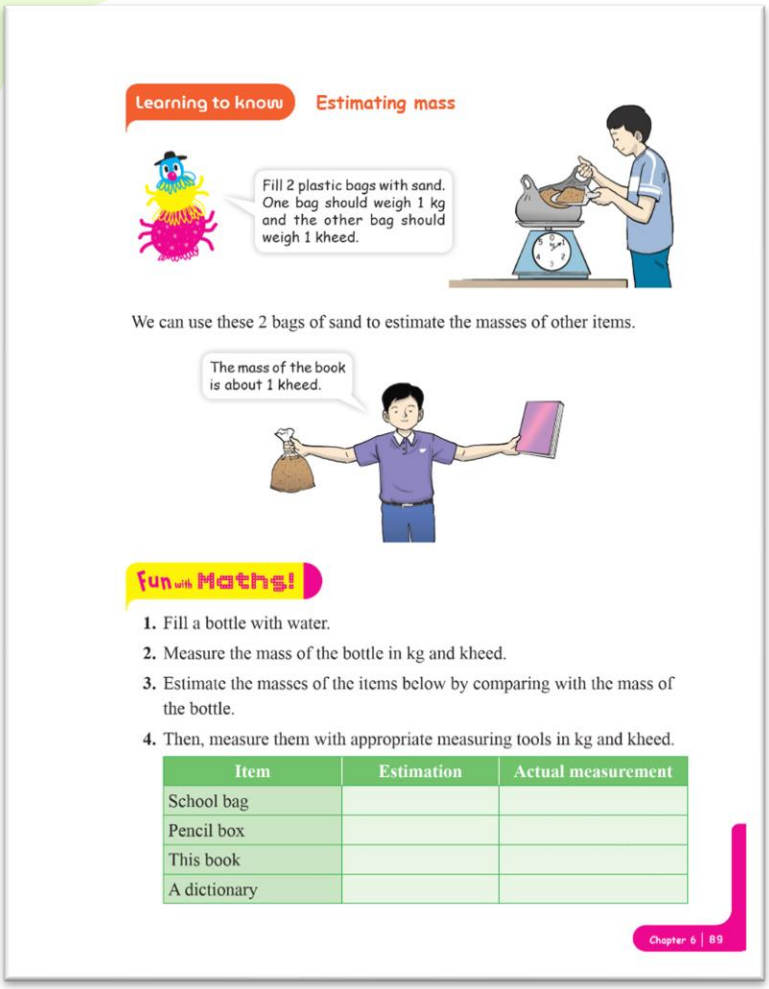
3. Show the students an equal-arm balance scale, a lab scale and a platform scale.
4. Discuss how these scales are used and where they are usually used.

Teaching ideas

1. Demonstrate how to measure mass using kg and kheed, and kg and g with a dial-spring scale. Guide them to read the scale while pointing to the reading.
2. Inform the students that kheed is generally used in Thailand. In other countries, gram (g) is more commonly used.

Teaching ideas

1. Ask the students to work in pairs to make bags of sand weighing 1 kg and 1 kheed.
2. Then, ask them to estimate the mass of the thing around their classroom by comparing them with the known masses.
3. Tell them that estimating is an important skill.
4. Guide the students to refer to **Starting Point** on page 87. Ask them to answer the question. Have a discussion to conclude the lesson.



Learning to know Estimating mass

Fill 2 plastic bags with sand. One bag should weigh 1 kg and the other bag should weigh 1 kheed.

We can use these 2 bags of sand to estimate the masses of other items.

The mass of the book is about 1 kheed.

Fun with Maths!

1. Fill a bottle with water.
2. Measure the mass of the bottle in kg and kheed.
3. Estimate the masses of the items below by comparing with the mass of the bottle.
4. Then, measure them with appropriate measuring tools in kg and kheed.

Item	Estimation	Actual measurement
School bag		
Pencil box		
This book		
A dictionary		

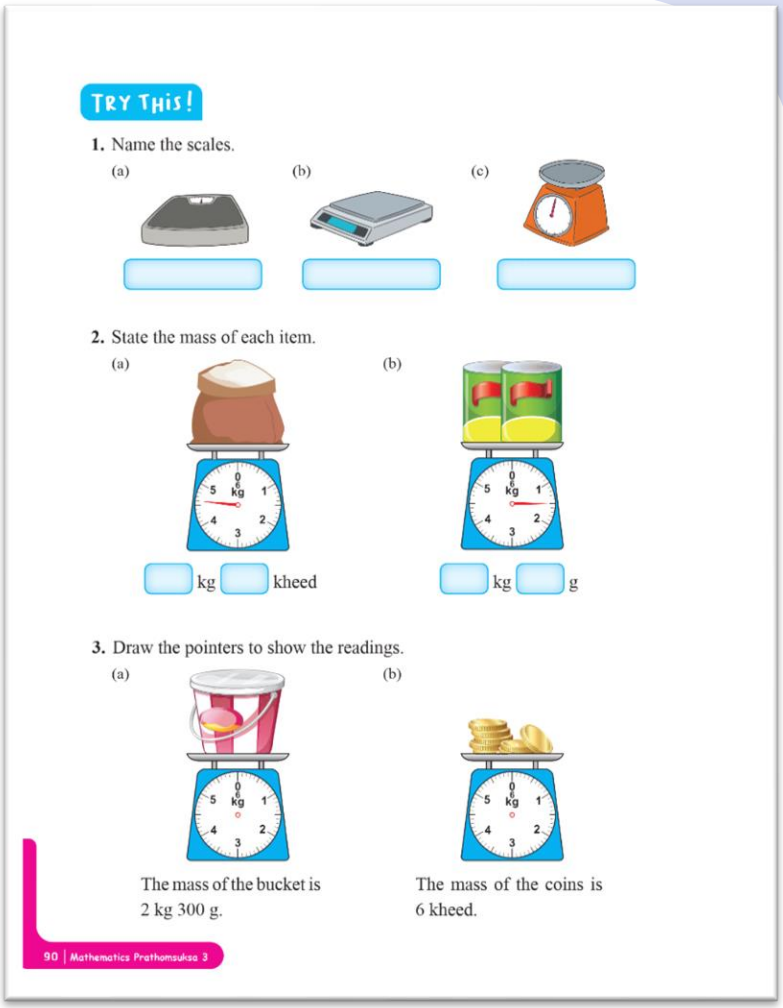
Chapter 6 | 89

Fun with Maths!

Materials required: Weighing scales, bottle filled with water, school bag, pencil box, book, dictionary

Objective of the activity: Estimating mass with a known mass

The students should try to estimate the masses of the items by comparing them with the known mass of the bottle with water. Estimation skill is an important skill.



TRY THIS!

1. Name the scales.

(a) (b) (c)

2. State the mass of each item.

(a) (b)

kg kheed kg g

3. Draw the pointers to show the readings.

(a) (b)

The mass of the bucket is 2 kg 300 g.

The mass of the coins is 6 kheed.

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Try This!

Get 7 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 74 to 76 in Go Get Maths Workbook P3.

Lesson 2
Units of mass

Lesson objectives
By the end of the lesson, the students should be able to:

1. Convert units of mass.

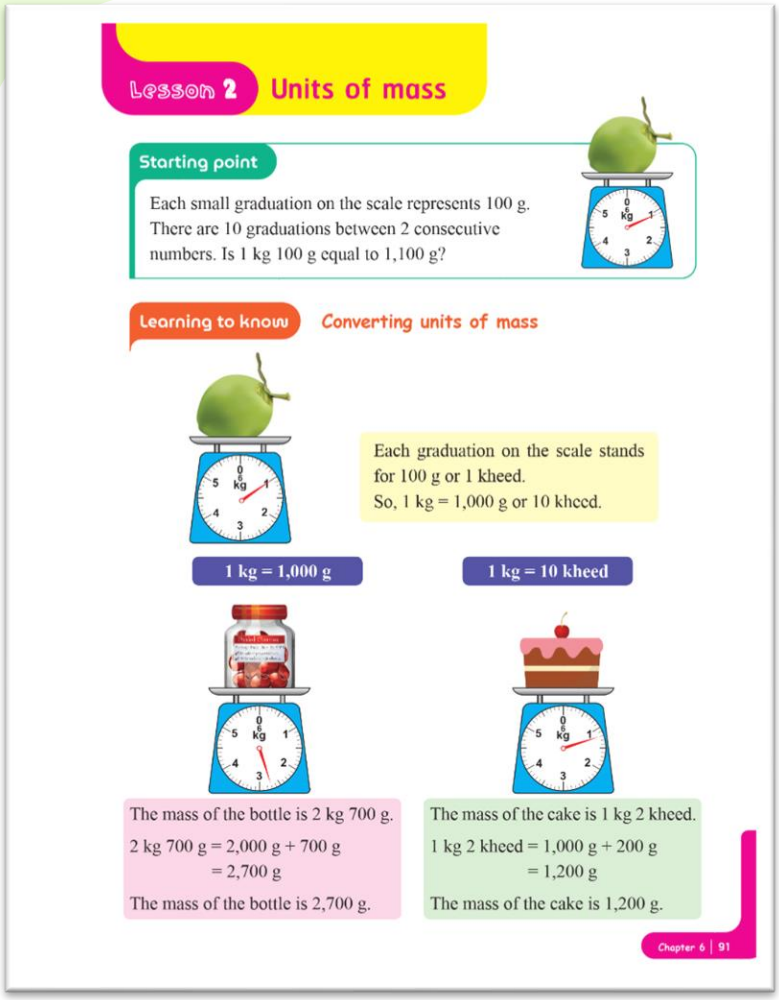
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
-

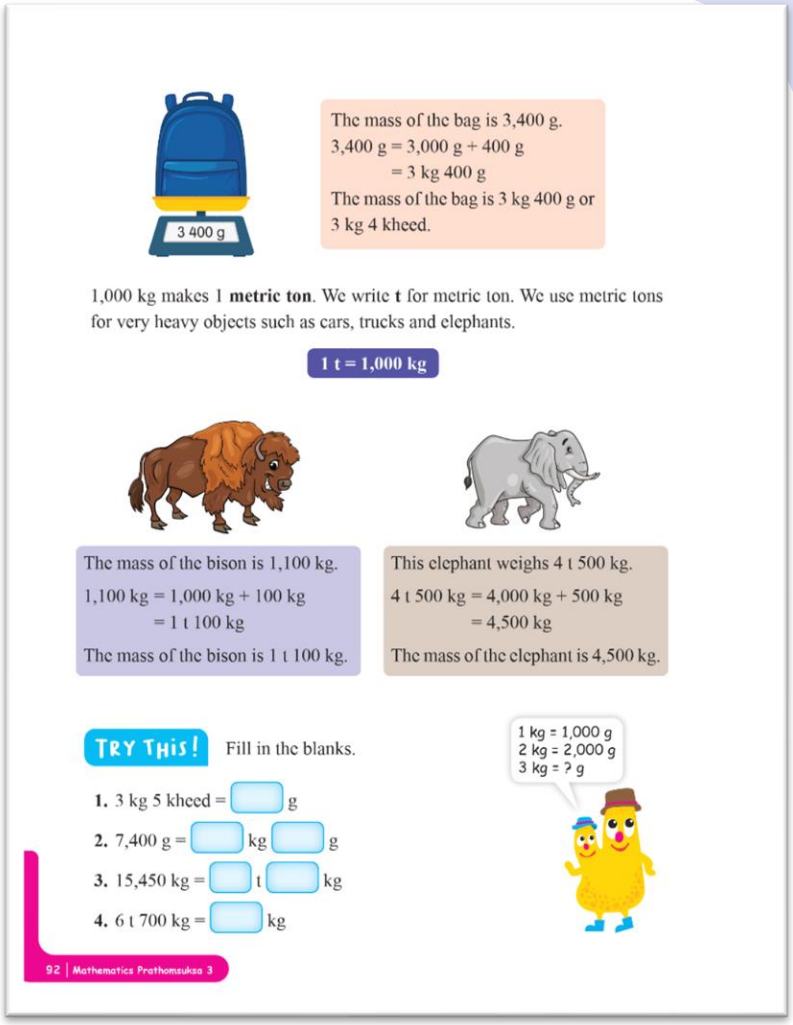
Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Ask the students to analyze a weighing scale. Ask them these questions to start a discussion:
   - How many graduations or small lines between any 2 consecutive numbers?
   - What does each graduation represent?
   - Is 10 kheed equal to 1 kg?
   - Is 1,000 g equal to 1 kg?
2. Guide the students to understand that 1 kheed equals to 100 g, 10 kheed equals to 1 kg, and 1,000g equals to 1 kg.
3. Use the examples to show how to convert kheed and kg into g, and g and kg into g.



More Info
or visit
http://tiny.cc/cidquz



Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to convert the units. Ask them to explain their answers. Invite a few to verify the answers.

3 kg 3 g = ☐ g

5,500 g = ☐ kg ☐ g

4,070 kg = ☐ t ☐ kg

2 t 678 kg = ☐ kg

Teaching ideas

4. Use the examples to show how to convert g into kheed and kg into g, and g into g and kg.
5. Introduce the term metric ton. It is used for very heavy objects such elephants.
6. Tell them that 1,000 kg is equal to 1 metric ton.
7. Use the examples to show how to convert kg into metric ton, and metric ton into kg.
8. Guide the students to refer to **Starting Point** on page 91. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 77 and 78 in Go Get Maths Workbook P3.

Lesson 3
Addition and subtraction involving mass

Lesson objectives
By the end of the lesson, the students should be able to:
1. Add masses involving different units.
2. Subtract masses involving different units.

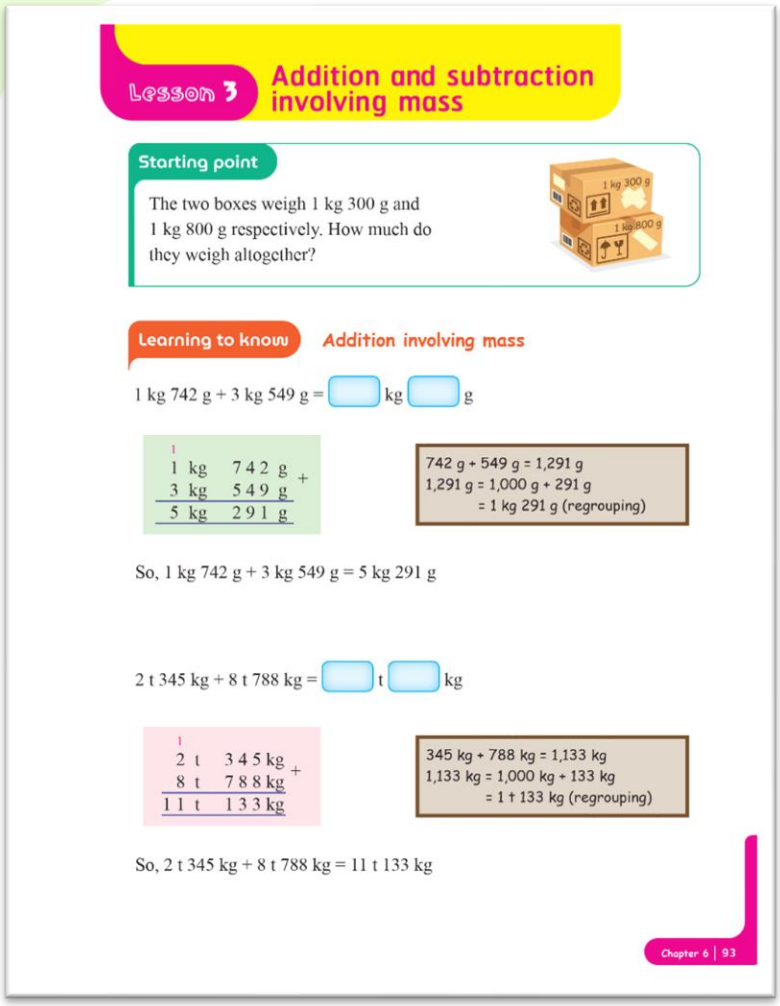
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Guide the students to add vertically.
2. Firstly, ask the students write the masses vertically, with the same unit in the same column.
3. Tell them to align the digits in each unit based on their place values. This is very important.
4. Ask them to add the smaller unit first. Regroup when needed as 1,000 g equals to 1 kg, and 1,000 kg equals to 1 metric ton.
5. Use the examples to explain further.



Lesson 3 Addition and subtraction involving mass

Starting point

The two boxes weigh 1 kg 300 g and 1 kg 800 g respectively. How much do they weigh altogether?

Learning to know — Addition involving mass

1 kg 742 g + 3 kg 549 g = ☐ kg ☐ g

1 kg	742 g	
3 kg	549 g	+
5 kg	291 g	

742 g + 549 g = 1,291 g
1,291 g = 1,000 g + 291 g
= 1 kg 291 g (regrouping)

So, 1 kg 742 g + 3 kg 549 g = 5 kg 291 g

2 t 345 kg + 8 t 788 kg = ☐ t ☐ kg

2 t	345 kg	
8 t	788 kg	+
11 t	133 kg	

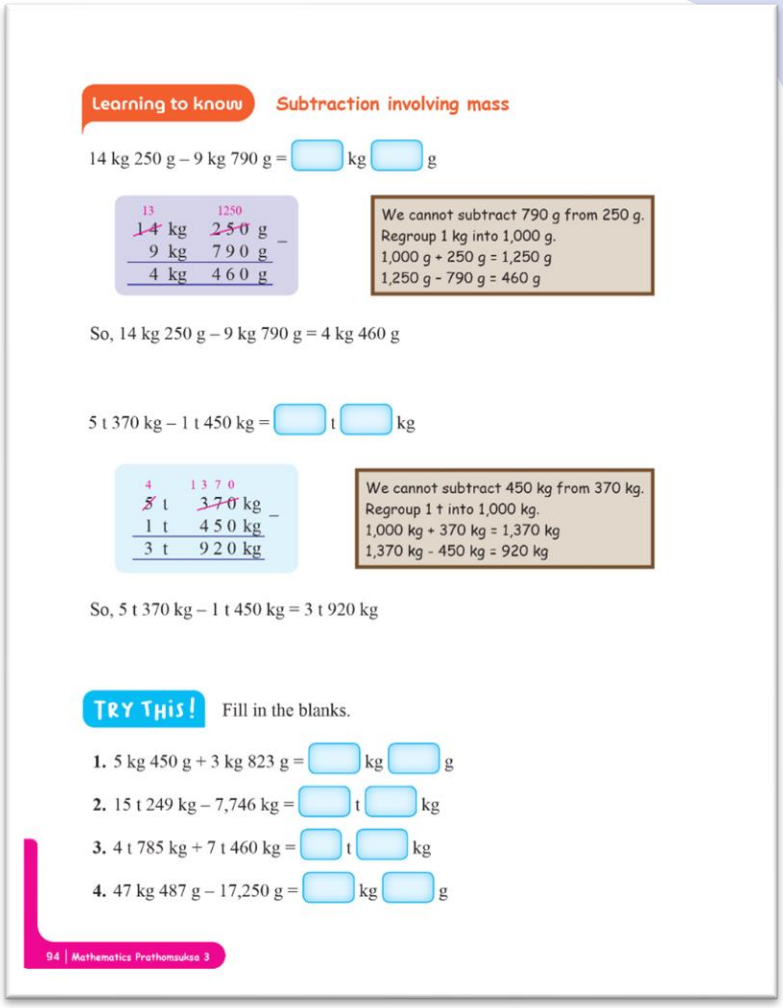
345 kg + 788 kg = 1,133 kg
1,133 kg = 1,000 kg + 133 kg
= 1 t 133 kg (regrouping)

So, 2 t 345 kg + 8 t 788 kg = 11 t 133 kg

Chapter 6 | 93

Activity for Reinforcement
Get a few students to write these questions on the board. Then, get others to add. Ask them to explain their answers. Invite a few to verify the answers.

2 kg 34 g + 1 kg 48 g = ☐ kg ☐ g
3 kg 4 g + 6 kg 334 g = ☐ kg ☐ g
6 kg 478 g + 3 kg 823 g = ☐ kg ☐ g
8 kg 899 g + 2 kg 7 g = ☐ kg ☐ g



Learning to know **Subtraction involving mass**

14 kg 250 g – 9 kg 790 g = ☐ kg ☐ g

13 1250
14 kg 250 g
9 kg 790 g
4 kg 460 g

We cannot subtract 790 g from 250 g.
Regroup 1 kg into 1,000 g.
1,000 g + 250 g = 1,250 g
1,250 g - 790 g = 460 g

So, 14 kg 250 g – 9 kg 790 g = 4 kg 460 g

5 t 370 kg – 1 t 450 kg = ☐ t ☐ kg

4 1370
5 t 370 kg
1 t 450 kg
3 t 920 kg

We cannot subtract 450 kg from 370 kg.
Regroup 1 t into 1,000 kg.
1,000 kg + 370 kg = 1,370 kg
1,370 kg - 450 kg = 920 kg

So, 5 t 370 kg – 1 t 450 kg = 3 t 920 kg

TRY THIS! Fill in the blanks.

1. 5 kg 450 g + 3 kg 823 g = ☐ kg ☐ g
2. 15 t 249 kg – 7,746 kg = ☐ t ☐ kg
3. 4 t 785 kg + 7 t 460 kg = ☐ t ☐ kg
4. 47 kg 487 g – 17,250 g = ☐ kg ☐ g

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Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to subtract. Ask them to explain their answers. Invite a few to verify the answers.

3 kg 133 g – 1 kg 450 g = ☐ kg ☐ g
12 kg 4 g – 6 kg 34 g = ☐ kg ☐ g
10 kg 450 g – 3 kg 874 g = ☐ kg ☐ g
8 kg 330 g – 4 kg 785 g = ☐ kg ☐ g

Teaching ideas

1. Guide the students to subtract vertically.
2. Firstly, ask the students write the masses vertically, with the same unit in the same column.
3. Tell them to align the digits in each unit based on their place values. This is very important.
4. Ask them to subtract the smaller unit first. Regroup when needed as 1 kg equals to 1,000 g, and 1 metric ton equals to 1,000 kg.
5. Use the examples to explain further.
6. Guide the students to refer to **Starting Point** on page 93. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 79 and 80 in Go Get Maths Workbook P3.

or visit
http://tiny.cc/vidquz

Lesson 4
Multiplication and division involving mass

Lesson objectives
By the end of the lesson, the students should be able to:
1. Multiply mass involving different units.
2. Divide mass involving different units.

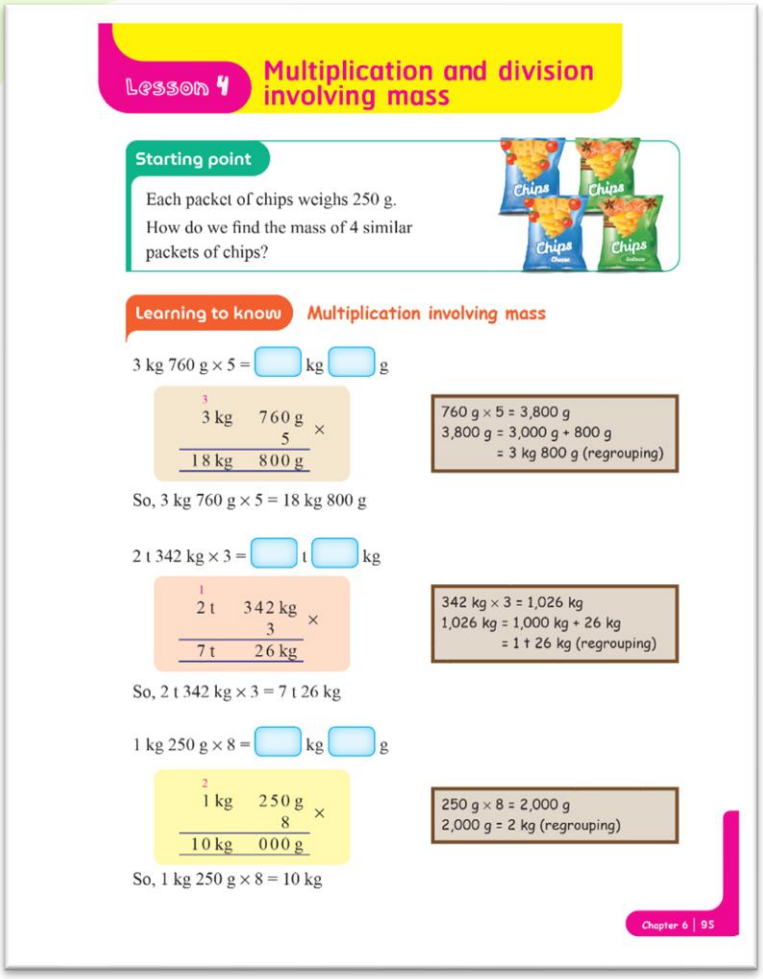
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Guide the students to multiply vertically.
2. Firstly, ask the students write the mass vertically.
3. Ask them to multiply the smaller unit first. Regroup when needed as 1,000 g equals to 1 kg, and 1,000 kg equals to 1 metric ton.
4. Use the examples to explain further.



Lesson 4 Multiplication and division involving mass

Starting point

Each packet of chips weighs 250 g.
How do we find the mass of 4 similar packets of chips?

Learning to know Multiplication involving mass

3 kg 760 g × 5 = ☐ kg ☐ g

3 kg	760 g	
	5	×
18 kg	800 g	

760 g × 5 = 3,800 g
3,800 g = 3,000 g + 800 g
= 3 kg 800 g (regrouping)

So, 3 kg 760 g × 5 = 18 kg 800 g

2 t 342 kg × 3 = ☐ t ☐ kg

2 t	342 kg	
	3	×
7 t	26 kg	

342 kg × 3 = 1,026 kg
1,026 kg = 1,000 kg + 26 kg
= 1 t 26 kg (regrouping)

So, 2 t 342 kg × 3 = 7 t 26 kg

1 kg 250 g × 8 = ☐ kg ☐ g

1 kg	250 g	
	8	×
10 kg	000 g	

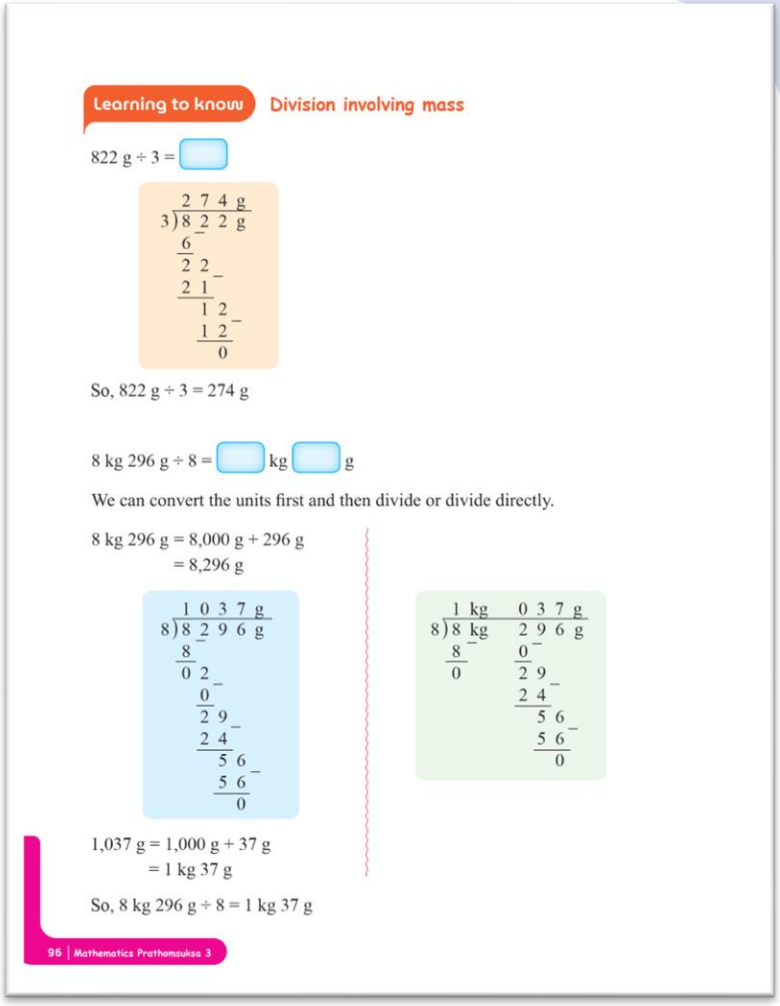
250 g × 8 = 2,000 g
2,000 g = 2 kg (regrouping)

So, 1 kg 250 g × 8 = 10 kg

Chapter 6 | 95

Activity for Reinforcement
Get a few students to write these questions on the board. Then, get others to multiply. Ask them to explain their answers. Invite a few to verify the answers.

2 kg 150 g x 4 = ☐ kg ☐ g
4 kg 7 g x 9 = ☐ kg ☐ g
3 kg 578 g x 7 = ☐ kg ☐ g
11 kg 355 g x 3 = ☐ kg ☐ g



Learning to know Division involving mass

822 g ÷ 3 = ☐

$$\begin{array}{r} 274\text{ g} \\ 3\overline{)822\text{ g}} \\ \underline{6} \\ 22 \\ \underline{21} \\ 12 \\ \underline{12} \\ 0 \end{array}$$

So, 822 g ÷ 3 = 274 g

8 kg 296 g ÷ 8 = ☐ kg ☐ g

We can convert the units first and then divide or divide directly.

8 kg 296 g = 8,000 g + 296 g
= 8,296 g

$$\begin{array}{r} 1037\text{ g} \\ 8\overline{)8296\text{ g}} \\ \underline{8} \\ 02 \\ \underline{0} \\ 29 \\ \underline{24} \\ 56 \\ \underline{56} \\ 0 \end{array}$$

$$\begin{array}{r} 1\text{ kg}\quad 037\text{ g} \\ 8\overline{)8\text{ kg}\quad 296\text{ g}} \\ \underline{8\phantom{\text{ kg}\quad 000}} \\ 0\phantom{\text{ kg}\quad 029} \\ \underline{0\phantom{\text{ kg}\quad 00}} \\ 29 \\ \underline{24} \\ 56 \\ \underline{56} \\ 0 \end{array}$$

1,037 g = 1,000 g + 37 g
= 1 kg 37 g

So, 8 kg 296 g ÷ 8 = 1 kg 37 g

Teaching ideas

1. Guide the students to divide vertically.
2. Tell them that they can either convert the different units into the smaller unit first before dividing, or divide the different units together.
3. If they are going to divide the different units together, they should divide the greater unit first. Regroup when needed as 1 kg equals to 1,000 g, and 1 metric ton equals to 1,000 kg.
4. Use the examples to explain further.

Teaching ideas

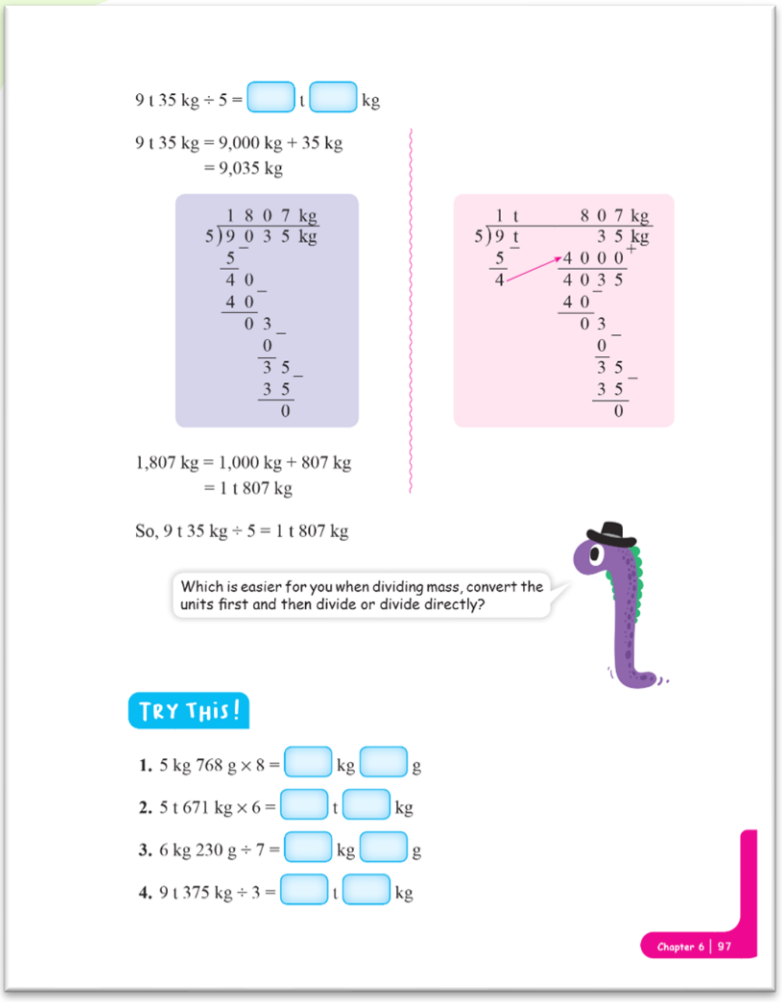
5. Use the example to explain further.
6. Guide the students to refer to **Starting Point** on page 95. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 81 to 83 in Go Get Maths Workbook P3.



9 t 35 kg ÷ 5 = ☐ t ☐ kg

9 t 35 kg = 9,000 kg + 35 kg
= 9,035 kg

1,807 kg = 1,000 kg + 807 kg
= 1 t 807 kg

So, 9 t 35 kg ÷ 5 = 1 t 807 kg

Which is easier for you when dividing mass, convert the units first and then divide or divide directly?

TRY THIS!

1. 5 kg 768 g × 8 = ☐ kg ☐ g
2. 5 t 671 kg × 6 = ☐ t ☐ kg
3. 6 kg 230 g ÷ 7 = ☐ kg ☐ g
4. 9 t 375 kg ÷ 3 = ☐ t ☐ kg

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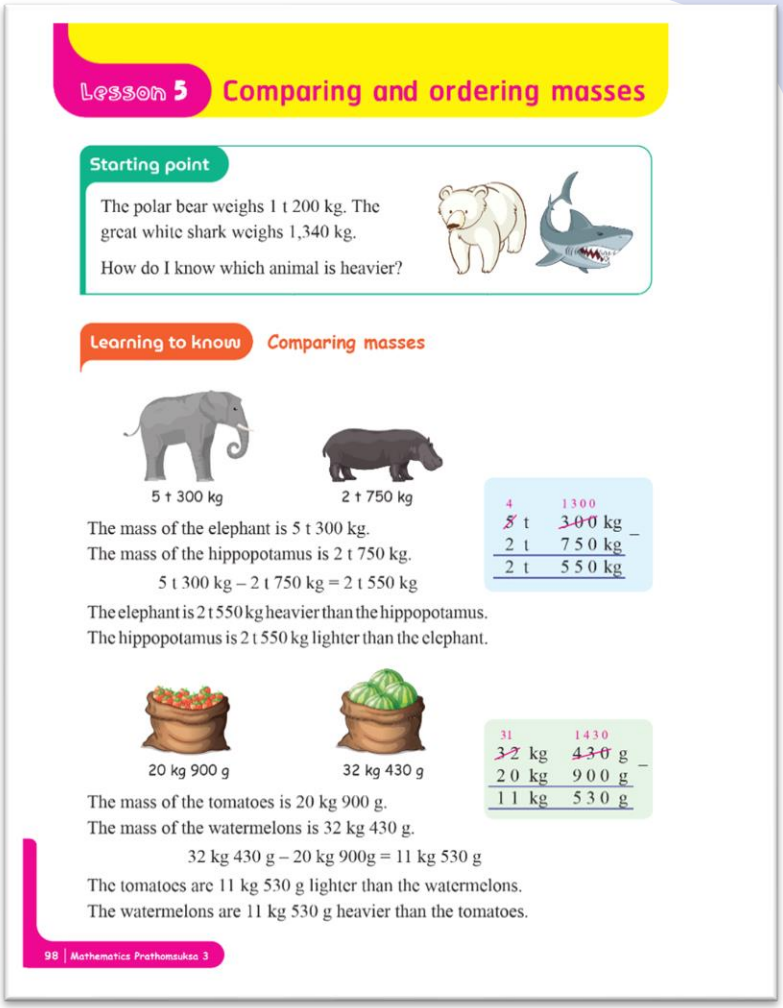
Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to divide. Ask them to explain their answers. Invite a few to verify the answers.

9 kg 120 g ÷ 6 = ☐ kg ☐ g
5 kg 25 g ÷ 5 = ☐ kg ☐ g
10 kg 670 g ÷ 4 = ☐ kg ☐ g
16 kg 64 g ÷ 8 = ☐ kg ☐ g



Lesson 5 Comparing and ordering masses

Starting point

The polar bear weighs 1 t 200 kg. The great white shark weighs 1,340 kg.

How do I know which animal is heavier?

Learning to know Comparing masses

5 t 300 kg

2 t 750 kg

The mass of the elephant is 5 t 300 kg.
The mass of the hippopotamus is 2 t 750 kg.

5 t 300 kg – 2 t 750 kg = 2 t 550 kg

The elephant is 2 t 550 kg heavier than the hippopotamus.
The hippopotamus is 2 t 550 kg lighter than the elephant.

20 kg 900 g

32 kg 430 g

The mass of the tomatoes is 20 kg 900 g.
The mass of the watermelons is 32 kg 430 g.

32 kg 430 g – 20 kg 900g = 11 kg 530 g

The tomatoes are 11 kg 530 g lighter than the watermelons.
The watermelons are 11 kg 530 g heavier than the tomatoes.

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Lesson 5
Comparing and ordering masses

Lesson objectives

By the end of the lesson, the students should be able to:

1. Compare masses with different units.
2. Order masses with different units.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

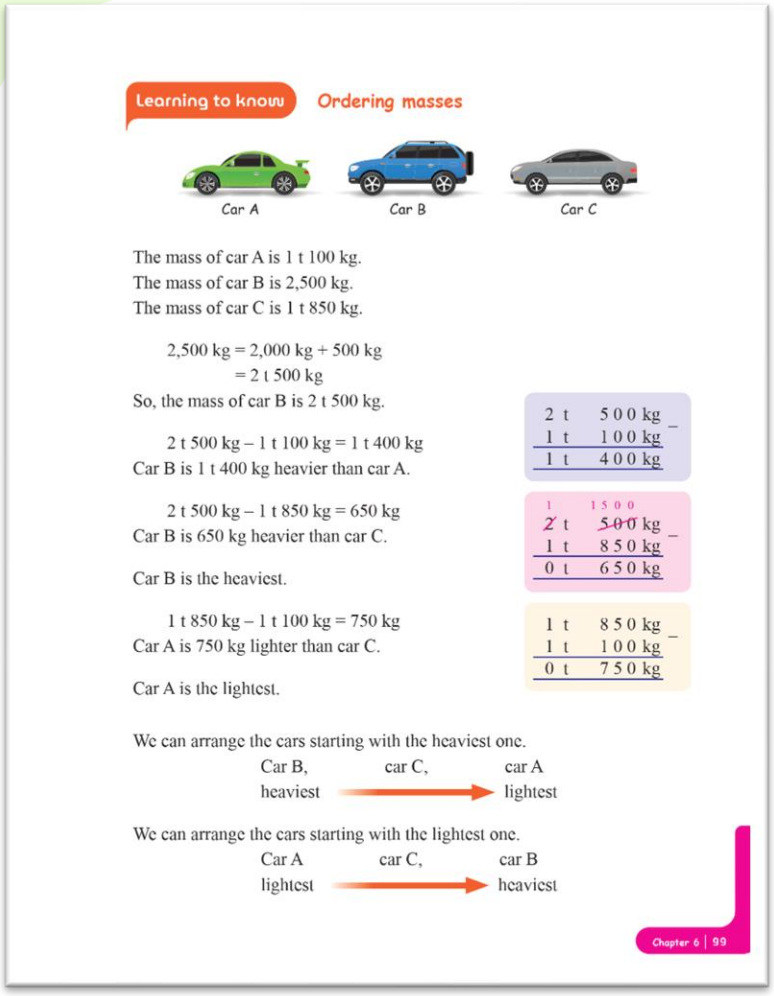
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Based on the example, tell the students that we can find the difference in mass by subtracting one from the other.
2. Take note that both lengths are in kg and metric ton, and g and kg. Here, we can subtract directly or convert the different units into one unit first before subtracting.
3. Guide them to make statements regarding the difference in mass between the elephant and hippopotamus, and between tomatoes and watermelons. Remind them to use the comparative adjectives.

Teaching ideas

1. Guide the students to compare the masses of the 3 cars as shown in the example by asking them these questions:
   - Are all the units the same?
   - Do you need to convert them into the same unit?
   - Which mass is greater, car B or car A?
   - Which mass is greater, car B or car C?
   - Which mass is smaller, car A or car C?
   - Which car is the lightest?
   - Which car is the heaviest?
2. Guide the students to arrange the masses. Tell them that we can arrange them starting with the heaviest or the lightest. Always fill in the heaviest and the lightest first and then only fill in the last one in between them.
3. Guide the students to refer to **Starting Point** on page 98. Ask them to answer the question. Have a discussion to conclude the lesson.



Learning to know Ordering masses

Car A Car B Car C

The mass of car A is 1 t 100 kg.
The mass of car B is 2,500 kg.
The mass of car C is 1 t 850 kg.

2,500 kg = 2,000 kg + 500 kg
= 2 t 500 kg
So, the mass of car B is 2 t 500 kg.

2 t 500 kg – 1 t 100 kg = 1 t 400 kg
Car B is 1 t 400 kg heavier than car A.

2 t 500 kg – 1 t 850 kg = 650 kg
Car B is 650 kg heavier than car C.

Car B is the heaviest.

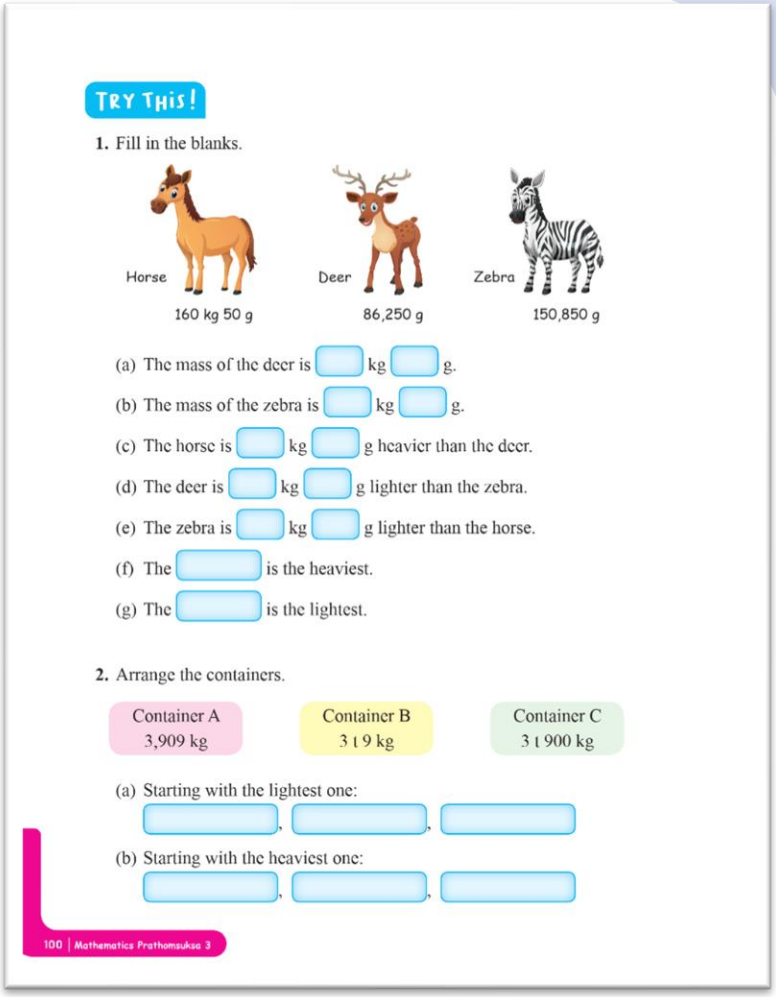
1 t 850 kg – 1 t 100 kg = 750 kg
Car A is 750 kg lighter than car C.

Car A is the lightest.

We can arrange the cars starting with the heaviest one.
Car B, heaviest → car C, car A lightest

We can arrange the cars starting with the lightest one.
Car A lightest → car C, car B heaviest

Chapter 6 | 99



TRY THIS!

1. Fill in the blanks.

Horse 160 kg 50 g

Deer 86,250 g

Zebra 150,850 g

(a) The mass of the deer is ____ kg ____ g.

(b) The mass of the zebra is ____ kg ____ g.

(c) The horse is ____ kg ____ g heavier than the deer.

(d) The deer is ____ kg ____ g lighter than the zebra.

(e) The zebra is ____ kg ____ g lighter than the horse.

(f) The ____ is the heaviest.

(g) The ____ is the lightest.

2. Arrange the containers.

Container A	Container B	Container C
3,909 kg	3 t 9 kg	3 t 900 kg

(a) Starting with the lightest one:

____, ____, ____

(b) Starting with the heaviest one:

____, ____, ____

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Try This!

Get 9 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 84 and 85 in Go Get Maths Workbook P3.

Lesson 6
Word problems

Lesson objectives
By the end of the lesson, the students should be able to:

1. Solve word problems involving mass.

Suggested teaching time
3 periods (3 x 50 minutes)

Vocabulary
-

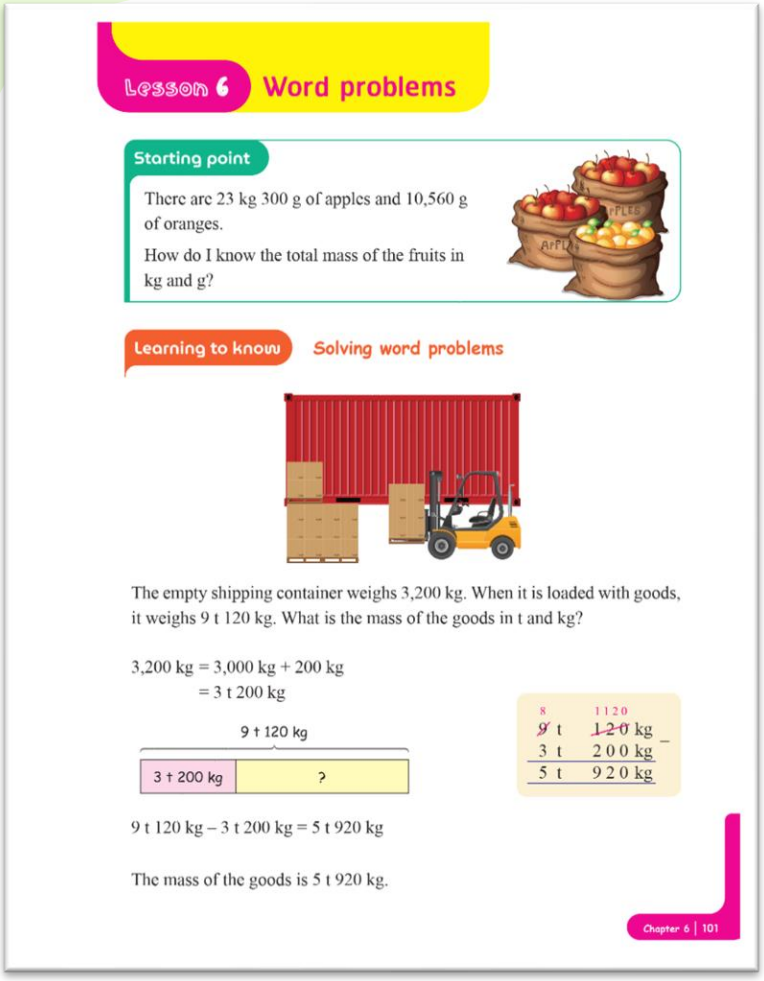
Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Reiterate the 3 simple steps to solve a word problem.

   Step 1: Understand the problem

   - Ask the students to read the number story and the question silently. Then, read them together with the students. Explain further the number story and the question if the students do not understand.
   - Ask the students these questions to ensure they understand:
     - What information is given?
     - What do you need to find?
     - Are you comparing the items?



Lesson 6 Word problems

Starting point

There are 23 kg 300 g of apples and 10,560 g of oranges.

How do I know the total mass of the fruits in kg and g?

Learning to know Solving word problems

The empty shipping container weighs 3,200 kg. When it is loaded with goods, it weighs 9 t 120 kg. What is the mass of the goods in t and kg?

3,200 kg = 3,000 kg + 200 kg
= 3 t 200 kg

9 t 120 kg

3 t 200 kg	?

8 1120
9 t 120 kg
3 t 200 kg
5 t 920 kg

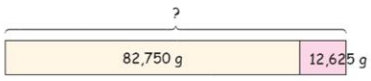
9 t 120 kg – 3 t 200 kg = 5 t 920 kg

The mass of the goods is 5 t 920 kg.

Chapter 6 | 101

The man has a mass of 82 kg 750 g. The sofa weighs 12,625 g. What is the mass of the sofa with the man sitting on it in g?

82 kg 750 g = 82,000 g + 750 g
= 82,750 g



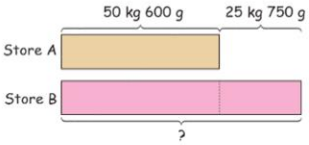
$$\begin{array}{r} {\scriptstyle 1}\\ 82\,750\ \text{g}\\ 12\,625\ \text{g}\\ \hline 95\,375\ \text{g} \end{array} +$$

82,750 g + 12,625 g = 95,375 g

The mass of the sofa with the man sitting on it is 95,375 g.

Store A has 50 kg 600 g of rice. Store B has 25,750 g more rice than store A. How much rice does store B have in kg and g?

25,750 g = 25,000 g + 750 g
= 25 kg 750 g



$$\begin{array}{r} {\scriptstyle 1}\\ 50\ \text{kg}\ \ 600\ \text{g}\\ 25\ \text{kg}\ \ 750\ \text{g}\\ \hline 76\ \text{kg}\ \ 350\ \text{g} \end{array} +$$

50 kg 600 g + 25 kg 750 g = 76 kg 350 g

Store B has 76 kg 350 g of rice.

Teaching ideas

Step 2: Plan and execute

- Ask the students to draw the suitable bar model including the knowns and unknowns.
- Ask them to find the keyword in the problem that indicates the operation whether to add, to subtract, to multiply or to divide.
- Analyze the bar model drawn.
- Then, write the number equation and solve it.

Step 3: Check the answer

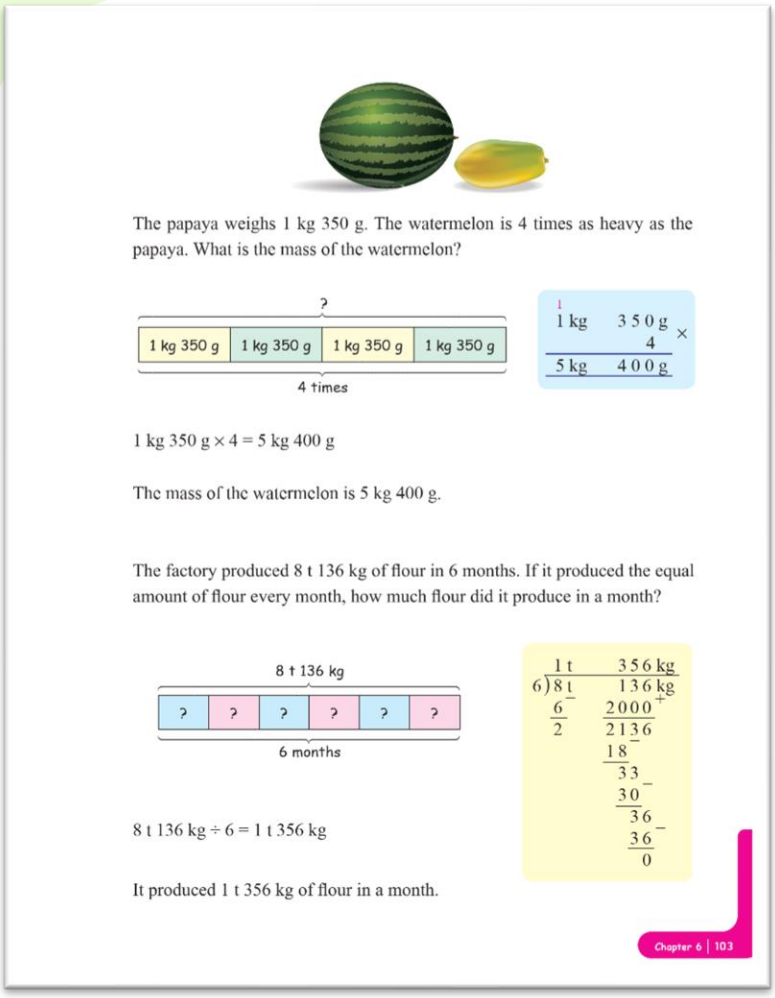
- Always ask the students to check their answer. They need to check if the answer makes sense and is reasonable.

2. Remind the students to always take note of the units.

3. Work with them the 3 steps in solving the word problems.

Teaching ideas

4. Work with them the 3 steps in solving the word problems.
5. Guide the students to refer to **Starting Point** on page 101. Ask them to answer the question. Have a discussion to conclude the lesson.



The papaya weighs 1 kg 350 g. The watermelon is 4 times as heavy as the papaya. What is the mass of the watermelon?

$$\begin{array}{r} {\scriptstyle 1}\\ 1\text{ kg}\ 350\text{ g} \\ \times\ \ 4 \\ \hline 5\text{ kg}\ 400\text{ g} \end{array}$$

1 kg 350 g × 4 = 5 kg 400 g

The mass of the watermelon is 5 kg 400 g.

The factory produced 8 t 136 kg of flour in 6 months. If it produced the equal amount of flour every month, how much flour did it produce in a month?

$$\begin{array}{r} 1\text{ t}\ \ 356\text{ kg} \\ 6\overline{)\,8\text{ t}\ \ 136\text{ kg}} \\ \underline{6} \\ 2 \\ \underline{\ \ 18} \\ \ \ 33 \\ \underline{\ \ 30} \\ \ \ \ 36 \\ \underline{\ \ 36} \\ \ \ \ \ 0 \end{array}$$

8 t 136 kg ÷ 6 = 1 t 356 kg

It produced 1 t 356 kg of flour in a month.

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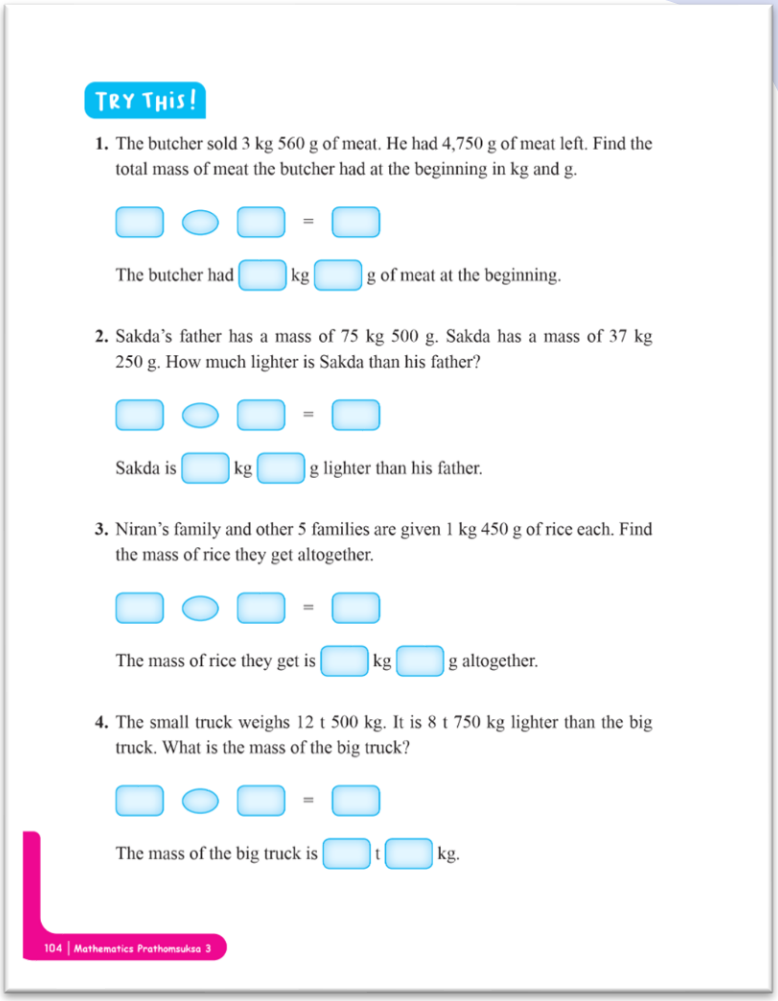

TRY THIS!

1. The butcher sold 3 kg 560 g of meat. He had 4,750 g of meat left. Find the total mass of meat the butcher had at the beginning in kg and g.

□ ⬭ □ = □

The butcher had □ kg □ g of meat at the beginning.

2. Sakda's father has a mass of 75 kg 500 g. Sakda has a mass of 37 kg 250 g. How much lighter is Sakda than his father?

□ ⬭ □ = □

Sakda is □ kg □ g lighter than his father.

3. Niran's family and other 5 families are given 1 kg 450 g of rice each. Find the mass of rice they get altogether.

□ ⬭ □ = □

The mass of rice they get is □ kg □ g altogether.

4. The small truck weighs 12 t 500 kg. It is 8 t 750 kg lighter than the big truck. What is the mass of the big truck?

□ ⬭ □ = □

The mass of the big truck is □ t □ kg.

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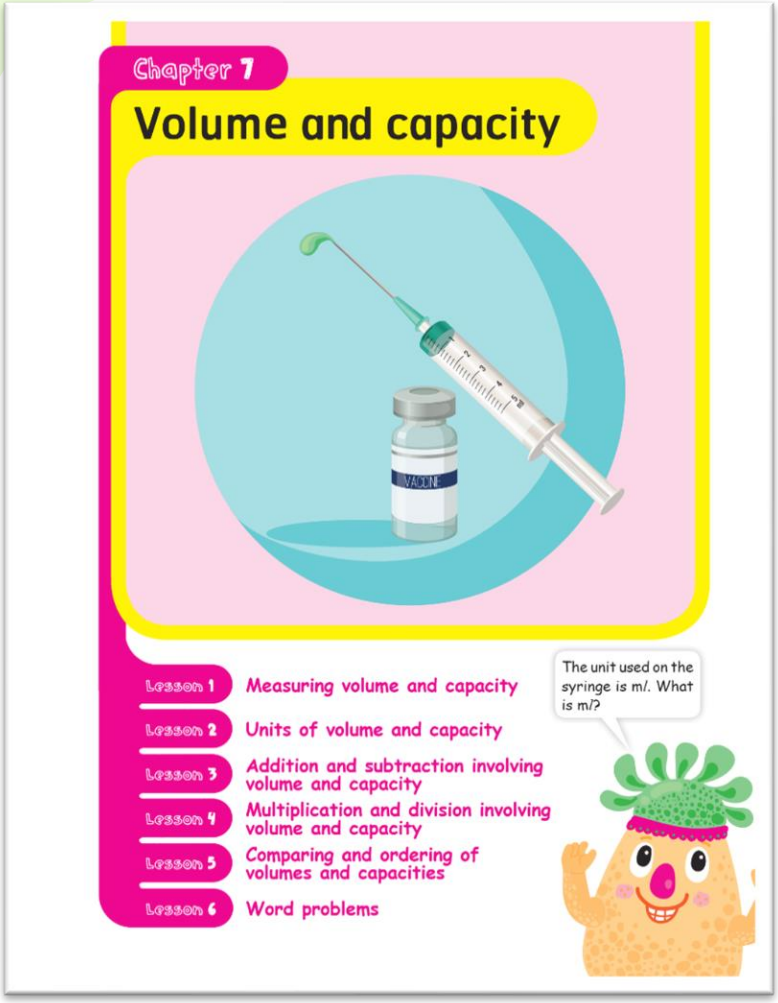
Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 86 to 89 in Go Get Maths Workbook P3.

Chapter 7
Volume and capacity



The big idea

1. Ask the students to look at the picture carefully.
2. Ask them these questions to start a discussion:
   - What do you know about Covid-19 illness?
   - Have you taken the Covid-19 vaccine?
   - Did you know that volume of the vaccine we take is very small?
   - What is the unit used to state the volume of a vaccine?
   - Should we use liter to state the volume of a vaccine? Why?

Strand 2: Measurement and geometry

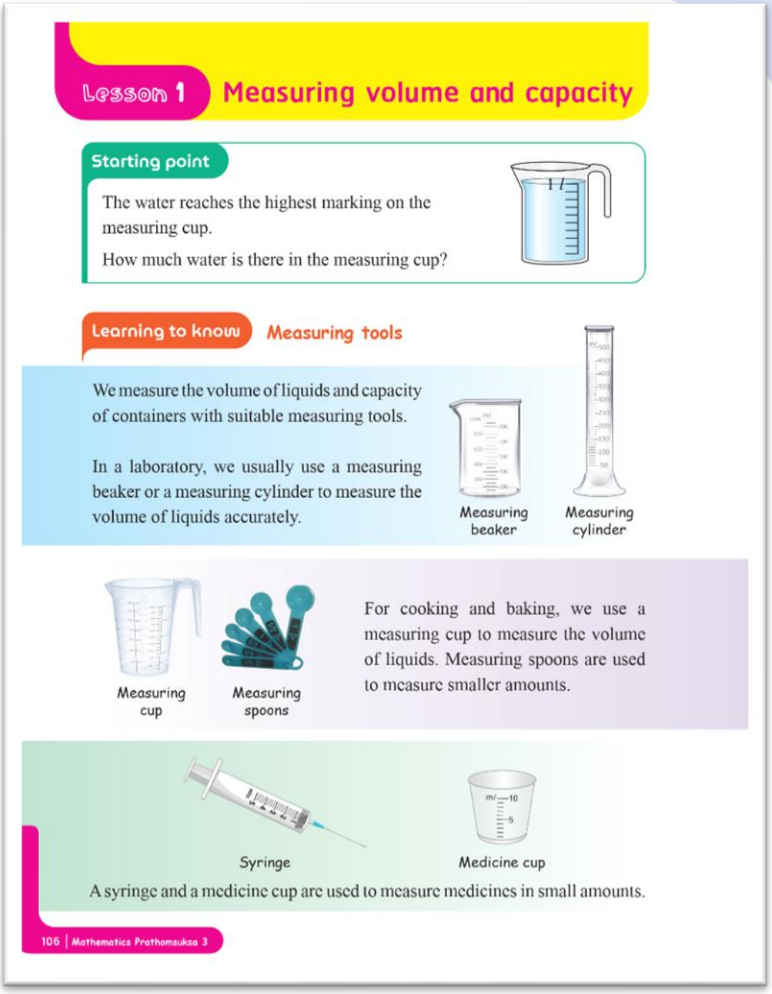
Standard M.2.1

Indicators:

M 2.1 Gr3/11 Choose appropriate measuring tools, measure and compare volume and capacity in litres and millilitres.

M 2.1 Gr3/12 Estimate volume and capacity in litres.

M 2.1 Gr3/13 Demonstrate the methods of finding answers to word problems involving volume and capacity in litres and millilitres.



Lesson 1 Measuring volume and capacity

Starting point

The water reaches the highest marking on the measuring cup.

How much water is there in the measuring cup?

Learning to know Measuring tools

We measure the volume of liquids and capacity of containers with suitable measuring tools.

In a laboratory, we usually use a measuring beaker or a measuring cylinder to measure the volume of liquids accurately.

Measuring beaker

Measuring cylinder

Measuring cup

Measuring spoons

For cooking and baking, we use a measuring cup to measure the volume of liquids. Measuring spoons are used to measure smaller amounts.

Syringe

Medicine cup

A syringe and a medicine cup are used to measure medicines in small amounts.

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Lesson 1 Measuring volume and capacity

Lesson objectives

By the end of the lesson, the students should be able to:

1. Use appropriate tools to measure volume and capacity.
2. Measure volume and capacity in mℓ and ℓ.
3. Estimate volume and capacity in ℓ.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

Measuring beaker, measuring cylinder, measuring cup, measuring spoon, syringe, medicine cup, similar bottles, colored liquid

Starting point

Help the students to understand the question. Ask them if they know the answer and what they will learn today.

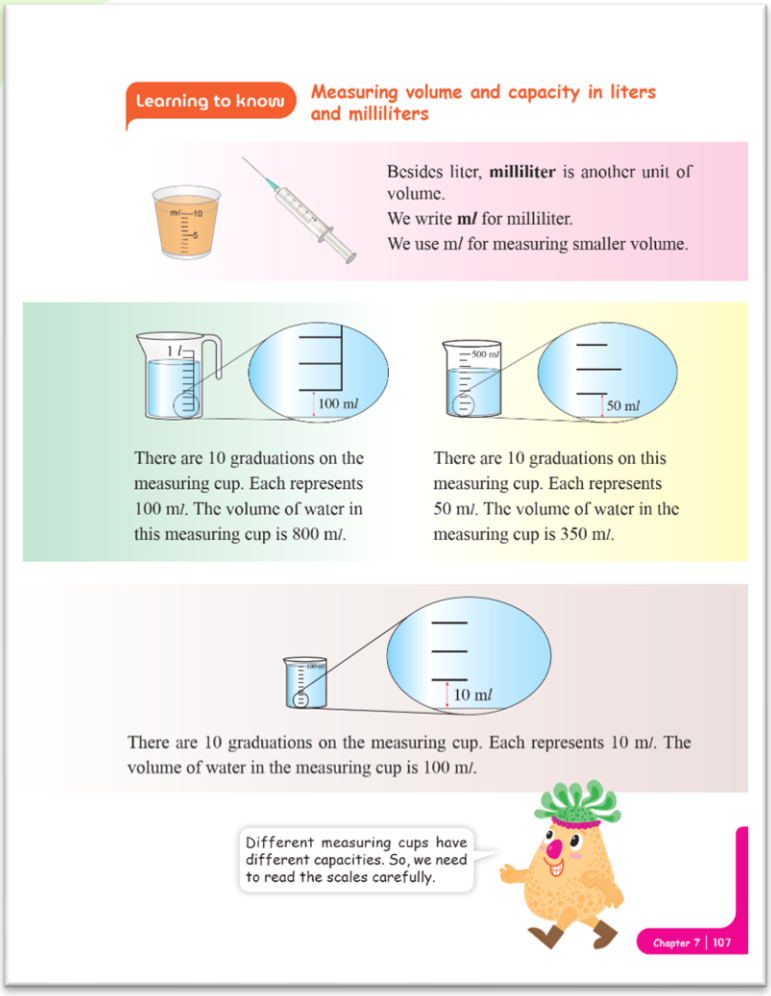
Teaching ideas

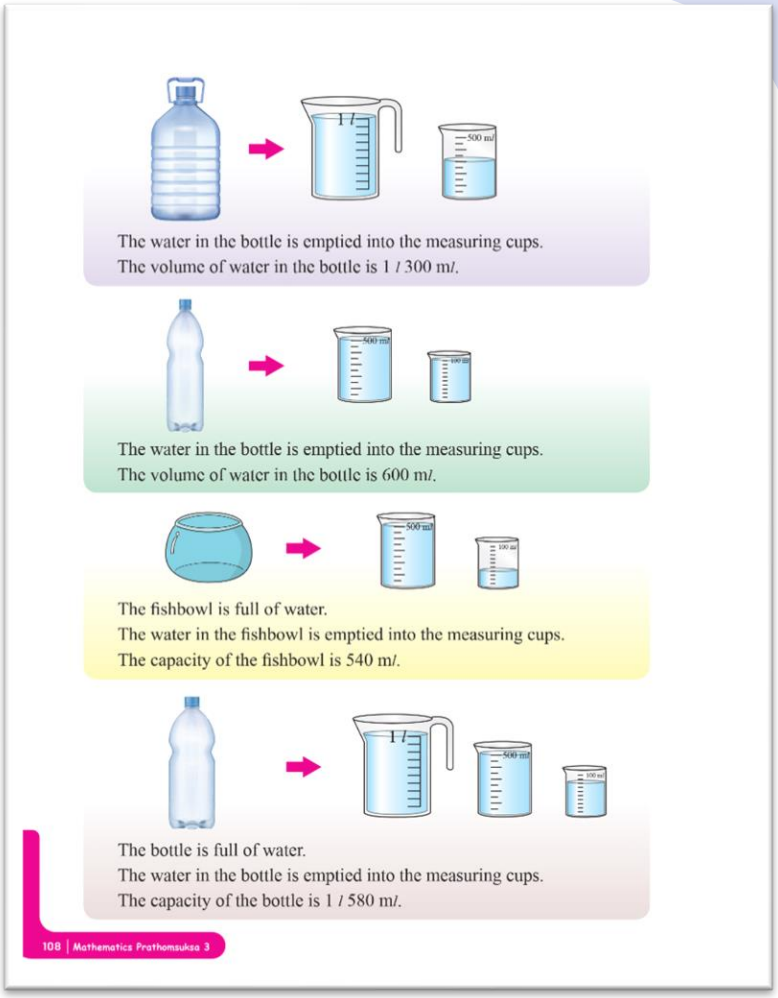
Show the students a measuring beaker, a measuring cylinder, a measuring cup, measuring spoons, a syringe and a medicine cup. Ask them to analyze the tools and start the discussion by asking these questions:

- Have you seen these tools before?
- Where are the markings for each measuring tool?
- What are the differences between these tools?

Teaching ideas

1. Introduce the term milliliter. Tell them that this unit is used for smaller volume or capacity.
2. Give them a few measuring cups of different sizes.
3. Ask them to look at the scales carefully and ask these questions to start a discussion:
   - What is the maximum volume that each measuring cup can measure?
   - How many marks are there altogether on each cup?
   - What does each segment between 2 adjacent marks represent?
4. Inform the students that for different measuring cylinders and measuring cups each segment between 2 adjacent marks represents different volumes. Therefore, they need to be extra careful when reading the scales.





Teaching ideas

5. Guide the students on how to measure volumes of liquids in containers. Tell them to pour the liquid into measuring cups. Then, they need to add of the volumes shown by the measuring cups.
6. Inform the students that we can use this method to measure the capacity of a container. We can fill up the container with water to its brim and then measure the volume of water in the container.
7. Remind them that the capacity of a container is the space that the container takes up.
8. Use the examples to explain further.

Activity for Reinforcement

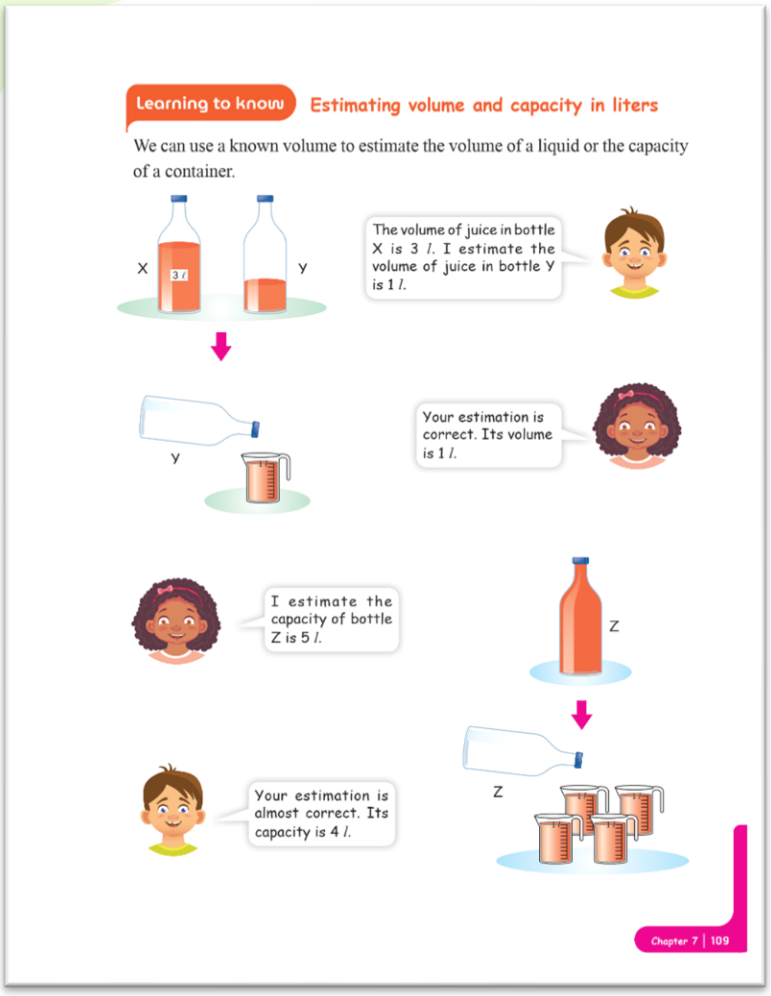
Materials required: Measuring cups, containers with water

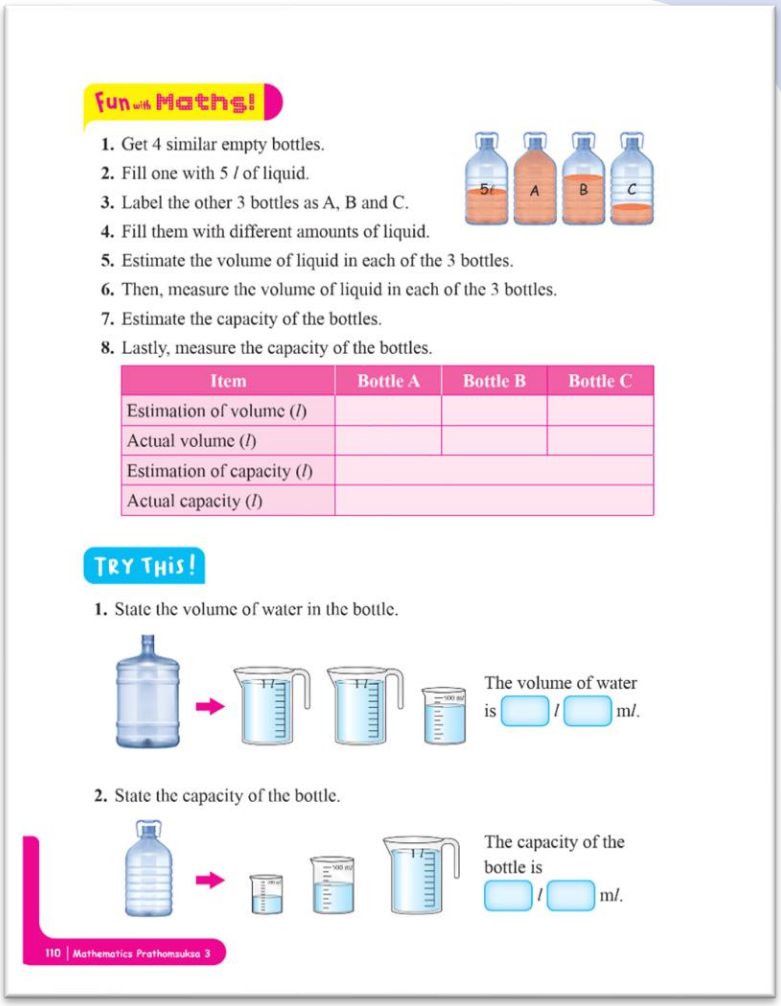
Objective of the activity: Measuring volume and capacity

1. Ask the students to work in pairs.
2. Give each group with a bottle filled with water.
3. Ask them to measure the volume of water with the measuring cups.
4. Then, ask them to measure the capacity of the container too.

Teaching ideas

1. Tell the students that we can estimate volume or capacity by comparing it with a known volume or a known capacity.
2. Use the example to explain further.
3. Guide the students to refer to **Starting Point** on page 106. Ask them to answer the question. Have a discussion to conclude the lesson.





Fun with Maths!

1. Get 4 similar empty bottles.
2. Fill one with 5 *l* of liquid.
3. Label the other 3 bottles as A, B and C.
4. Fill them with different amounts of liquid.
5. Estimate the volume of liquid in each of the 3 bottles.
6. Then, measure the volume of liquid in each of the 3 bottles.
7. Estimate the capacity of the bottles.
8. Lastly, measure the capacity of the bottles.

Item	Bottle A	Bottle B	Bottle C
Estimation of volume (*l*)			
Actual volume (*l*)			
Estimation of capacity (*l*)			
Actual capacity (*l*)			

TRY THIS!

1. State the volume of water in the bottle.

The volume of water is ☐ *l* ☐ m*l*.

2. State the capacity of the bottle.

The capacity of the bottle is ☐ *l* ☐ m*l*.

Fun with Maths!

Materials required: Similar bottles, colored liquid

Objective of the activity: Estimating volume and capacity

The estimation skill is important in our daily life.

Try This!

Get 2 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 90 to 93 in Go Get Maths Workbook P3.

Lesson 2
Units of volume and capacity

Lesson objectives
By the end of the lesson, the students should be able to:

1. Convert units of volume and capacity.

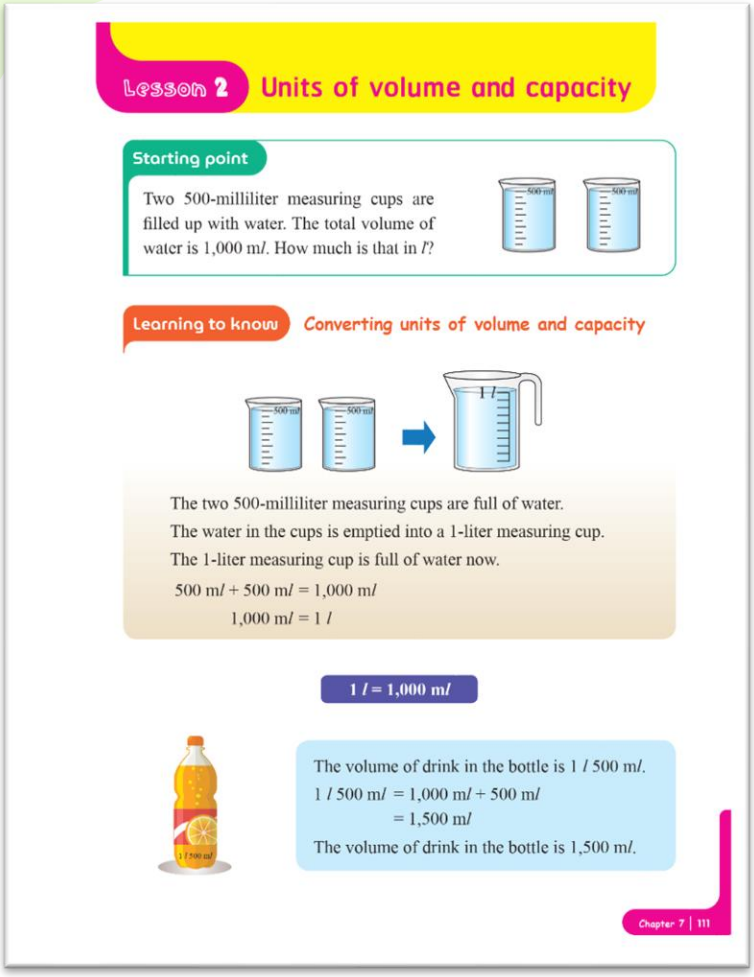
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
mℓ, ℓ

Materials needed
Measuring cups

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Fill up 2 500-milliliter measuring cups with water. Ask the students these questions to start a discussion:
   - How much water is there in each measuring cup?
   - How much is there in the 2 measuring cups?
2. Then, pour the water from the 2 measuring cups into a 1-liter measuring cup. Ask the students these questions to start a discussion:
   - How much water is there in the big measuring cup?
   - What can you say about mℓ and ℓ?
3. Guide the students to understand that 1,000 mℓ equals to 1 ℓ.



Lesson 2 Units of volume and capacity

Starting point

Two 500-milliliter measuring cups are filled up with water. The total volume of water is 1,000 m*l*. How much is that in *l*?

Learning to know Converting units of volume and capacity

The two 500-milliliter measuring cups are full of water.
The water in the cups is emptied into a 1-liter measuring cup.
The 1-liter measuring cup is full of water now.
500 m*l* + 500 m*l* = 1,000 m*l*
1,000 m*l* = 1 *l*

1 *l* = 1,000 m*l*

The volume of drink in the bottle is 1 *l* 500 m*l*.
1 *l* 500 m*l* = 1,000 m*l* + 500 m*l*
= 1,500 m*l*
The volume of drink in the bottle is 1,500 m*l*.

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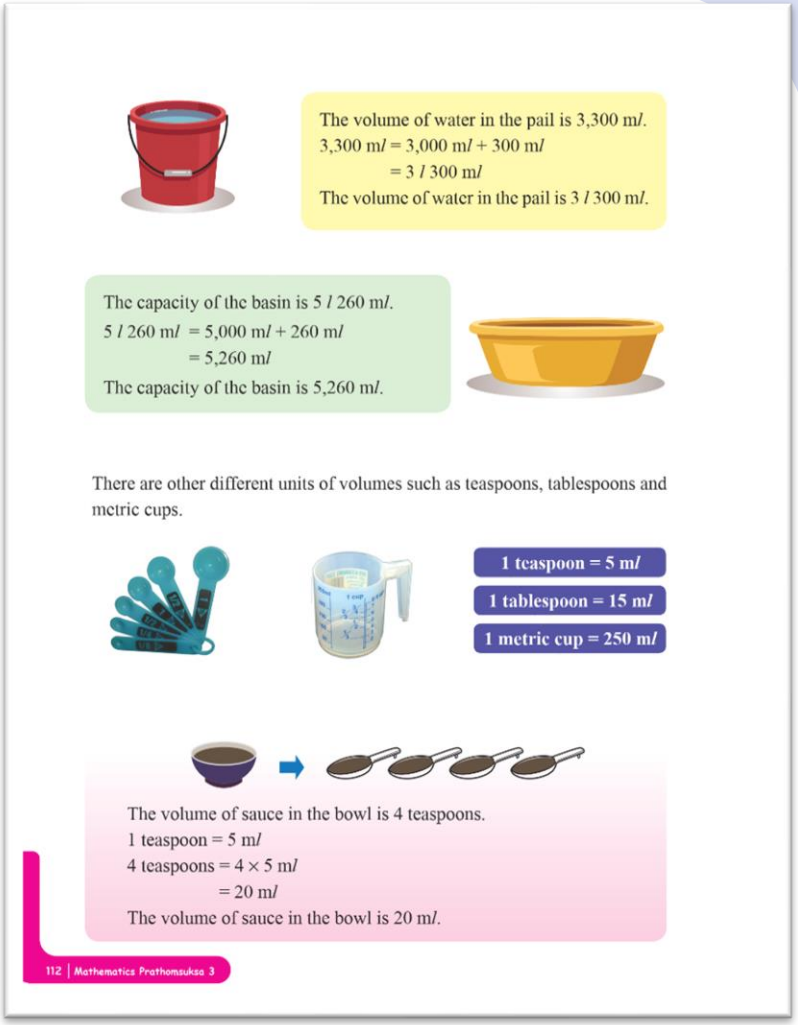
Activity for Reinforcement
Get a few students to write these questions on the board. Then, get others to convert the units. Ask them to explain their answers. Invite a few to verify the answers.

2 ℓ 444 mℓ = ☐ mℓ
2,050 mℓ = ☐ ℓ ☐ mℓ
4,780 mℓ = ☐ ℓ ☐ mℓ
3 ℓ 7 mℓ = ☐ mℓ



The volume of water in the pail is 3,300 m*l*.
3,300 m*l* = 3,000 m*l* + 300 m*l*
= 3 *l* 300 m*l*
The volume of water in the pail is 3 *l* 300 m*l*.

The capacity of the basin is 5 *l* 260 m*l*.
5 *l* 260 m*l* = 5,000 m*l* + 260 m*l*
= 5,260 m*l*
The capacity of the basin is 5,260 m*l*.

There are other different units of volumes such as teaspoons, tablespoons and metric cups.

1 teaspoon = 5 m*l*
1 tablespoon = 15 m*l*
1 metric cup = 250 m*l*

The volume of sauce in the bowl is 4 teaspoons.
1 teaspoon = 5 m*l*
4 teaspoons = 4 × 5 m*l*
= 20 m*l*
The volume of sauce in the bowl is 20 m*l*.

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Teaching ideas

4. Use the examples to guide the students how to convert mℓ into mℓ and ℓ, and mℓ and ℓ into mℓ.
5. Tell the students that 1 teaspoon equals to 5 mℓ, 1 tablespoon equals to 15 mℓ and 1 metric cup equals to 250 mℓ.
6. Use the example to explain further the conversion of units.

More Info

or visit
http://tiny.cc/bwequz

Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to convert the units. Ask them to explain their answers. Invite a few to verify the answers.

40 mℓ = ☐ teaspoons
3 tablespoons = ☐ mℓ
1,250 mℓ = ☐ metric cups
6 teaspoons = ☐ mℓ

Teaching ideas

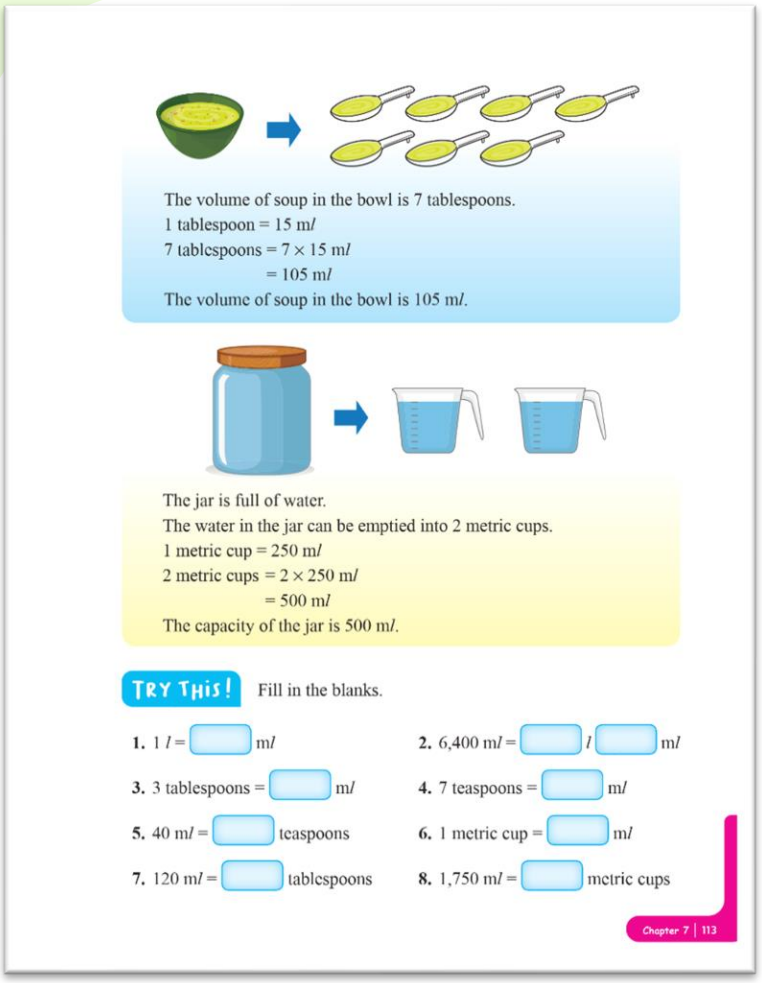
7. Use the examples to explain further the conversion of units.
8. Guide the students to refer to **Starting Point** on page 111. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 8 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 94 and 95 in Go Get Maths Workbook P3.



The volume of soup in the bowl is 7 tablespoons.
1 tablespoon = 15 m*l*
7 tablespoons = 7 × 15 m*l*
= 105 m*l*
The volume of soup in the bowl is 105 m*l*.

The jar is full of water.
The water in the jar can be emptied into 2 metric cups.
1 metric cup = 250 m*l*
2 metric cups = 2 × 250 m*l*
= 500 m*l*
The capacity of the jar is 500 m*l*.

TRY THIS! Fill in the blanks.

1. 1 *l* = ____ m*l*
2. 6,400 m*l* = ____ *l* ____ m*l*
3. 3 tablespoons = ____ m*l*
4. 7 teaspoons = ____ m*l*
5. 40 m*l* = ____ teaspoons
6. 1 metric cup = ____ m*l*
7. 120 m*l* = ____ tablespoons
8. 1,750 m*l* = ____ metric cups

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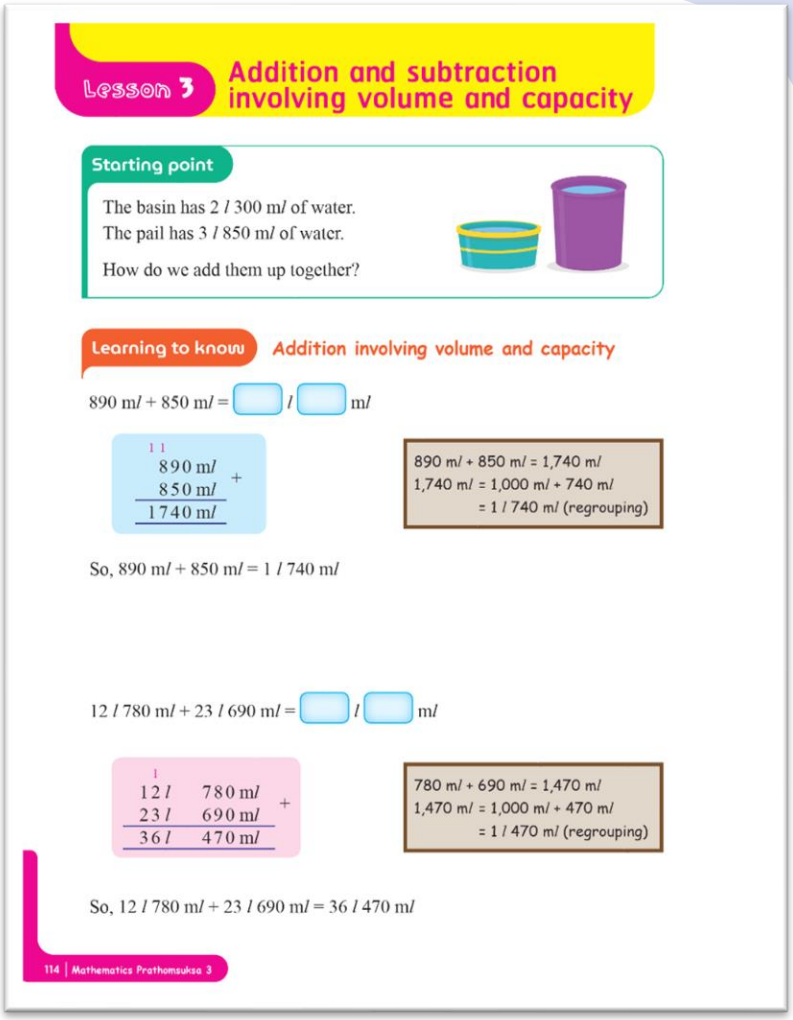

Lesson 3 Addition and subtraction involving volume and capacity

Starting point

The basin has 2 ℓ 300 mℓ of water.
The pail has 3 ℓ 850 mℓ of water.
How do we add them up together?

Learning to know Addition involving volume and capacity

890 mℓ + 850 mℓ = ☐ ℓ ☐ mℓ

1 1
890 mℓ
850 mℓ +
1740 mℓ

890 mℓ + 850 mℓ = 1,740 mℓ
1,740 mℓ = 1,000 mℓ + 740 mℓ
= 1 ℓ 740 mℓ (regrouping)

So, 890 mℓ + 850 mℓ = 1 ℓ 740 mℓ

12 ℓ 780 mℓ + 23 ℓ 690 mℓ = ☐ ℓ ☐ mℓ

1
12 ℓ 780 mℓ
23 ℓ 690 mℓ +
36 ℓ 470 mℓ

780 mℓ + 690 mℓ = 1,470 mℓ
1,470 mℓ = 1,000 mℓ + 470 mℓ
= 1 ℓ 470 mℓ (regrouping)

So, 12 ℓ 780 mℓ + 23 ℓ 690 mℓ = 36 ℓ 470 mℓ

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Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to add. Ask them to explain their answers. Invite a few to verify the answers.

465 mℓ + 819 mℓ = ☐ mℓ
1 ℓ 568 mℓ + 925 mℓ = ☐ ℓ ☐ mℓ
2 ℓ 340 mℓ + 1 ℓ 725 mℓ = ☐ ℓ ☐ mℓ
6 ℓ 677 mℓ + 4 ℓ 548 mℓ = ☐ ℓ ☐ mℓ

Lesson 3 Addition and subtraction involving volume and capacity

Lesson objectives

By the end of the lesson, the students should be able to:

1. Add volume and capacity involving different units.
2. Subtract volume and capacity involving different units.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

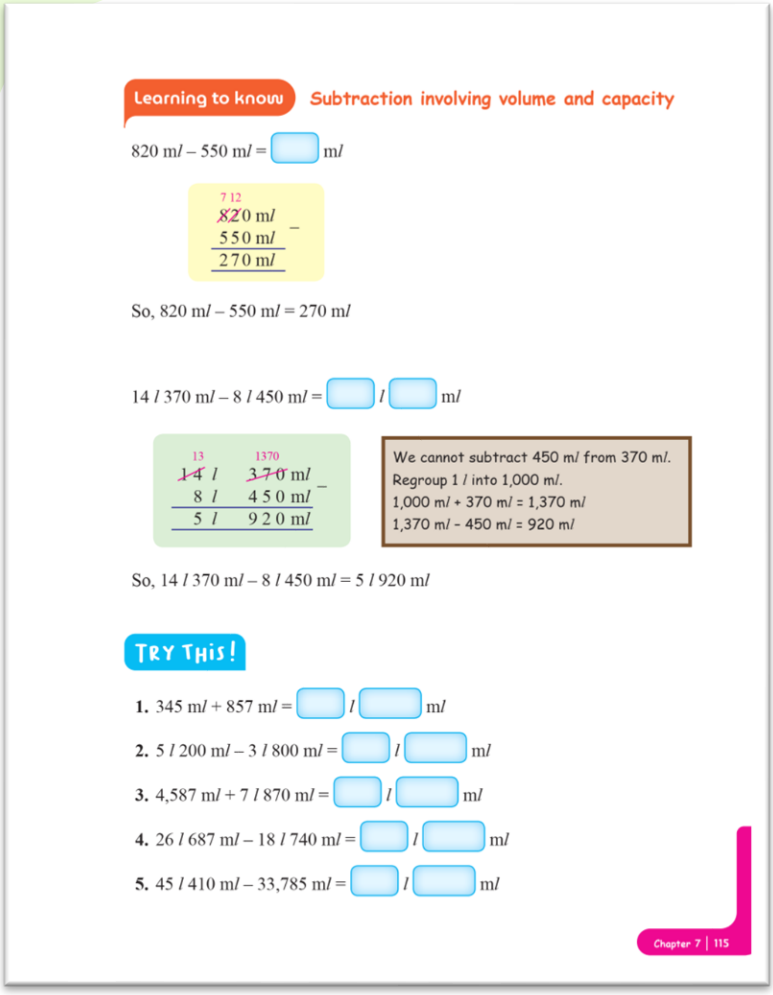
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Guide the students to add vertically.
2. Firstly, ask the students write the volumes or capacities vertically, with the same unit in the same column.
3. Tell them to align the digits in each unit based on their place values. This is very important.
4. Ask them to add the smaller unit first. Regroup when needed as 1,000 mℓ equals to 1 ℓ.
5. Use the examples to explain further.

Teaching ideas

1. Guide the students to subtract vertically.
2. Firstly, ask the students write the volumes or capacities vertically, with the same unit in the same column.
3. Tell them to align the digits in each unit based on their place values. This is very important.
4. Ask them to subtract the smaller unit first. Regroup when needed as 1 ℓ to 1,000 mℓ.
5. Use the examples to explain further.
6. Guide the students to refer to **Starting Point** on page 114. Ask them to answer the question. Have a discussion to conclude the lesson.



Learning to know Subtraction involving volume and capacity

820 mℓ – 550 mℓ = ☐ mℓ

7 12
8 2 0 mℓ
5 5 0 mℓ –
2 7 0 mℓ

So, 820 mℓ – 550 mℓ = 270 mℓ

14 ℓ 370 mℓ – 8 ℓ 450 mℓ = ☐ ℓ ☐ mℓ

13 1370
1 4 ℓ 3 7 0 mℓ
8 ℓ 4 5 0 mℓ –
5 ℓ 9 2 0 mℓ

We cannot subtract 450 mℓ from 370 mℓ.
Regroup 1 ℓ into 1,000 mℓ.
1,000 mℓ + 370 mℓ = 1,370 mℓ
1,370 mℓ – 450 mℓ = 920 mℓ

So, 14 ℓ 370 mℓ – 8 ℓ 450 mℓ = 5 ℓ 920 mℓ

TRY THIS!

1. 345 mℓ + 857 mℓ = ☐ ℓ ☐ mℓ
2. 5 ℓ 200 mℓ – 3 ℓ 800 mℓ = ☐ ℓ ☐ mℓ
3. 4,587 mℓ + 7 ℓ 870 mℓ = ☐ ℓ ☐ mℓ
4. 26 ℓ 687 mℓ – 18 ℓ 740 mℓ = ☐ ℓ ☐ mℓ
5. 45 ℓ 410 mℓ – 33,785 mℓ = ☐ ℓ ☐ mℓ

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Try This!

Get 5 students to answer it. Ask the rest to verify the answers.

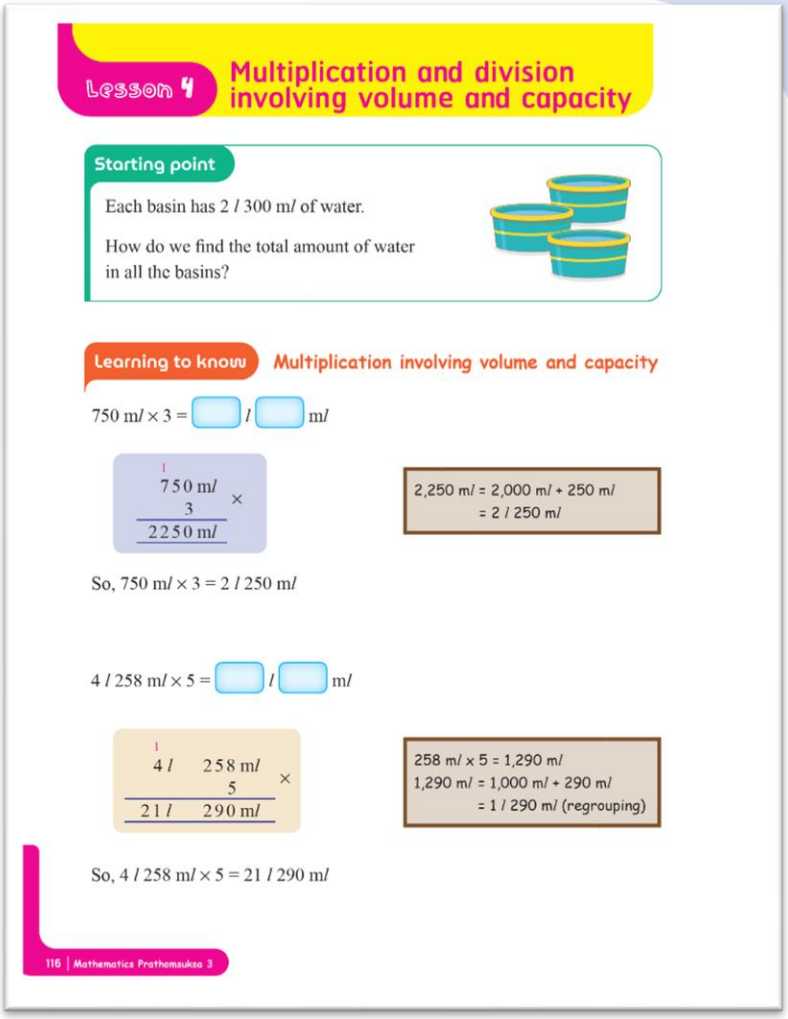
Further practices

Get the students to complete the practices on pages 96 to 97 in Go Get Maths Workbook P3.

Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to subtract. Ask them to explain their answers. Invite a few to verify the answers.

780 mℓ – 394 mℓ = ☐ mℓ
2 ℓ 120 mℓ – 1 ℓ 835 mℓ = ☐ ℓ ☐ mℓ
7 ℓ – 3 ℓ 789 mℓ = ☐ ℓ ☐ mℓ
10 ℓ 50 mℓ – 2 ℓ 755 mℓ = ☐ ℓ ☐ mℓ



Lesson 4 Multiplication and division involving volume and capacity

Starting point

Each basin has 2 ℓ 300 mℓ of water.

How do we find the total amount of water in all the basins?

Learning to know Multiplication involving volume and capacity

750 mℓ × 3 = ☐ ℓ ☐ mℓ

$$\begin{array}{r} {\scriptstyle 1}\\ 750\ m\ell \\ \times\ \ 3 \\ \hline 2250\ m\ell \end{array}$$

2,250 mℓ = 2,000 mℓ + 250 mℓ
= 2 ℓ 250 mℓ

So, 750 mℓ × 3 = 2 ℓ 250 mℓ

4 ℓ 258 mℓ × 5 = ☐ ℓ ☐ mℓ

$$\begin{array}{r} {\scriptstyle 1}\\ 4\ \ell\ \ 258\ m\ell \\ \times\ \ \ \ 5 \\ \hline 21\ \ell\ \ 290\ m\ell \end{array}$$

258 mℓ × 5 = 1,290 mℓ
1,290 mℓ = 1,000 mℓ + 290 mℓ
= 1 ℓ 290 mℓ (regrouping)

So, 4 ℓ 258 mℓ × 5 = 21 ℓ 290 mℓ

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Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to multiply. Ask them to explain their answers. Invite a few to verify the answers.

2 ℓ 6 mℓ x 5 = ☐ ℓ ☐ mℓ
5 ℓ 235 mℓ x 3 = ☐ ℓ ☐ mℓ
3 ℓ 563 mℓ x 7 = ☐ ℓ ☐ mℓ
4 ℓ 780 mℓ x 8 = ☐ ℓ ☐ mℓ

Lesson 4 Multiplication and division involving volume and capacity

Lesson objectives

By the end of the lesson, the students should be able to:

1. Multiply volume and capacity involving different units.
2. Divide volume and capacity involving different units.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

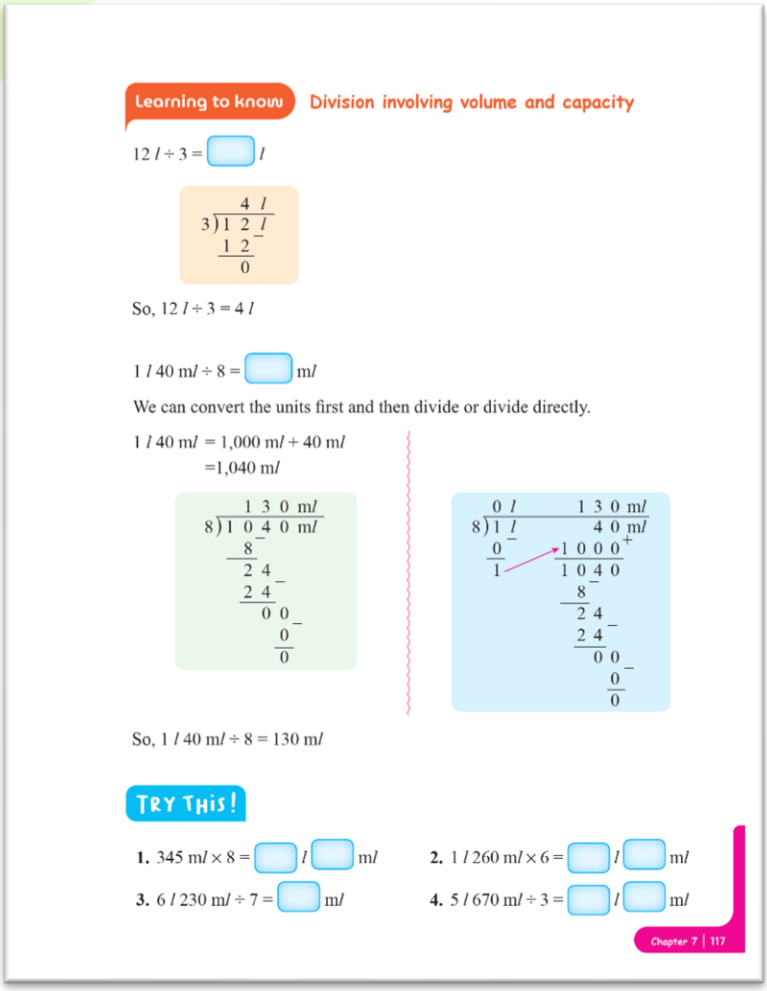
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas

1. Guide the students to multiply vertically.
2. Firstly, ask the students write the volume or capacity vertically.
3. Ask them to multiply the smaller unit first. Regroup when needed as 1,000 mℓ equals to 1 ℓ.
4. Use the examples to explain further.

Teaching ideas

5. Guide the students to divide vertically.
6. Tell them that they can either convert the different units into one unit first before dividing, or divide the different units together.
7. If they are going to divide the different units together, they should divide the greater unit first. Regroup when needed as 1 ℓ equals to 1,000 mℓ.
8. Use the examples to explain further.
9. Guide the students to refer to **Starting Point** on page 116. Ask them to answer the question. Have a discussion to conclude the lesson.



Learning to know Division involving volume and capacity

12 *l* ÷ 3 = ☐ *l*

$$\begin{array}{r} 4\ l \\ 3\overline{)12\ l} \\ \underline{12} \\ 0 \end{array}$$

So, 12 *l* ÷ 3 = 4 *l*

1 *l* 40 m*l* ÷ 8 = ☐ m*l*

We can convert the units first and then divide or divide directly.

1 *l* 40 m*l* = 1,000 m*l* + 40 m*l*
=1,040 m*l*

$$\begin{array}{r} 130\ ml \\ 8\overline{)1040\ ml} \\ \underline{8} \\ 24 \\ \underline{24} \\ 00 \\ \underline{0} \\ 0 \end{array}$$

$$\begin{array}{r} 0\ l \quad 130\ ml \\ 8\overline{)1\ l \quad 40\ ml} \\ \underline{0} \\ 1 \\ \quad +1000 \\ \quad 1040 \\ \quad \underline{8} \\ \quad 24 \\ \quad \underline{24} \\ \quad 00 \\ \quad \underline{0} \\ \quad 0 \end{array}$$

So, 1 *l* 40 m*l* ÷ 8 = 130 m*l*

TRY THIS!

1. 345 m*l* × 8 = ☐ *l* ☐ m*l*
2. 1 *l* 260 m*l* × 6 = ☐ *l* ☐ m*l*
3. 6 *l* 230 m*l* ÷ 7 = ☐ m*l*
4. 5 *l* 670 m*l* ÷ 3 = ☐ *l* ☐ m*l*

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Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

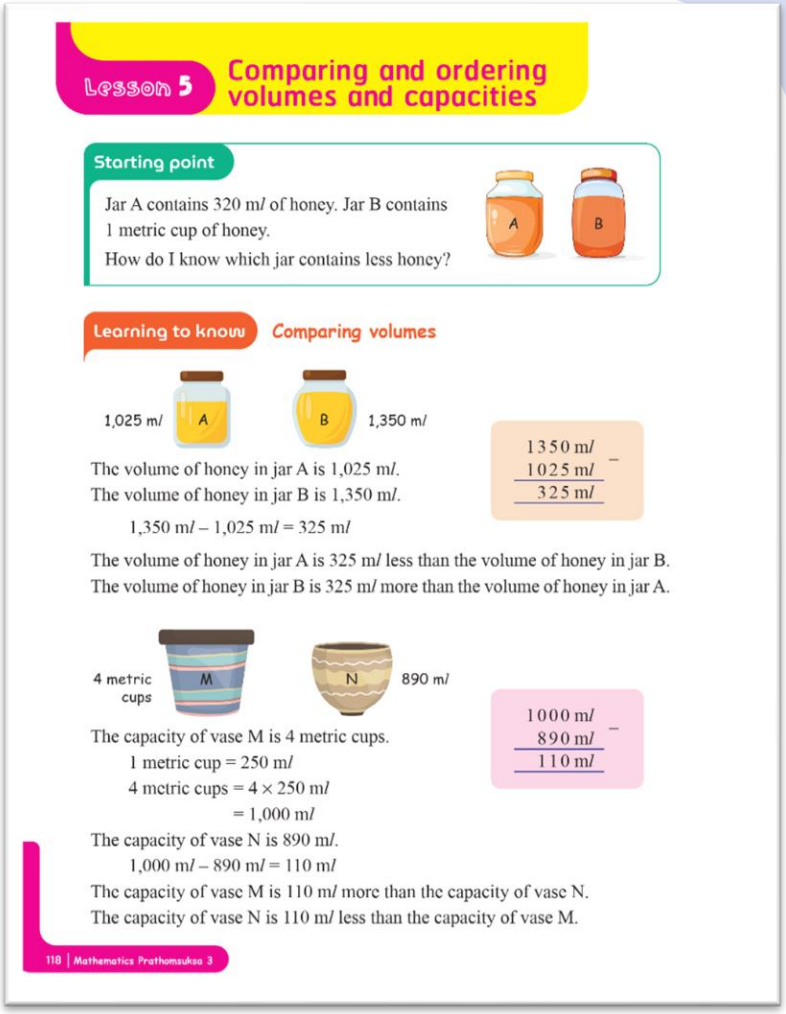
Get the students to complete the practices on pages 98 to 100 in Go Get Maths Workbook P3.

or visit
https://wordwall.net/resource/31154354

Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to divide. Ask them to explain their answers. Invite a few to verify the answers.

3 ℓ 82 mℓ ÷ 2 = ☐ ℓ ☐ mℓ
12 ℓ 90 mℓ ÷ 6 = ☐ ℓ ☐ mℓ
15 mℓ 128 mℓ ÷ 8 = ☐ ℓ ☐ mℓ
6 ℓ 405 mℓ ÷ 3 = ☐ ℓ ☐ mℓ



Lesson 5 Comparing and ordering volumes and capacities

Starting point

Jar A contains 320 ml of honey. Jar B contains 1 metric cup of honey.
How do I know which jar contains less honey?

Learning to know Comparing volumes

1,025 ml A B 1,350 ml

The volume of honey in jar A is 1,025 ml.
The volume of honey in jar B is 1,350 ml.

1,350 ml – 1,025 ml = 325 ml

The volume of honey in jar A is 325 ml less than the volume of honey in jar B.
The volume of honey in jar B is 325 ml more than the volume of honey in jar A.

4 metric cups M N 890 ml

The capacity of vase M is 4 metric cups.
1 metric cup = 250 ml
4 metric cups = 4 × 250 ml
= 1,000 ml
The capacity of vase N is 890 ml.
1,000 ml – 890 ml = 110 ml
The capacity of vase M is 110 ml more than the capacity of vase N.
The capacity of vase N is 110 ml less than the capacity of vase M.

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Lesson 5
Comparing and ordering volumes and capacities

Lesson objectives

By the end of the lesson, the students should be able to:

1. Compare volumes and capacities.
2. Order volumes and capacities.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

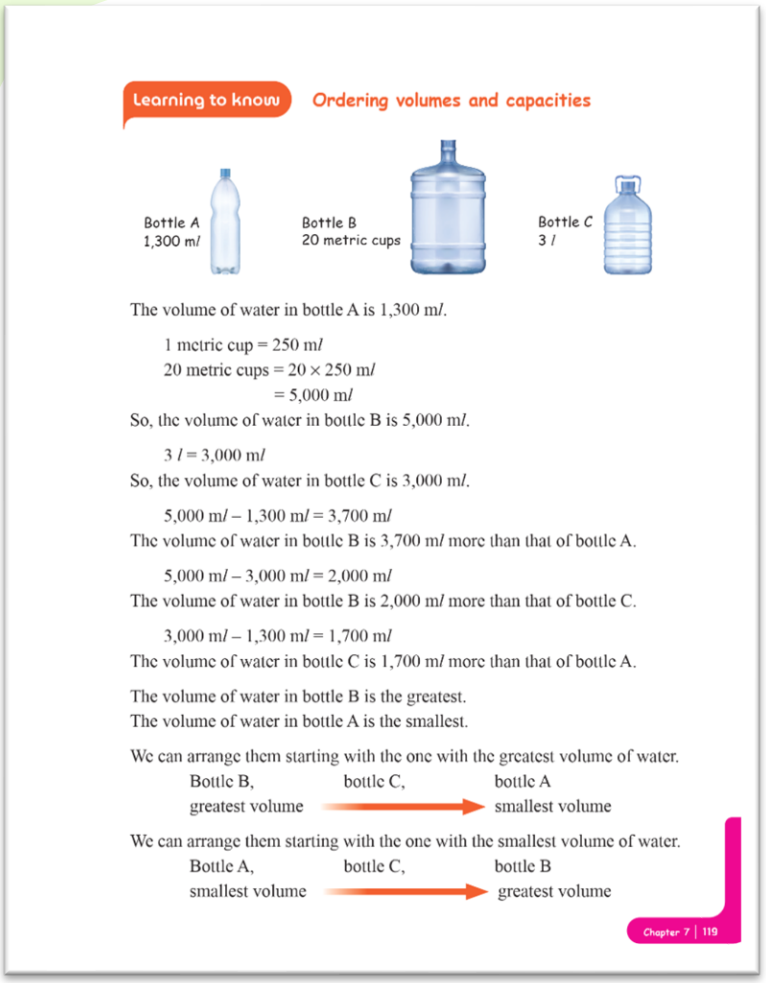
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Based on the example, tell the students that we can find the difference in volume or capacity by subtracting one from the other.
2. Here we can subtract directly or convert the different units into similar unit first before subtracting.
3. Guide them to make statements regarding the difference in volume of honey between jar A and jar B, and the capacity between vase M and vase N. Remind them to use the comparative adjectives.

Teaching ideas

1. Guide the students to compare the volumes of water in 3 bottles shown in the example by asking them these questions:
   - Are all the units the same?
   - Do you need to convert them into the same unit?
   - Which bottle has a greater volume of water, bottle A or bottle B?
   - Which bottle has a greater volume of water, bottle B or bottle C?
   - Which bottle has a greater volume of water, bottle A or bottle C?
   - Which bottle has the greatest volume of water?
   - Which bottle has the smallest volume of water?
2. Guide the students to arrange the bottles. Tell them that we can arrange them starting with the smallest volume or the greatest volume. Always fill in the one with the smallest volume and the greatest volume first and then only fill in the last one in between them.



Learning to know — Ordering volumes and capacities

Bottle A
1,300 m*l*

Bottle B
20 metric cups

Bottle C
3 *l*

The volume of water in bottle A is 1,300 m*l*.

1 metric cup = 250 m*l*
20 metric cups = 20 × 250 m*l*
= 5,000 m*l*

So, the volume of water in bottle B is 5,000 m*l*.

3 *l* = 3,000 m*l*

So, the volume of water in bottle C is 3,000 m*l*.

5,000 m*l* – 1,300 m*l* = 3,700 m*l*

The volume of water in bottle B is 3,700 m*l* more than that of bottle A.

5,000 m*l* – 3,000 m*l* = 2,000 m*l*

The volume of water in bottle B is 2,000 m*l* more than that of bottle C.

3,000 m*l* – 1,300 m*l* = 1,700 m*l*

The volume of water in bottle C is 1,700 m*l* more than that of bottle A.

The volume of water in bottle B is the greatest.
The volume of water in bottle A is the smallest.

We can arrange them starting with the one with the greatest volume of water.

Bottle B, greatest volume → bottle C, → bottle A smallest volume

We can arrange them starting with the one with the smallest volume of water.

Bottle A, smallest volume → bottle C, → bottle B greatest volume

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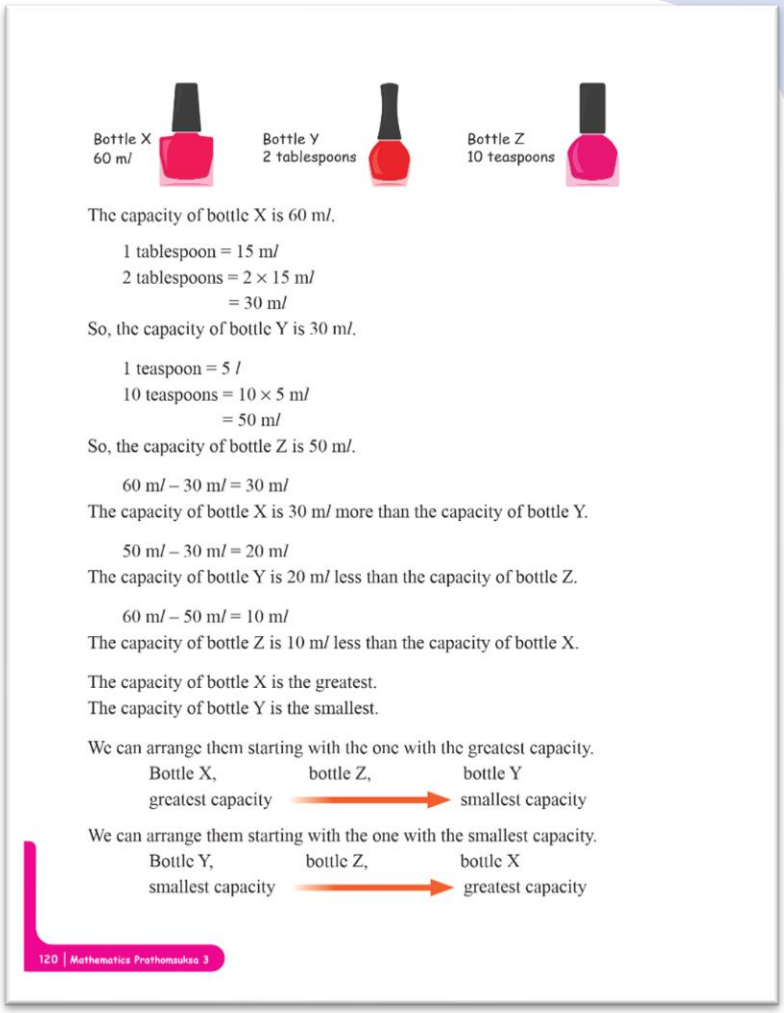


or visit
https://wordwall.net/resource/31155002

Teaching ideas

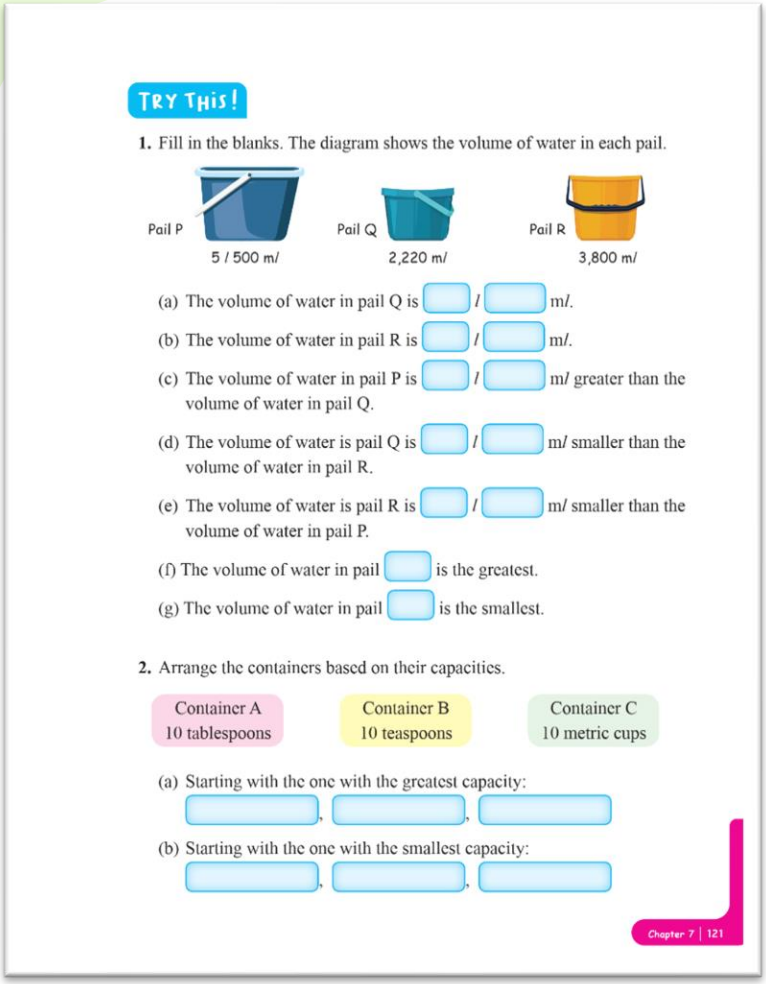
3. Guide the students to compare the capacities of the 3 bottles shown in the example by asking them these questions:
   - Are all the units the same?
   - Do you need to convert them into the same unit?
   - Which bottle has a greater capacity, bottle X or bottle Y?
   - Which bottle has a smaller capacity, bottle Y or bottle Z?
   - Which bottle has a smaller capacity, bottle X or bottle Z?
   - Which bottle has the greatest capacity?
   - Which bottle has the smallest capacity?
4. Guide the students to arrange the bottles. Tell them that we can arrange them starting with the smallest capacity or the greatest capacity. Always fill in the one with the smallest capacity and the greatest capacity first and then only fill in the last one in between them.
5. Guide the students to refer to **Starting Point** on page 118. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 9 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 101 and 102 in Go Get Maths Workbook P3.



TRY THIS!

1. Fill in the blanks. The diagram shows the volume of water in each pail.

Pail P — 5 l 500 ml

Pail Q — 2,220 ml

Pail R — 3,800 ml

(a) The volume of water in pail Q is ____ l ____ ml.

(b) The volume of water in pail R is ____ l ____ ml.

(c) The volume of water in pail P is ____ l ____ ml greater than the volume of water in pail Q.

(d) The volume of water is pail Q is ____ l ____ ml smaller than the volume of water in pail R.

(e) The volume of water is pail R is ____ l ____ ml smaller than the volume of water in pail P.

(f) The volume of water in pail ____ is the greatest.

(g) The volume of water in pail ____ is the smallest.

2. Arrange the containers based on their capacities.

Container A	Container B	Container C
10 tablespoons	10 teaspoons	10 metric cups

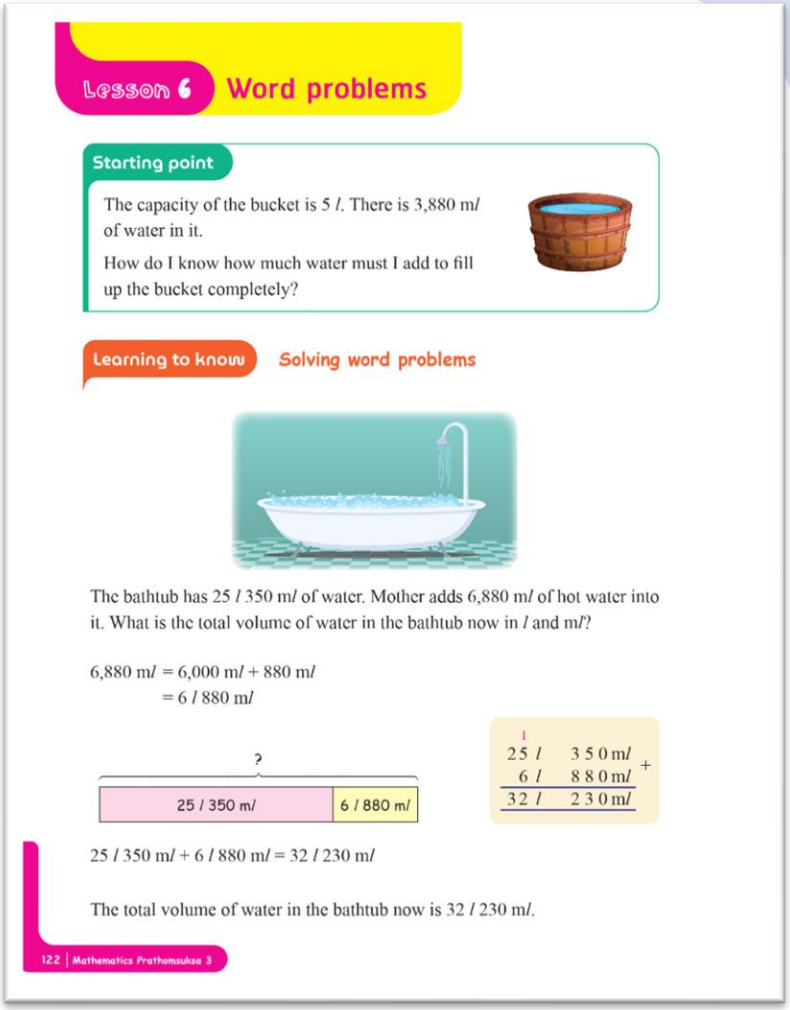
(a) Starting with the one with the greatest capacity:

____, ____, ____

(b) Starting with the one with the smallest capacity:

____, ____, ____

Chapter 7 | 121



Lesson 6 Word problems

Starting point

The capacity of the bucket is 5 *l*. There is 3,880 m*l* of water in it.

How do I know how much water must I add to fill up the bucket completely?

Learning to know Solving word problems

The bathtub has 25 *l* 350 m*l* of water. Mother adds 6,880 m*l* of hot water into it. What is the total volume of water in the bathtub now in *l* and m*l*?

6,880 m*l* = 6,000 m*l* + 880 m*l*
= 6 *l* 880 m*l*

?
25 *l* 350 m*l* | 6 *l* 880 m*l*

$$\begin{array}{r} {\scriptstyle 1} \\ 25\ l\ \ 350\ ml \\ 6\ l\ \ 880\ ml \\ \hline 32\ l\ \ 230\ ml \end{array} +$$

25 *l* 350 m*l* + 6 *l* 880 m*l* = 32 *l* 230 m*l*

The total volume of water in the bathtub now is 32 *l* 230 m*l*.

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Lesson 6
Word problems

Lesson objectives

By the end of the lesson, the students should be able to:

1. Solve word problems involving volume and capacity.

Suggested teaching time

3 periods (3 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Reiterate the 3 simple steps to solve a word problem.

   Step 1: Understand the problem

   - Ask the students to read the number story and the question silently. Then, read them together with the students. Explain further the number story and the question if the students do not understand.
   - Ask the students these questions to ensure they understand:
     - What information is given?
     - What do you need to find?
     - Are you comparing the items?

Teaching ideas

Step 2: Plan and execute

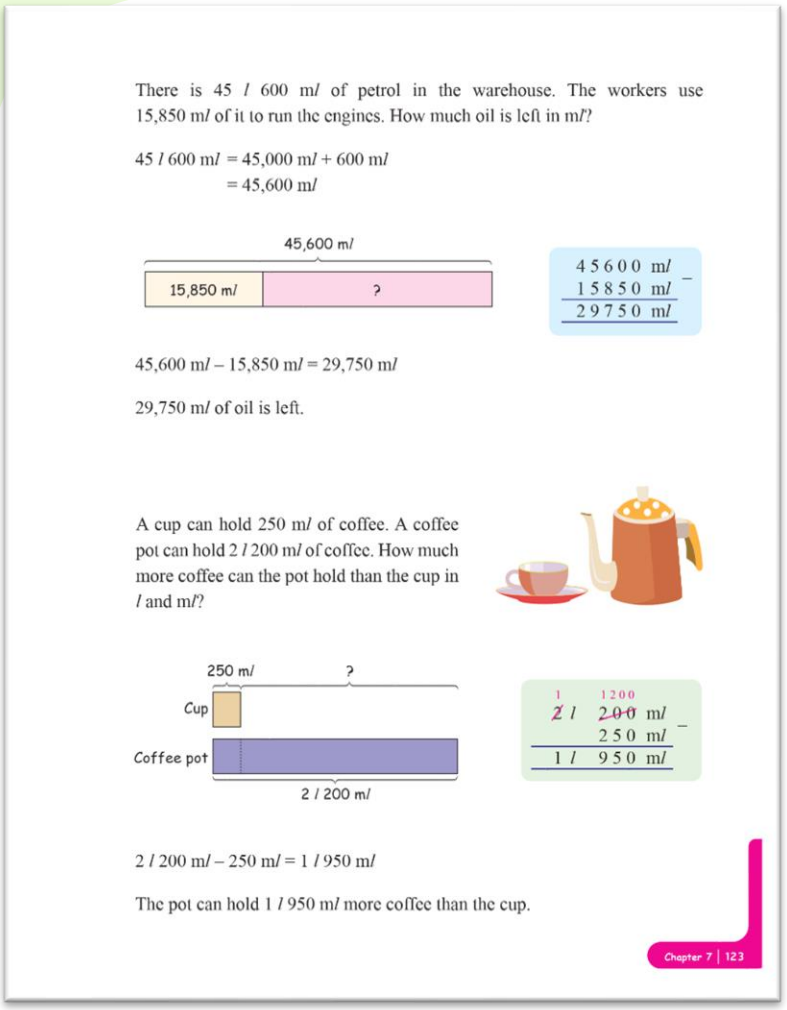
- Ask the students to draw the suitable bar model including the knowns and unknowns.
- Ask them to find the keyword in the problem that indicates the operation whether to add, to subtract, to multiply or to divide.
- Analyze the bar model drawn.
- Then, write the number equation and solve it.

Step 3: Check the answer

- Always ask the students to check their answer. They need to check if the answer makes sense and is reasonable.

2. Remind the students to always take note of the units.

3. Work with them the 3 steps in solving the word problems.



There is 45 *l* 600 m*l* of petrol in the warehouse. The workers use 15,850 m*l* of it to run the engines. How much oil is left in m*l*?

45 *l* 600 m*l* = 45,000 m*l* + 600 m*l*
= 45,600 m*l*

45600 ml
15850 ml
29750 ml

45,600 m*l* – 15,850 m*l* = 29,750 m*l*

29,750 m*l* of oil is left.

A cup can hold 250 m*l* of coffee. A coffee pot can hold 2 *l* 200 m*l* of coffee. How much more coffee can the pot hold than the cup in *l* and m*l*?

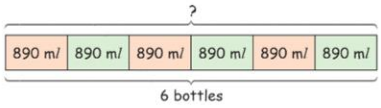
1 1200
2 *l* 200 ml
250 ml
1 *l* 950 ml

2 *l* 200 m*l* – 250 m*l* = 1 *l* 950 m*l*

The pot can hold 1 *l* 950 m*l* more coffee than the cup.

Chapter 7 | 123

Kla has 6 similar bottles. Each bottle has a capacity of 890 m*l*. How much water is needed to fill up all the 6 bottles in *l* and m*l*?



$$\begin{array}{r} 890\ ml \\ \times\ 6 \\ \hline 5340\ ml \end{array}$$

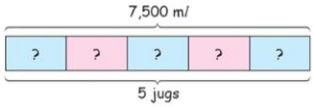
890 m*l* × 6 = 5,340 m*l*

5,340 m*l* = 5,000 m*l* + 340 m*l*
= 5 *l* 340 m*l*

5 *l* 340 m*l* of water is needed to fill up the 6 bottles.

Mother makes 7 *l* 500 m*l* of tea. She pours it equally into 5 jugs. How much tea is there in each jug in m*l*?

7 *l* 500 m*l* = 7,000 m*l* + 500 m*l*
= 7,500 m*l*



$$\begin{array}{r} 1500\ ml \\ 5\overline{)7500\ ml} \\ -5 \\ \hline 25 \\ -25 \\ \hline 00 \\ -0 \\ \hline 00 \\ -0 \\ \hline 0 \end{array}$$

7,500 m*l* ÷ 5 = 1,500 m*l*

There is 1,500 m*l* of tea in each jug.

Teaching ideas

4. Work with them the 3 steps in solving the word problems.
5. Guide the students to refer to **Starting Point** on page 122. Ask them to answer the question. Have a discussion to conclude the lesson.

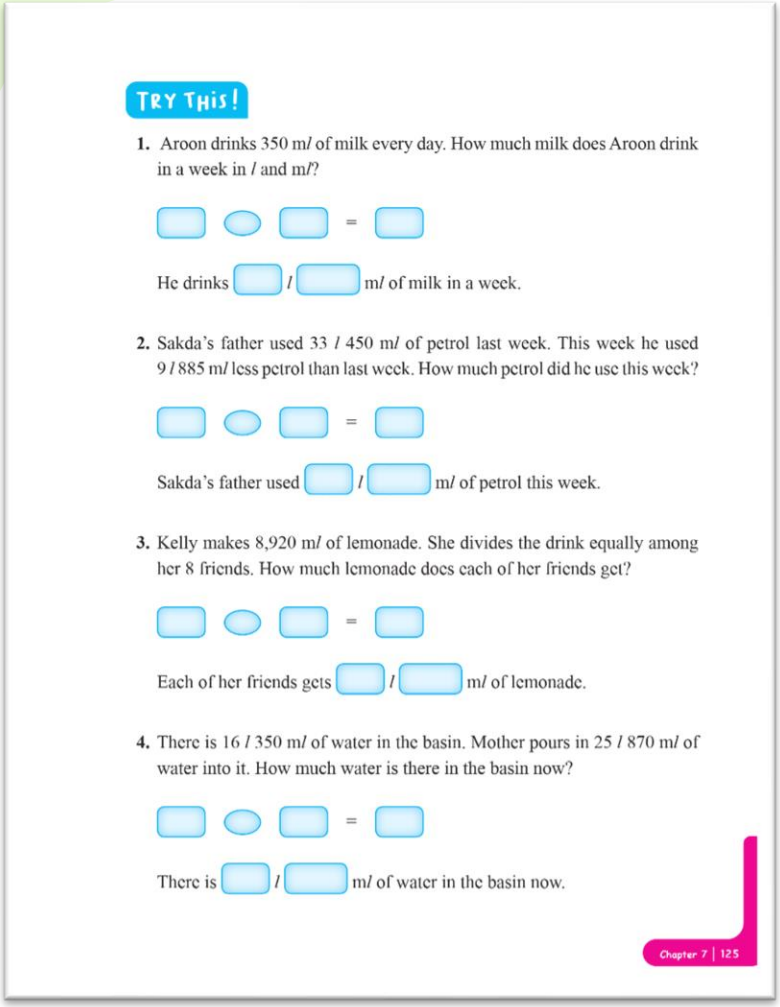
Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 103 to 106 in Go Get Maths Workbook P3.

To find out if the students have mastered the first half of the year's content, ask them to complete the **Revision 1** on pages 107 to 113 in Go Get Maths Workbook P3.



TRY THIS!

1. Aroon drinks 350 m*l* of milk every day. How much milk does Aroon drink in a week in *l* and m*l*?

□ ⬭ □ = □

He drinks □ *l* □ m*l* of milk in a week.

2. Sakda's father used 33 *l* 450 m*l* of petrol last week. This week he used 9 *l* 885 m*l* less petrol than last week. How much petrol did he use this week?

□ ⬭ □ = □

Sakda's father used □ *l* □ m*l* of petrol this week.

3. Kelly makes 8,920 m*l* of lemonade. She divides the drink equally among her 8 friends. How much lemonade does each of her friends get?

□ ⬭ □ = □

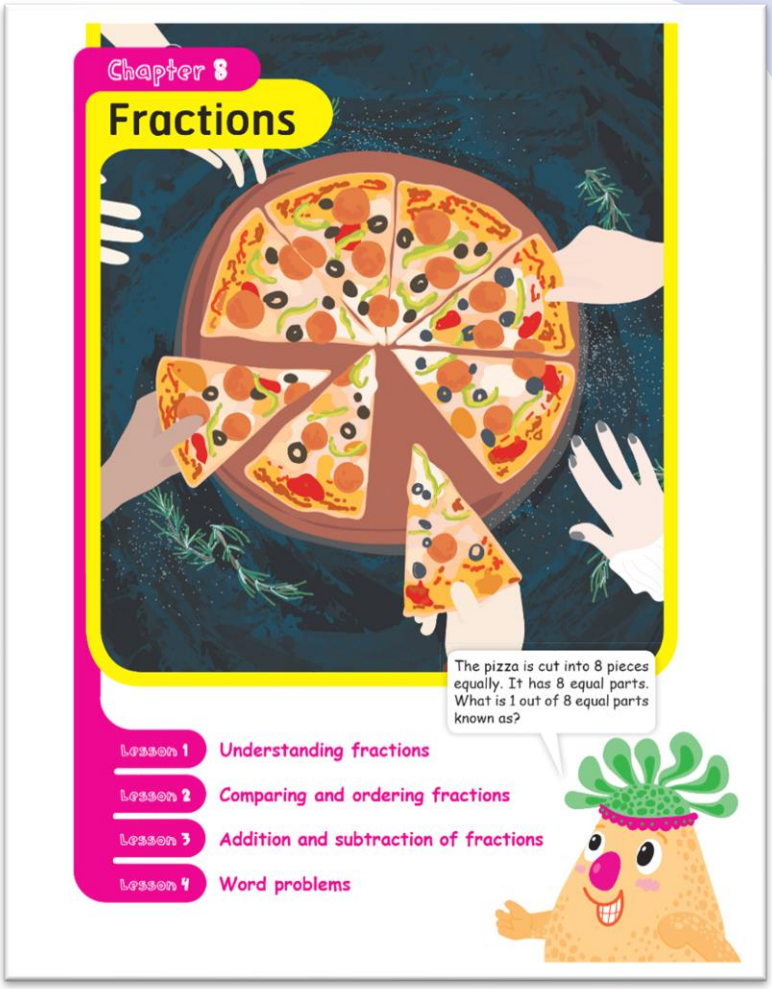
Each of her friends gets □ *l* □ m*l* of lemonade.

4. There is 16 *l* 350 m*l* of water in the basin. Mother pours in 25 *l* 870 m*l* of water into it. How much water is there in the basin now?

□ ⬭ □ = □

There is □ *l* □ m*l* of water in the basin now.

Chapter 7 | 125



Chapter 8
Fractions

The big idea

Ask the students to look at the picture carefully. Ask them these questions to start a discussion:

a. Have you cut a pizza before and distribute the slices of pizza?

b. Did you try to cut the pizza into equal slices?

c. Why should you cut the pizza into equal pieces?

d. How many equal pieces are cut from this pizza?

e. How many pieces of pizza make half of the pizza?

f. How many slices of pizza make this whole pizza?

g. In mathematics, is there a way to represent the equal parts from the whole?

Strand 1: Numbers and Algebra

Standard M.1.1 Numbers

Indicators:

M 1.1 Gr3/3 Tell, read and write fractions that show the quantities of objects, and show objects as given fractions.

M 1.1 Gr3/4 Compare fractions with equivalent numerators and numerators are less than or equivalent to denominators.

M 1.1 Gr3/10 Find positive results of fractions that denominators are equivalent and the products are not more than 1. Find negative results of fractions with equivalent denominators.

M 1.1 Gr3/11 Show mathematical methods of finding the answers of word problems involving addition of fractions that denominators are equivalent and the products are not more than 1 and word problems involving subtraction of fractions with equivalent denominators.

Lesson 1
Understanding fractions

Lesson objectives
By the end of the lesson, the students should be able to:
1. Understand what fractions are.
2. Read and write fractions.
3. Understand parts and whole in fraction.

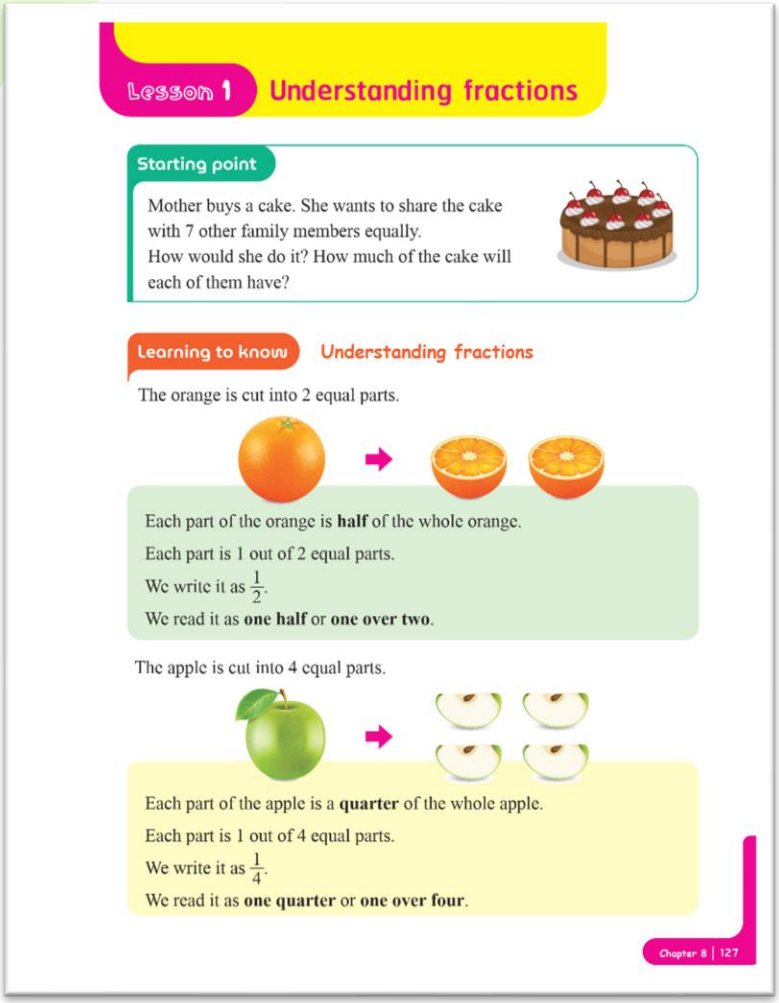
Suggested teaching time
3 periods (3 x 50 minutes)

Vocabulary
fraction, half, part, whole, quarter, numerator, denominator

Materials needed
Paper

Starting point
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas
1. Guide the students to understand that fractions are numbers representing a part of the whole.
2. Guide them to understand half and quarter and how to write them as fractions.
3. Guide them to read ½ and ¼.



Lesson 1 Understanding fractions

Starting point

Mother buys a cake. She wants to share the cake with 7 other family members equally. How would she do it? How much of the cake will each of them have?

Learning to know Understanding fractions

The orange is cut into 2 equal parts.

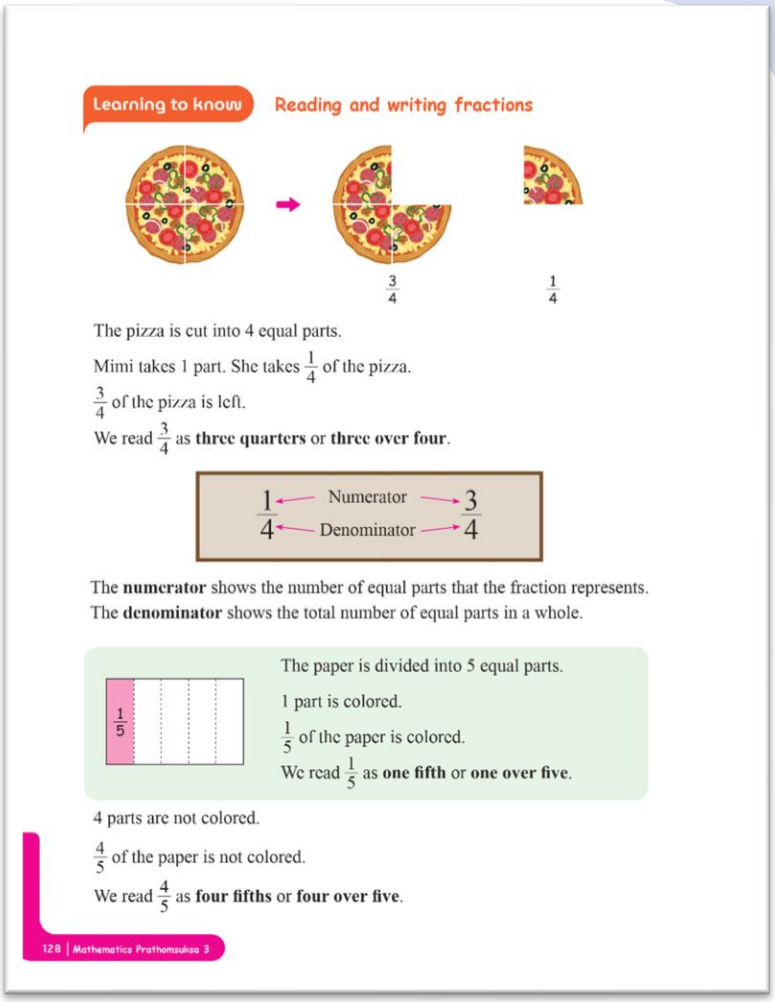
Each part of the orange is **half** of the whole orange.
Each part is 1 out of 2 equal parts.
We write it as $\frac{1}{2}$.
We read it as **one half** or **one over two**.

The apple is cut into 4 equal parts.

Each part of the apple is a **quarter** of the whole apple.
Each part is 1 out of 4 equal parts.
We write it as $\frac{1}{4}$.
We read it as **one quarter** or **one over four**.

Chapter 8 | 127

Activity for Reinforcement
Materials required: Paper
Objective of the activity: Understanding equal parts
1. Show the students a piece of paper.
2. Fold and tear it into 2 equal parts.
3. Ask these questions to start a discussion:
   - How many parts are there?
   - Are they equal? How do you know?
4. Then, show a part and start to encourage them to say out loud 'This part is 1 out of 2 equal parts.'
5. Repeat by tearing into 4 and 6 equal parts.
6. Then, tear a piece of paper into 2 unequal parts and show them to the students.
7. Ask them these questions:
   - How many parts are there?
   - Are they equal? How do you know?
8. Guide the students to conclude what equal and unequal parts are.



Learning to know Reading and writing fractions

The pizza is cut into 4 equal parts.

Mimi takes 1 part. She takes $\frac{1}{4}$ of the pizza.

$\frac{3}{4}$ of the pizza is left.

We read $\frac{3}{4}$ as **three quarters** or **three over four**.

$\frac{1}{4}$ ← Numerator → $\frac{3}{4}$

$\frac{1}{4}$ ← Denominator → $\frac{3}{4}$

The **numerator** shows the number of equal parts that the fraction represents.
The **denominator** shows the total number of equal parts in a whole.

The paper is divided into 5 equal parts.

1 part is colored.

$\frac{1}{5}$ of the paper is colored.

We read $\frac{1}{5}$ as **one fifth** or **one over five**.

4 parts are not colored.

$\frac{4}{5}$ of the paper is not colored.

We read $\frac{4}{5}$ as **four fifths** or **four over five**.

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Activity for Reinforcement

The students need time to practice how to read fractions. Write a few fractions on the board. Get a few students to read them out loudly and a few to verify their answers.

$\frac{1}{3}$ $\frac{2}{3}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{1}{5}$ $\frac{2}{5}$ $\frac{3}{5}$ $\frac{4}{5}$

Teaching ideas

1. Write a fraction on the board. Start a discussion with these questions:
   - How do you read this fraction?
   - How many equal parts does this fraction represent? Which part of the fraction tells you this?
   - How many equal parts are there in total as a whole? Which part of the fraction tells you this?
2. Introduce the terms numerator and denominator. Ask these questions to start a discussion:
   - In a fraction, which is the numerator?
   - What does the numerator represent?
   - In a fraction, which is the denominator?
   - What does the denominator represent?
   - Which are the denominator and the numerator for $\frac{12}{17}$?
   - What can you say about $\frac{12}{17}$?
3. Use the examples to explain further.

Teaching ideas

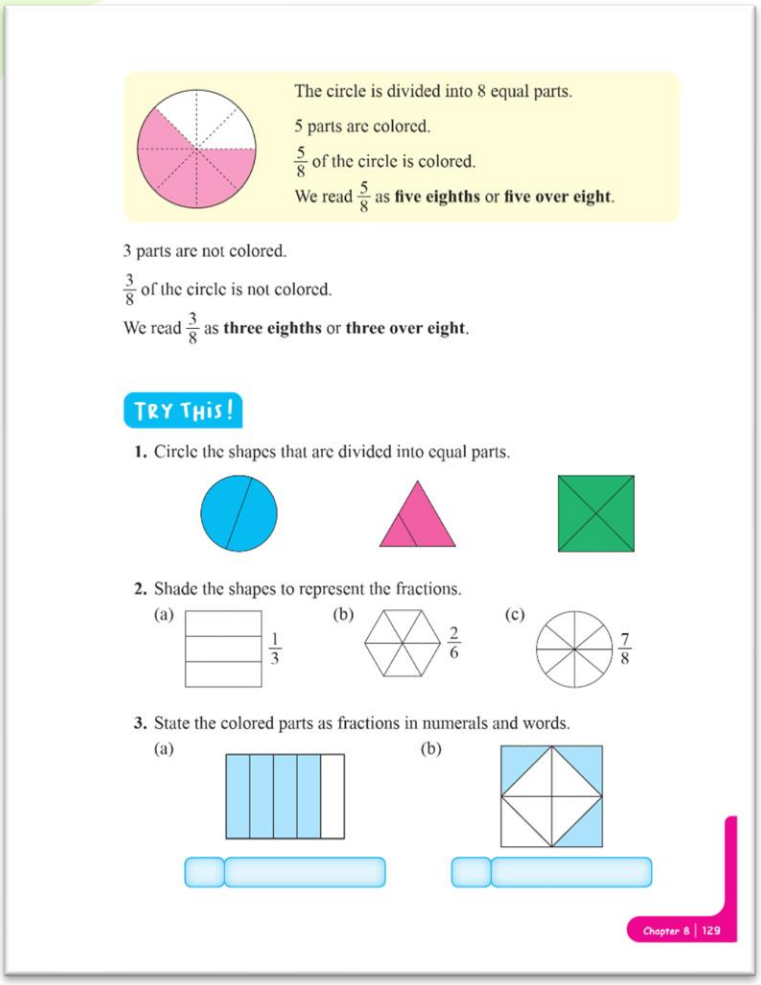
4. Use the example to explain further.

Try This!

Get 7 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 114 to 118 in Go Get Maths Workbook P3.



The circle is divided into 8 equal parts.

5 parts are colored.

$\frac{5}{8}$ of the circle is colored.

We read $\frac{5}{8}$ as **five eighths** or **five over eight**.

3 parts are not colored.

$\frac{3}{8}$ of the circle is not colored.

We read $\frac{3}{8}$ as **three eighths** or **three over eight**.

TRY THIS!

1. Circle the shapes that are divided into equal parts.

2. Shade the shapes to represent the fractions.

(a) $\frac{1}{3}$ (b) $\frac{2}{6}$ (c) $\frac{7}{8}$

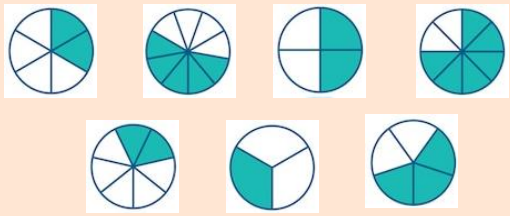
3. State the colored parts as fractions in numerals and words.

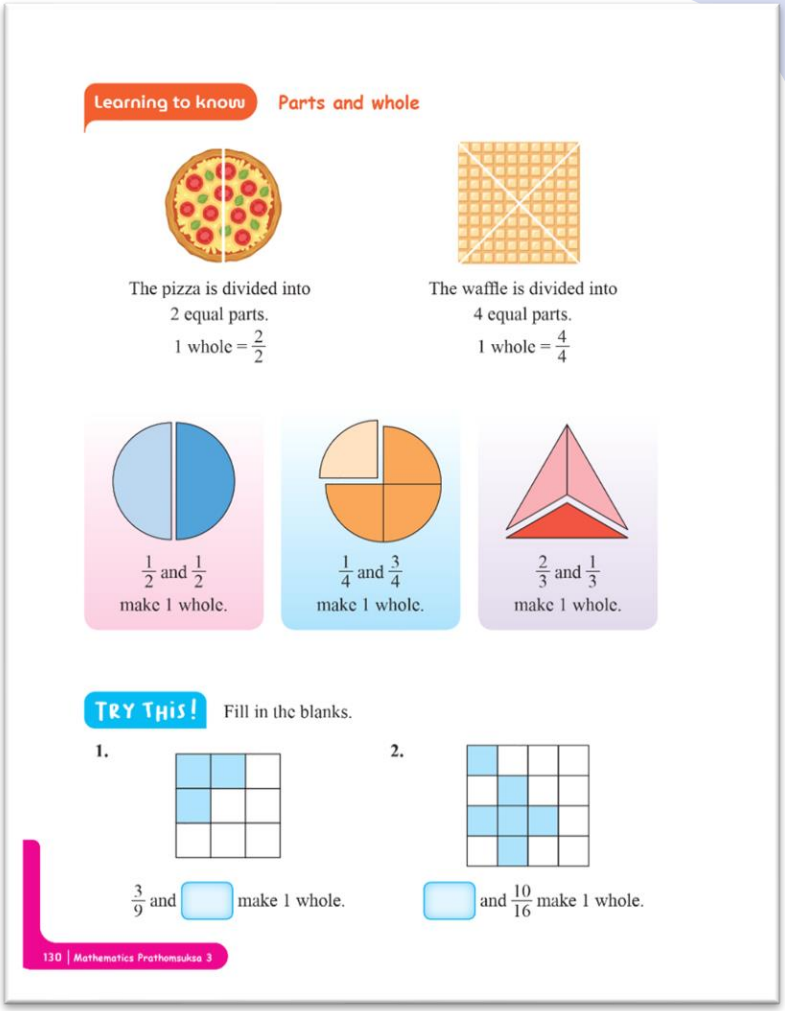
(a) (b)

Chapter 8 | 129

Activity for Reinforcement

The students need time to understand what the numbers in a fraction represent. Draw these diagrams and get a few students to state the fractions representing the colored and non-colored parts. Get a few to verify their answers.





Learning to know Parts and whole

The pizza is divided into 2 equal parts.
1 whole = $\frac{2}{2}$

The waffle is divided into 4 equal parts.
1 whole = $\frac{4}{4}$

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

$\frac{1}{4}$ and $\frac{3}{4}$ make 1 whole.

$\frac{2}{3}$ and $\frac{1}{3}$ make 1 whole.

TRY THIS! Fill in the blanks.

1. $\frac{3}{9}$ and ☐ make 1 whole.

2. ☐ and $\frac{10}{16}$ make 1 whole.

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Teaching ideas

1. Show the students a piece of paper. Tear it into 2 equal parts. Put them together. Start a discussion with these questions:
   - How many equal parts are there?
   - What happen if we put them side by side?
   - Is it similar to the original paper?
2. Repeat by tearing the paper into 4 parts instead of 2.
3. Guide them to realized that they can put all the equal parts back to make the original whole.
4. Use the examples to explain further.
5. Guide the students to refer to **Starting Point** on page 127. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 2 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on page 119 in Go Get Maths Workbook P3.

Lesson 2
Comparing and ordering fractions

Lesson objectives
By the end of the lesson, the students should be able to:

1. Compare fractions with similar denominators.
2. Compare fractions with similar numerators.
3. Order fractions with similar denominators.
4. Order fractions with similar numerators.

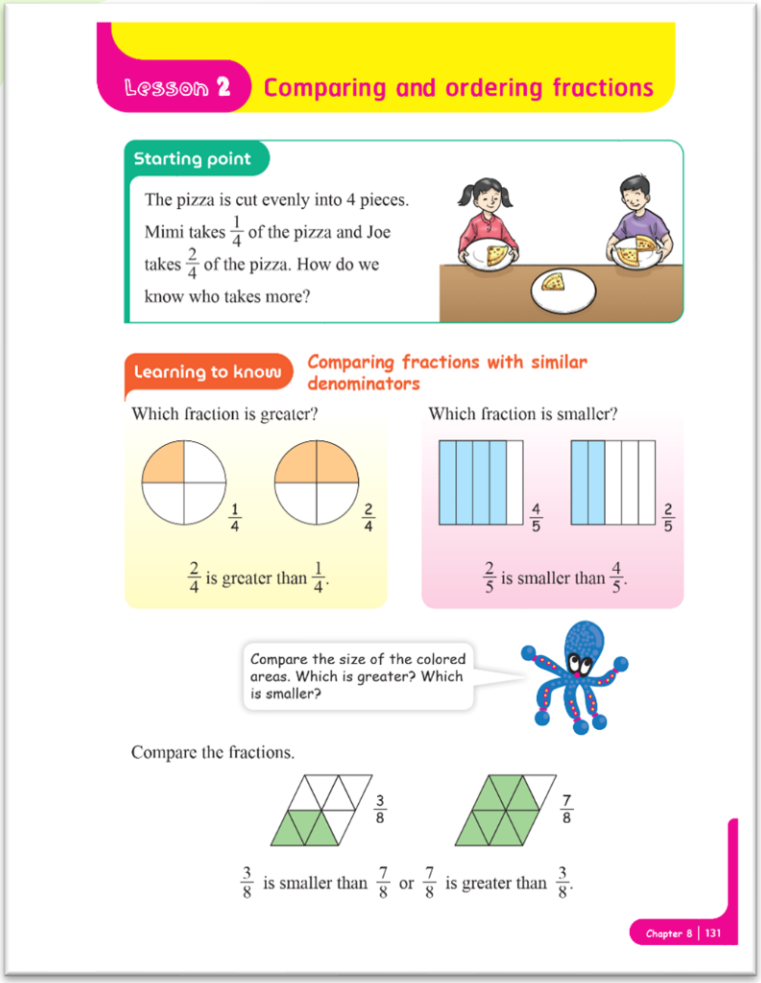
Suggested teaching time
3 periods (3 x 50 minutes)

Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Use the diagrams in the book to guide the students to compare the fractions.
2. Lead them to realize that the fractions have similar denominators.
3. Tell them that when comparing fractions with similar denominator, they can just compare the numerators while ignoring the denominators. The fraction with greater numerator is greater.



Lesson 2 Comparing and ordering fractions

Starting point

The pizza is cut evenly into 4 pieces. Mimi takes $\frac{1}{4}$ of the pizza and Joe takes $\frac{2}{4}$ of the pizza. How do we know who takes more?

Learning to know: Comparing fractions with similar denominators

Which fraction is greater?

$\frac{1}{4}$ $\frac{2}{4}$

$\frac{2}{4}$ is greater than $\frac{1}{4}$.

Which fraction is smaller?

$\frac{4}{5}$ $\frac{2}{5}$

$\frac{2}{5}$ is smaller than $\frac{4}{5}$.

Compare the size of the colored areas. Which is greater? Which is smaller?

Compare the fractions.

$\frac{3}{8}$ $\frac{7}{8}$

$\frac{3}{8}$ is smaller than $\frac{7}{8}$ or $\frac{7}{8}$ is greater than $\frac{3}{8}$.

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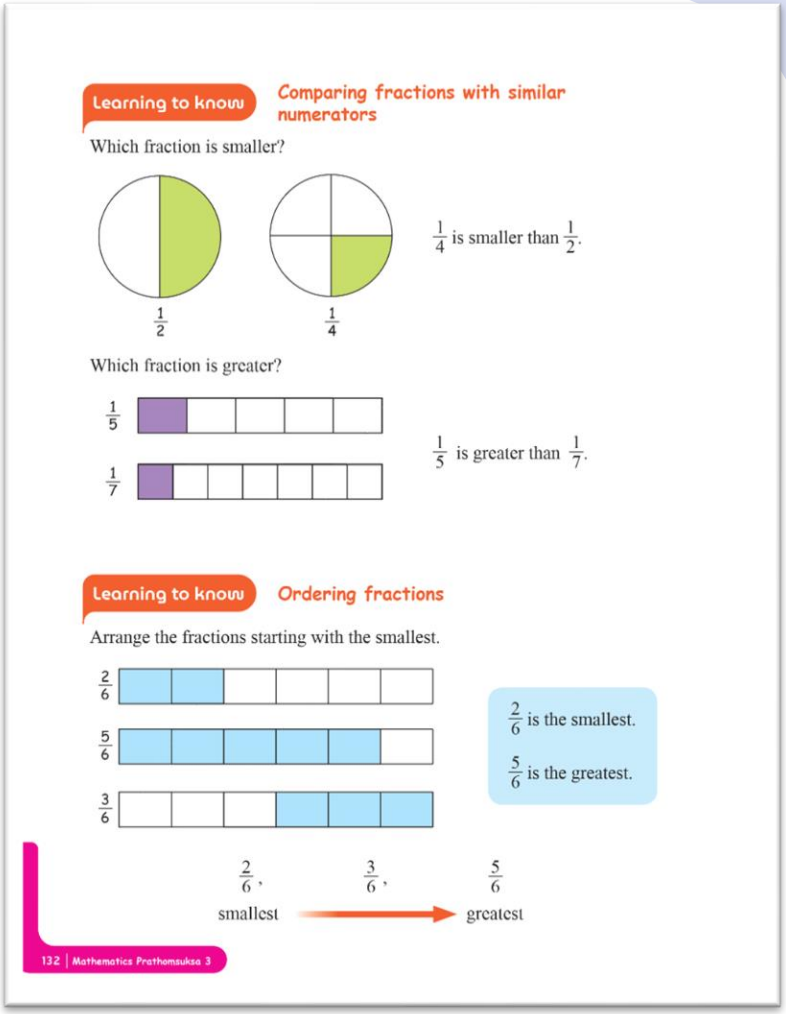
Extra notes
It always better to use various graphical methods and models to let the students visualize the fractions.

Encourage the students to draw the fractions if they cannot visualize the fractions in their minds.



Learning to know Comparing fractions with similar numerators

Which fraction is smaller?

$\frac{1}{4}$ is smaller than $\frac{1}{2}$.

Which fraction is greater?

$\frac{1}{5}$ is greater than $\frac{1}{7}$.

Learning to know Ordering fractions

Arrange the fractions starting with the smallest.

$\frac{2}{6}$ is the smallest.

$\frac{5}{6}$ is the greatest.

$\frac{2}{6}$, $\frac{3}{6}$, $\frac{5}{6}$

smallest → greatest

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More Tasks

or visit
http://tiny.cc/l2fquz

Teaching ideas

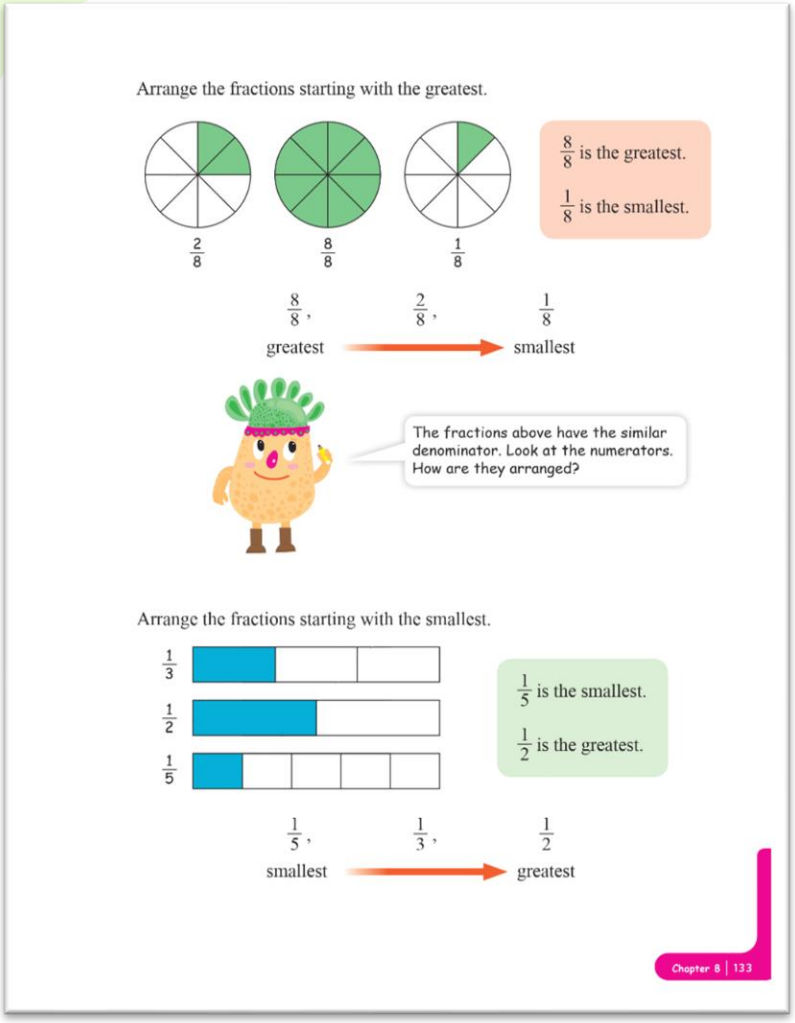
1. Use the diagrams in the book to guide the students to compare the fractions.
2. Lead them to realize that the fractions have similar numerators.
3. Tell them that when comparing fractions with similar numerator, they can just compare the denominators while ignoring the numerators. The fraction with greater denominator is smaller.

Teaching ideas

1. Always remind the students to observe if the numerators or denominators are similar before comparing and ordering any fractions.
2. If the denominators are similar, we just need to compare and order the fractions based on their numerators. The fraction with greater numerator is greater.
3. Use the example to guide the students to compare and order.
4. Encourage the students to draw the fractions if they cannot visualize the fractions.

Teaching ideas

5. Use the example to guide the students to compare and order.
6. If the numerators are similar, ask the students to compare and order the fractions based on their denominators.
7. The greater the denominator, the smaller it is.
8. Encourage the students to draw the fractions if they cannot visualize the fractions.


Arrange the fractions starting with the greatest.

$\frac{2}{8}$ $\frac{8}{8}$ $\frac{1}{8}$

$\frac{8}{8}$ is the greatest.

$\frac{1}{8}$ is the smallest.

$\frac{8}{8}$, $\frac{2}{8}$, $\frac{1}{8}$

greatest → smallest

The fractions above have the similar denominator. Look at the numerators. How are they arranged?

Arrange the fractions starting with the smallest.

$\frac{1}{3}$ $\frac{1}{2}$ $\frac{1}{5}$

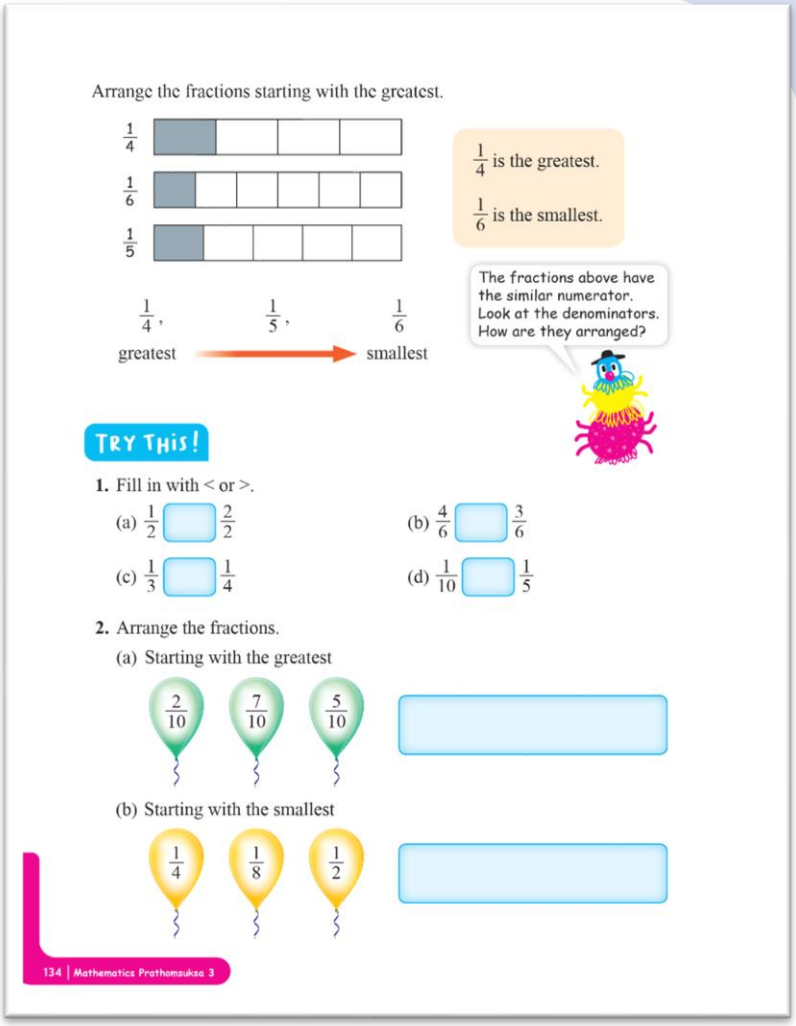
$\frac{1}{5}$ is the smallest.

$\frac{1}{2}$ is the greatest.

$\frac{1}{5}$, $\frac{1}{3}$, $\frac{1}{2}$

smallest → greatest

Chapter 8 | 133



Arrange the fractions starting with the greatest.

$\frac{1}{4}$

$\frac{1}{6}$

$\frac{1}{5}$

$\frac{1}{4}$ is the greatest.

$\frac{1}{6}$ is the smallest.

$\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$

greatest → smallest

The fractions above have the similar numerator. Look at the denominators. How are they arranged?

TRY THIS!

1. Fill in with < or >.

(a) $\frac{1}{2}$ ☐ $\frac{2}{2}$

(b) $\frac{4}{6}$ ☐ $\frac{3}{6}$

(c) $\frac{1}{3}$ ☐ $\frac{1}{4}$

(d) $\frac{1}{10}$ ☐ $\frac{1}{5}$

2. Arrange the fractions.

(a) Starting with the greatest

$\frac{2}{10}$ $\frac{7}{10}$ $\frac{5}{10}$

(b) Starting with the smallest

$\frac{1}{4}$ $\frac{1}{8}$ $\frac{1}{2}$

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HOTS Qs

or visit
http://tiny.cc/01fquz

Teaching ideas

9. Use the example to guide the students to compare and order.
10. Guide the students to refer to **Starting Point** on page 131. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 6 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 120 to 124 in Go Get Maths Workbook P3.

Lesson 3
Addition and subtraction of fractions

Lesson objectives

By the end of the lesson, the students should be able to:

1. Add fractions with similar denominator.
2. Subtract fractions with similar denominator.

Suggested teaching time

3 periods (3 x 50 minutes)

Vocabulary

-

Materials needed

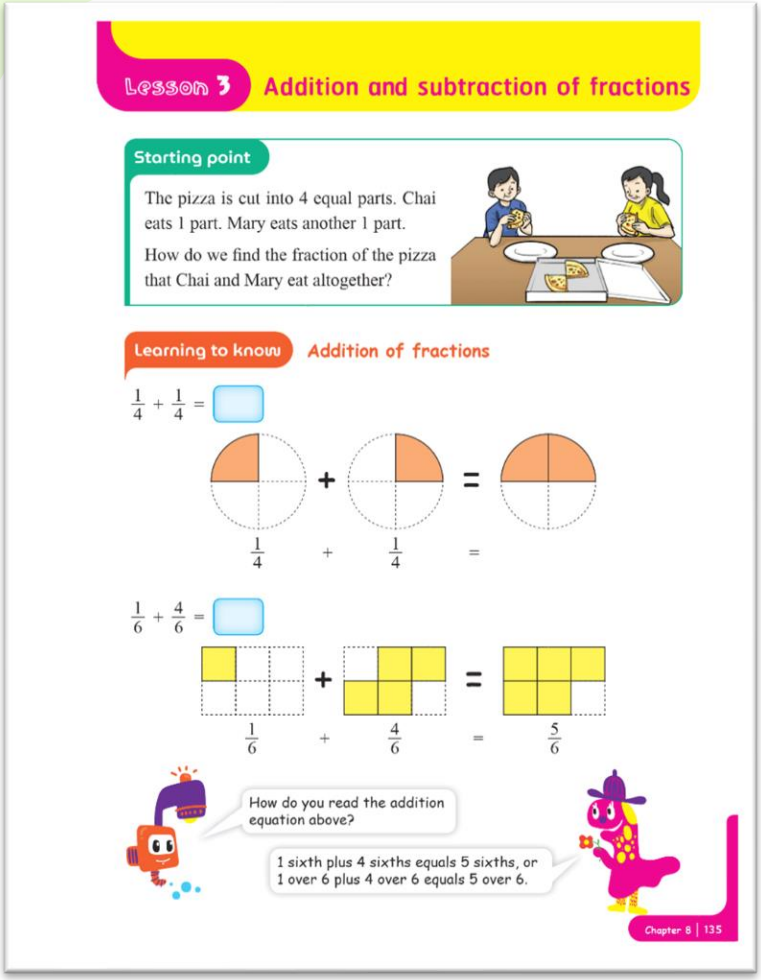
-

Starting point

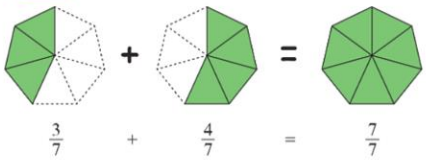
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. When adding fractions, ask the students to observe if their denominators are similar.
2. Tell them that they can add the numerators if their denominators are the same.
3. Use the examples to guide the students to add the fractions.



$\frac{3}{7} + \frac{4}{7} =$ ☐

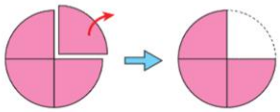


$\frac{3}{7}$ + $\frac{4}{7}$ = $\frac{7}{7}$

Learning to know Subtraction of fractions

The pizza is cut into 4 equal parts. Mother eats $\frac{1}{4}$ of the pizza. What is the fraction of the pizza that is left?

$\frac{4}{4} - \frac{1}{4} =$ ☐



So, $\frac{4}{4} - \frac{1}{4} = \frac{3}{4}$

$\frac{3}{5} - \frac{1}{5} =$ ☐

So, $\frac{3}{5} - \frac{1}{5} = \frac{2}{5}$

3 fifths minus 1 fifth equals 2 fifths, or
3 over 5 minus 1 over 5 equals 2 over 5.

Teaching ideas

4. Encourage the students to draw the fractions if they cannot visualize the fractions.

Teaching ideas

1. Repeat for the subtraction of fractions with similar denominators.
2. Reiterate that subtraction means to take away.
3. Use the examples to explain further.

Teaching ideas

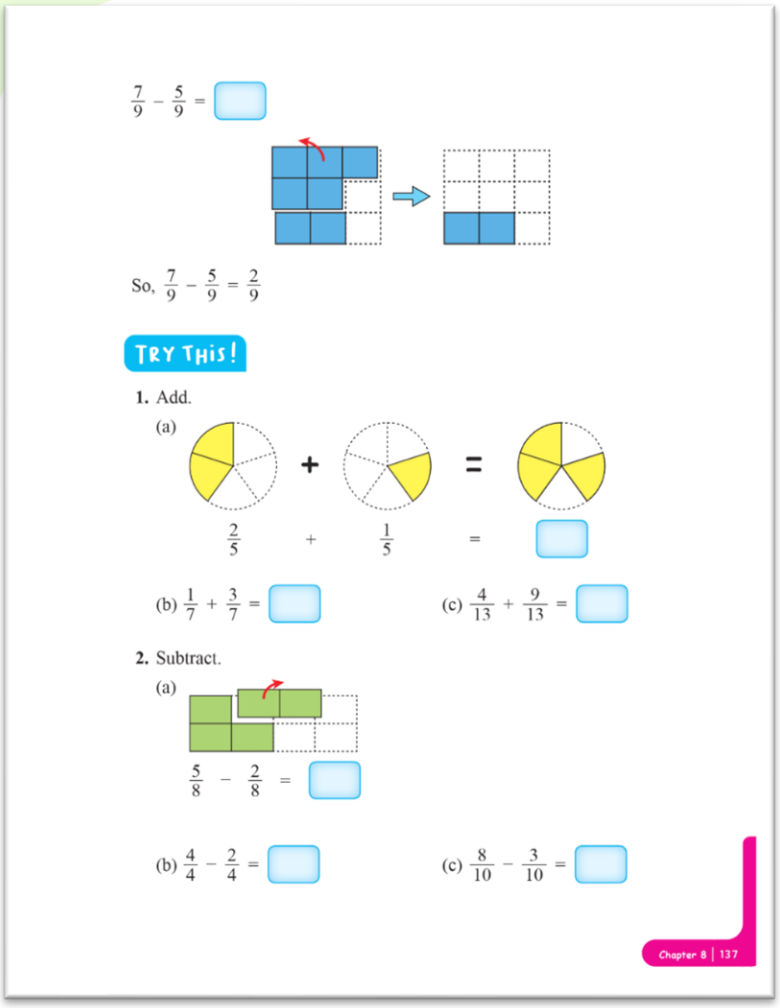
4. Use the example to explain further.
5. Guide the students to refer to **Starting Point** on page 135. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 6 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 125 to 127 in Go Get Maths Workbook P3.



$\frac{7}{9} - \frac{5}{9} =$ ☐

So, $\frac{7}{9} - \frac{5}{9} = \frac{2}{9}$

TRY THIS!

1. Add.

(a) $\frac{2}{5} + \frac{1}{5} =$ ☐

(b) $\frac{1}{7} + \frac{3}{7} =$ ☐

(c) $\frac{4}{13} + \frac{9}{13} =$ ☐

2. Subtract.

(a) $\frac{5}{8} - \frac{2}{8} =$ ☐

(b) $\frac{4}{4} - \frac{2}{4} =$ ☐

(c) $\frac{8}{10} - \frac{3}{10} =$ ☐

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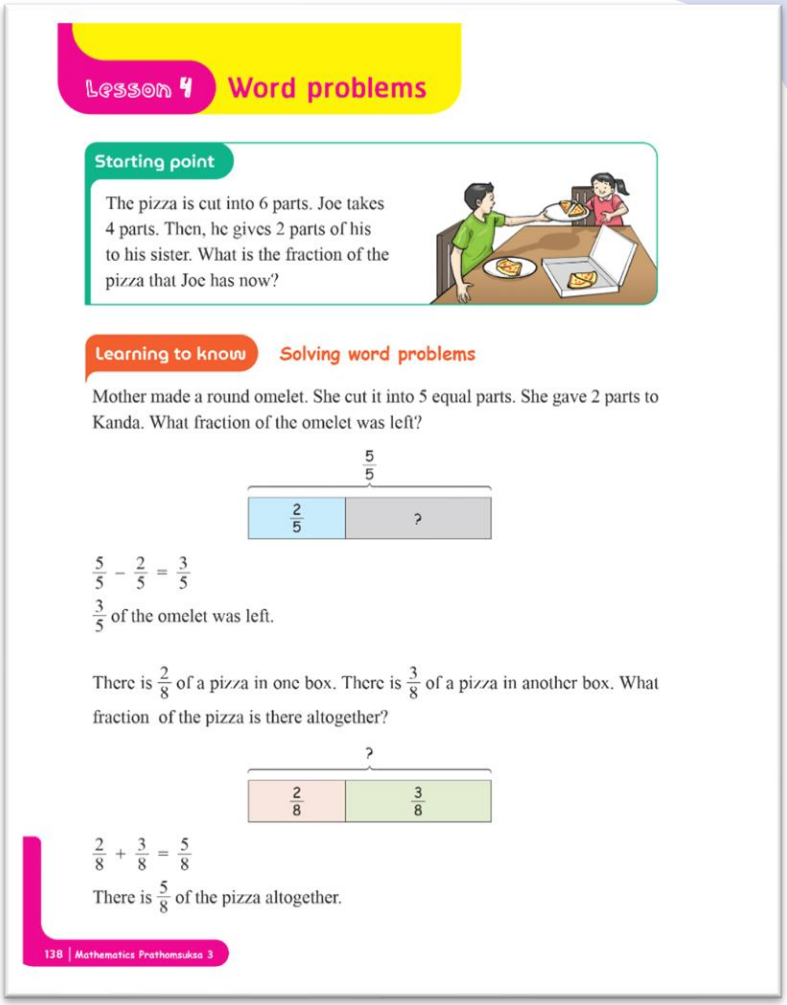

Lesson 4 Word problems

Starting point

The pizza is cut into 6 parts. Joe takes 4 parts. Then, he gives 2 parts of his to his sister. What is the fraction of the pizza that Joe has now?

Learning to know Solving word problems

Mother made a round omelet. She cut it into 5 equal parts. She gave 2 parts to Kanda. What fraction of the omelet was left?

$\frac{5}{5}$

$\frac{2}{5}$?

$\frac{5}{5} - \frac{2}{5} = \frac{3}{5}$

$\frac{3}{5}$ of the omelet was left.

There is $\frac{2}{8}$ of a pizza in one box. There is $\frac{3}{8}$ of a pizza in another box. What fraction of the pizza is there altogether?

?

$\frac{2}{8}$ $\frac{3}{8}$

$\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$

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

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Lesson 4
Word problems

Lesson objectives

By the end of the lesson, the students should be able to:

1. Solve word problems involving fractions.

Suggested teaching time

4 periods (4 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Reiterate the 3 simple steps to solve a word problem.

   Step 1: Understand the problem

   - Ask the students to read the number story and the question silently. Then, read them together with the students. Explain further the number story and the question if the students do not understand.
   - Ask the students these questions to ensure they understand:
     - What information is given?
     - What do you need to find?
     - Are you comparing the items?

Teaching ideas

Step 2: Plan and execute

- Ask the students to draw the suitable bar model including the knowns and unknowns.
- Ask them to find the keyword in the problem that indicates the operation whether to add, to subtract, to multiply or to divide.
- Analyze the bar model drawn.
- Then, write the number equation and solve it.

Step 3: Check the answer

- Always ask the students to check their answer. They need to check if the answer makes sense and is reasonable.

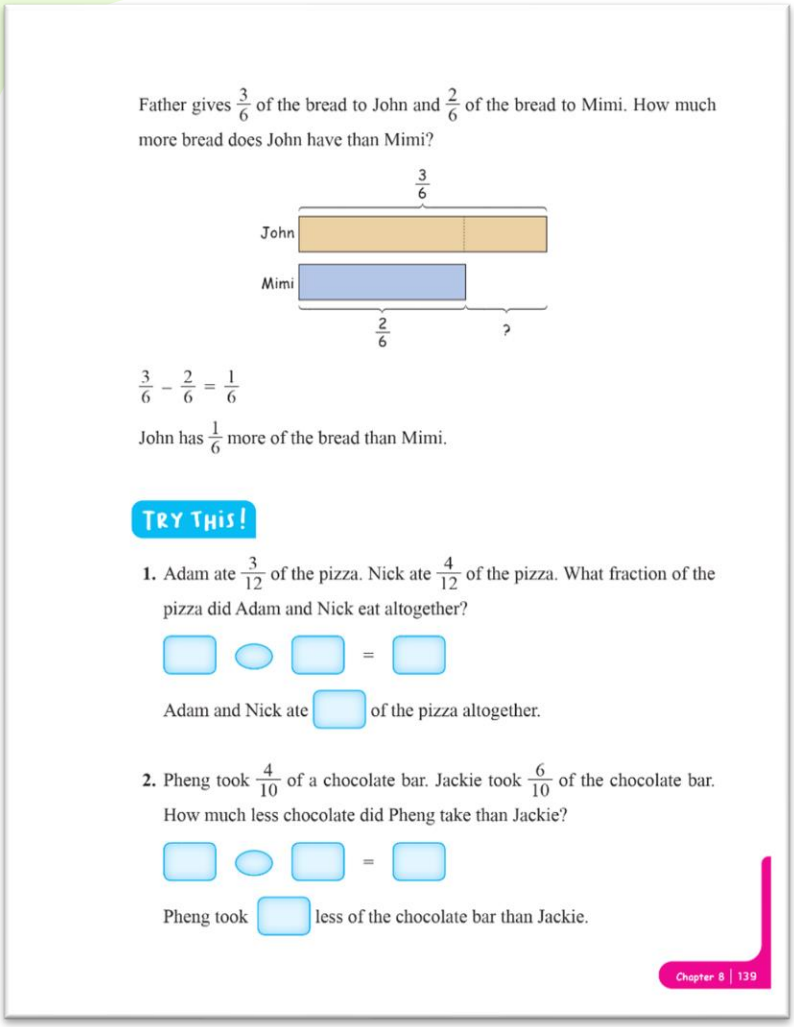
2. Work with them the 3 steps in solving the word problems.
3. Guide the students to refer to **Starting Point** on page 138. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 2 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 128 to 131 in Go Get Maths Workbook P3.



Father gives $\frac{3}{6}$ of the bread to John and $\frac{2}{6}$ of the bread to Mimi. How much more bread does John have than Mimi?

$\frac{3}{6} - \frac{2}{6} = \frac{1}{6}$

John has $\frac{1}{6}$ more of the bread than Mimi.

TRY THIS!

1. Adam ate $\frac{3}{12}$ of the pizza. Nick ate $\frac{4}{12}$ of the pizza. What fraction of the pizza did Adam and Nick eat altogether?

Adam and Nick ate ☐ of the pizza altogether.

2. Pheng took $\frac{4}{10}$ of a chocolate bar. Jackie took $\frac{6}{10}$ of the chocolate bar. How much less chocolate did Pheng take than Jackie?

Pheng took ☐ less of the chocolate bar than Jackie.

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More Info

or visit
http://tiny.cc/s4fquz

Chapter 9 Money

The big idea

1. Ask them these questions to start a discussion:
   a. Have you used money before?
   b. Do you usually use the coins or the notes?
   c. What usually do you buy with the money?
   d. Do the seller always give you back the balance? Why?

2. Ask the students to study the picture carefully. Ask them these questions to have a discussion:
   a. What are the kids doing?
   b. How much are they selling for a glass of lemonade?
   c. Can we use a ten-Baht to buy a glass of lemonade?
   d. How much will you have to pay for 3 glasses of lemonade?

Strand 2: Measurement and geometry

Standard M.2.1

Indicators:

M 2.1 Gr3/1 1. Demonstrate how to solve word problems involving money.

Lesson 1
Recognizing money

Lesson objectives
By the end of the lesson, the students should be able to:

1. Know and recognize our money.

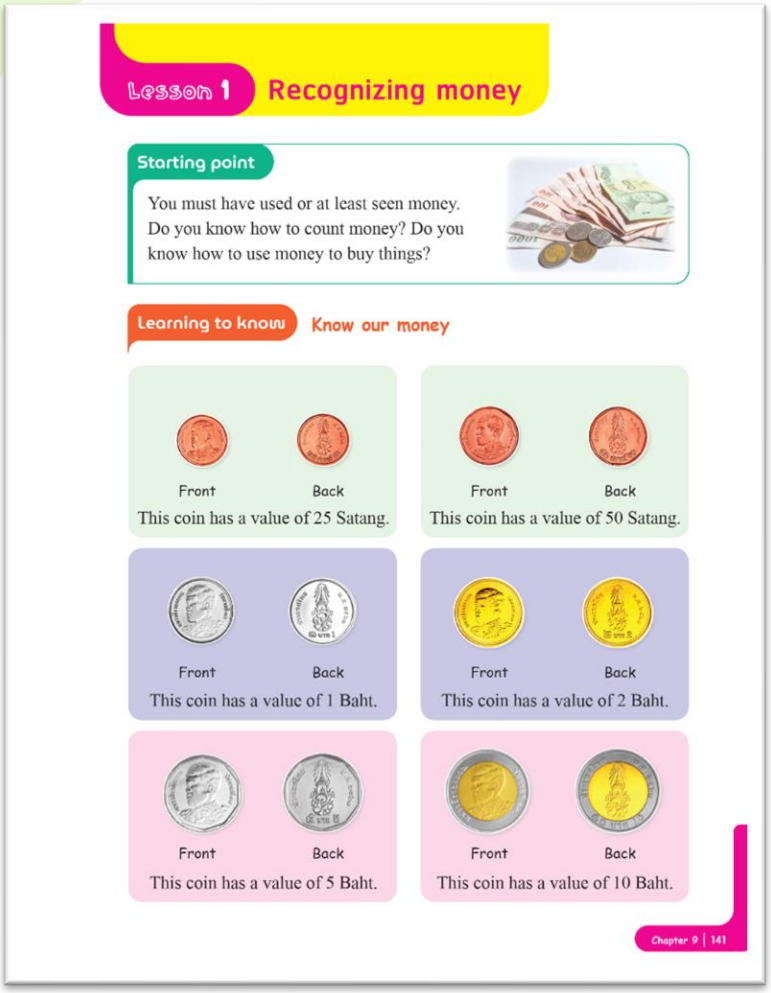
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
Baht, Satang, coin, note

Materials needed
Coins, notes

Starting point
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas
1. Show the students the coins.
2. Ask them to observe the coins.
3. Ask them these questions to start a discussion:
   - How many types of coins are there?
   - What is the value of each type of coins?
   - What is the color of each type of coins?
   - What are printed on the front and back of each type of coins?
   - Which coin is the largest in size?
   - Which coin is the smallest in size?


Lesson 1 Recognizing money

Starting point

You must have used or at least seen money. Do you know how to count money? Do you know how to use money to buy things?

Learning to know Know our money

Front Back
This coin has a value of 25 Satang.

Front Back
This coin has a value of 50 Satang.

Front Back
This coin has a value of 1 Baht.

Front Back
This coin has a value of 2 Baht.

Front Back
This coin has a value of 5 Baht.

Front Back
This coin has a value of 10 Baht.

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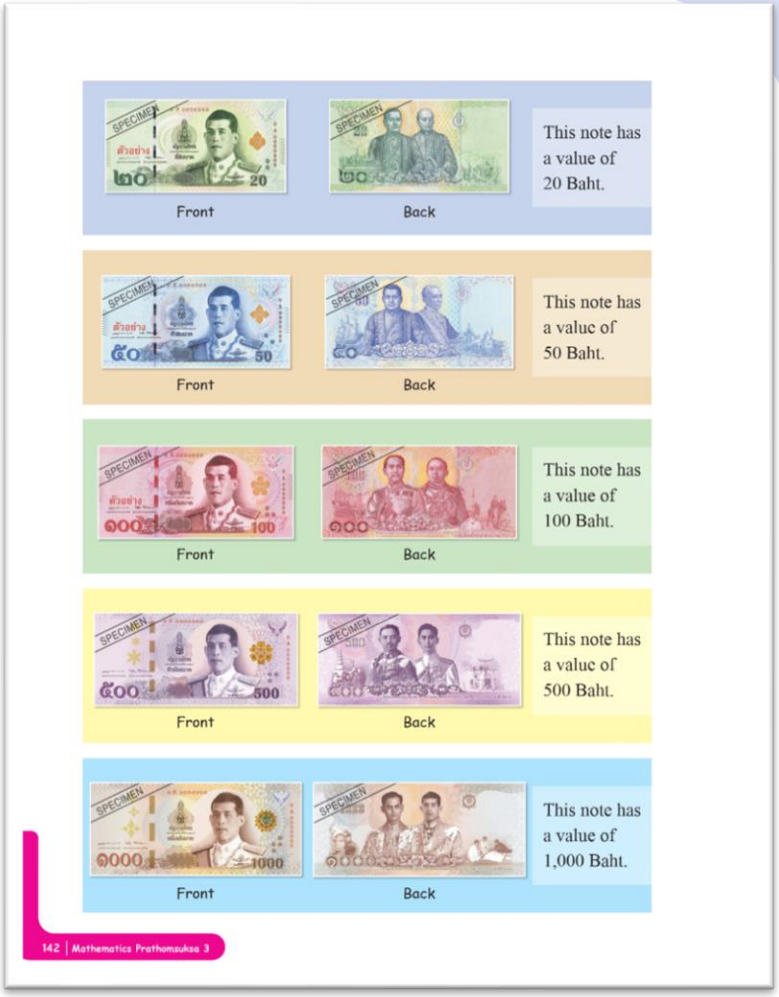
Extra notes
The Thai Baht (THB) is the official currency of Thailand. The symbol of the currency is ฿. It is divided into 100 Satang. The Bank of Thailand issues the currency.



Teaching ideas

4. Show the students the notes.
5. Ask them to observe the notes.
6. Ask them these questions to start a discussion:
   - How many types of notes are there?
   - What is the value of each type of notes?
   - What is the color of each type of notes?
   - What are printed on the front and back of each type of notes?
   - Which note is the largest in size?
   - Which note is the smallest in size?
7. Guide the students to refer to **Starting Point** on page 141. Ask them to answer the questions. Have a discussion to conclude the lesson.

Extra notes

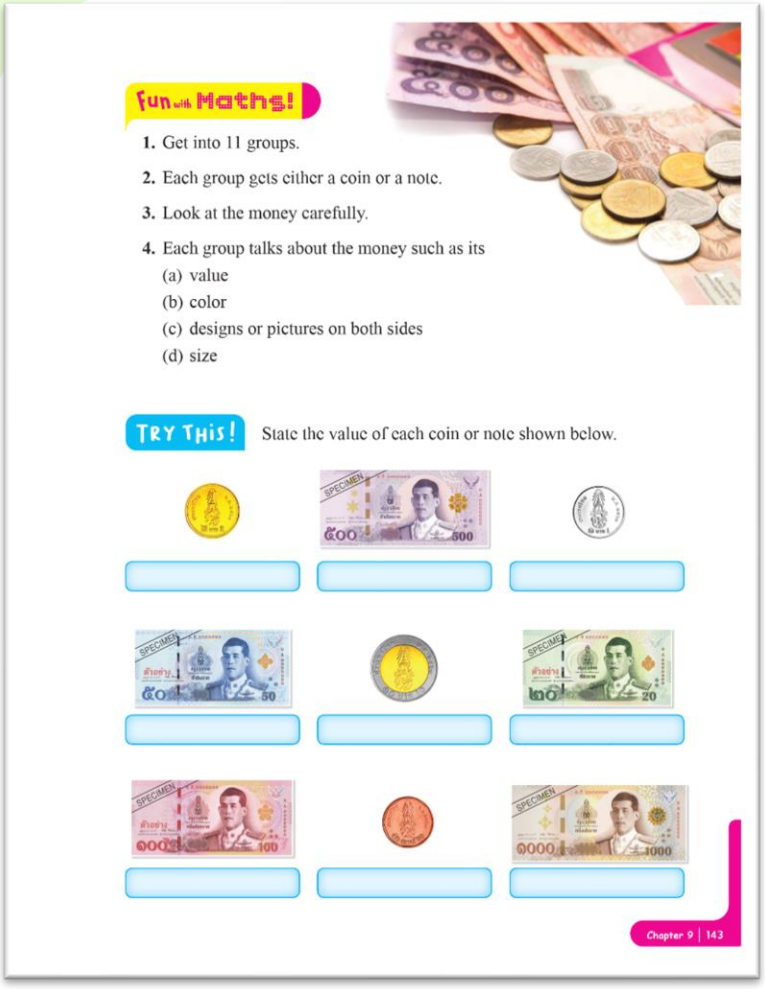
Currently our notes are printed on paper made from cotton fiber. There is a plan to gradually change from cotton paper to polymer. Polymer notes have greater durability and cleaner. They can last longer than paper notes.

Fun with Maths!

Materials required: Coins and notes

Objective of the activity: Describe coins and notes

The students should be able to recognize the values of the coins and notes.

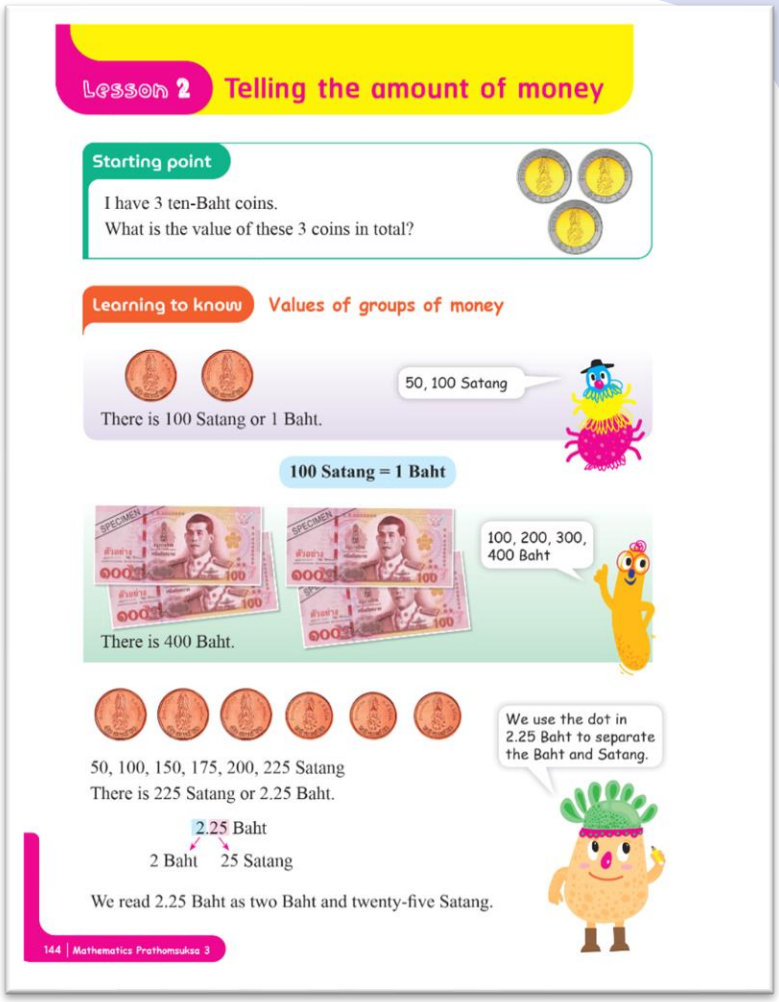


Try This!

Get 9 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 132 and 133 in Go Get Maths Workbook P3.



Lesson 2
Telling the amount of money

Lesson objectives

By the end of the lesson, the students should be able to:

1. Tell amounts of money.
2. Exchange amounts of money with similar values.

Suggested teaching time

3 periods (3 x 50 minutes)

Vocabulary

-

Materials needed

Coins, notes, play money

Starting point

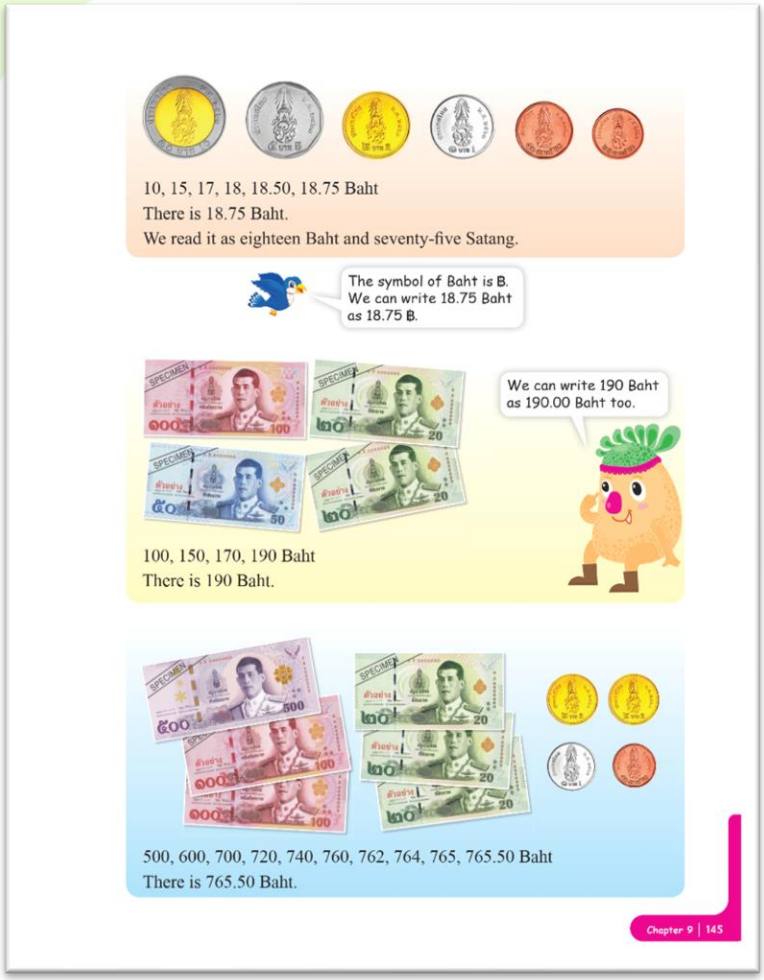
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

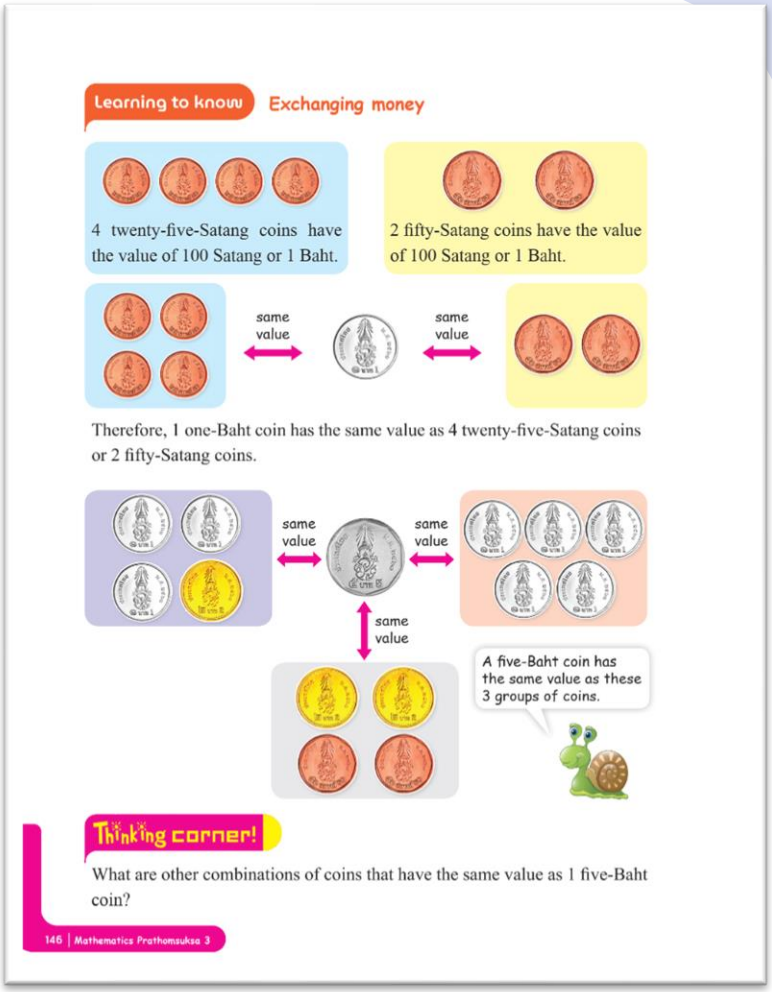
Teaching ideas

1. Show the students 3 ten-Baht coins. Guide them to count on in tens to find the total amount of money.
2. Show them 4 fifty-Satang coins. Guide them to count on in fifties to find the amount of money.
3. Tell them that 100 Satang equals 1 Baht. So, 200 Satang equals to 2 Baht.
4. Repeat with other sets of coins with similar value.
5. Repeat with a few sets of notes with similar value.
6. Use the examples to explain further.

Teaching ideas

7. Show the students 3 two-Baht coins and 4 ten-Baht coins. Guide them to count on to find the total amount of money. Tell them to be careful with the counting from 6 to 16.
8. Repeat with other sets of coins with different values.
9. Show the students 6 twenty-Baht notes and 2 one hundred-Baht notes. Guide them to count on to find the total amount of money. Tell them to be careful with the counting from 120 to 220.
10. Repeat with a few sets of notes with different values.
11. Show the students 2 twenty-five-Satang coins, 6 one-Baht coins, 3 fifty-Baht notes and 3 one hundred-Baht notes. Guide them to count on to find the total amount of money.
12. Repeat with a few sets of combination of coins and notes with different values.
13. Use the examples to explain further.





Learning to know Exchanging money

4 twenty-five-Satang coins have the value of 100 Satang or 1 Baht.

2 fifty-Satang coins have the value of 100 Satang or 1 Baht.

same value same value

Therefore, 1 one-Baht coin has the same value as 4 twenty-five-Satang coins or 2 fifty-Satang coins.

same value same value same value

A five-Baht coin has the same value as these 3 groups of coins.

Thinking corner!

What are other combinations of coins that have the same value as 1 five-Baht coin?

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Teaching ideas

1. Show the students 2 groups of coins. The first group consists of 10 one-Baht coins. The second group consists of 2 five-Baht coins. Ask them these questions to start a discussion:
   - What is the value of the first group of coins?
   - What is the value of the second group of coins?
   - Are their values the same?
   - Can you name a coin that has similar value as each of the groups?
2. Highlight that those 2 groups of coins have the same value even though there are more one-Baht coins than five-Baht coins.
3. Use the examples to explain further.

Thinking Corner!

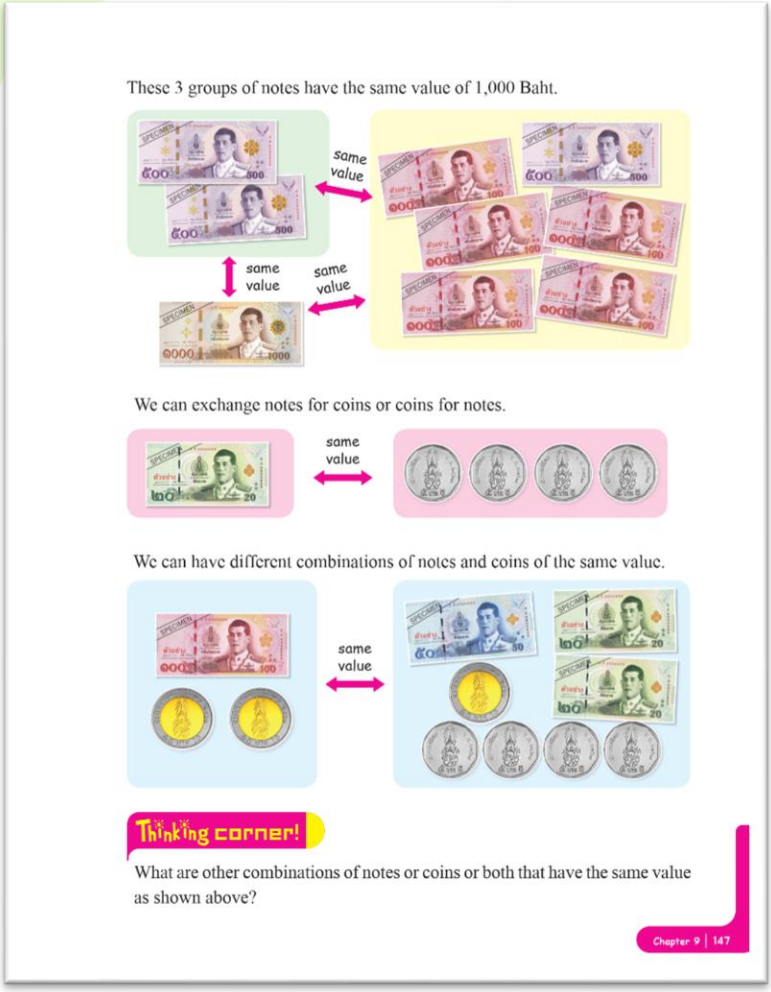
If the students cannot answer, provide them with some coins or play money to explore.

More Tasks

or visit
http://tiny.cc/d7fquz

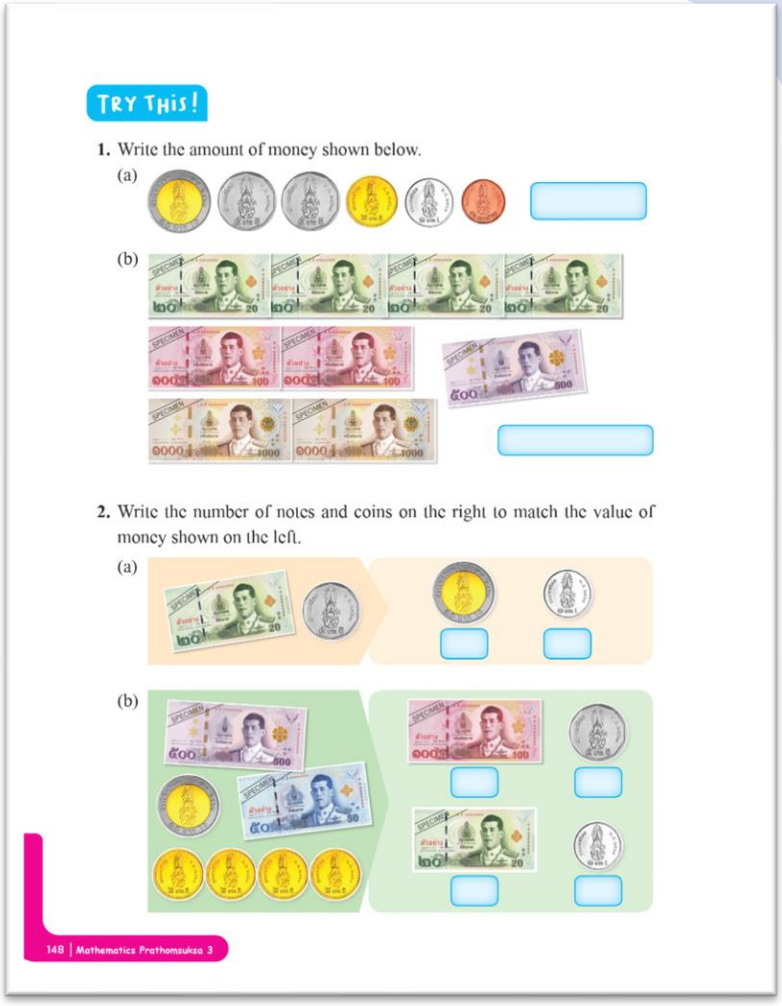
Teaching ideas

4. Show the students 2 groups of notes. The first group consists of 25 twenty-Baht notes. The second group consists of 5 one hundred-Baht notes. Ask them these questions to start a discussion:
   - What is the value of the first group of notes?
   - What is the value of the second group of notes?
   - Are their values the same?
   - Can you name a note that has similar value as each of the groups?
5. Highlight that those 2 groups of notes have the same value even though there are more twenty-Baht notes than one hundred-Baht notes.
6. Repeat with combination of coins and notes.
7. Use the examples to explain further.
8. Guide the students to refer to **Starting Point** on page 144. Ask them to answer the question. Have a discussion to conclude the lesson.



Thinking Corner!

If the students cannot answer, provide them with some coins and notes or play money to explore.



TRY THIS!

1. Write the amount of money shown below.

(a)

(b)

2. Write the number of notes and coins on the right to match the value of money shown on the left.

(a)

(b)

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Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 134 to 138 in Go Get Maths Workbook P3.

Lesson 3
Comparing amounts of money

Lesson objectives
By the end of the lesson, the students should be able to:

1. Compare amounts of money.

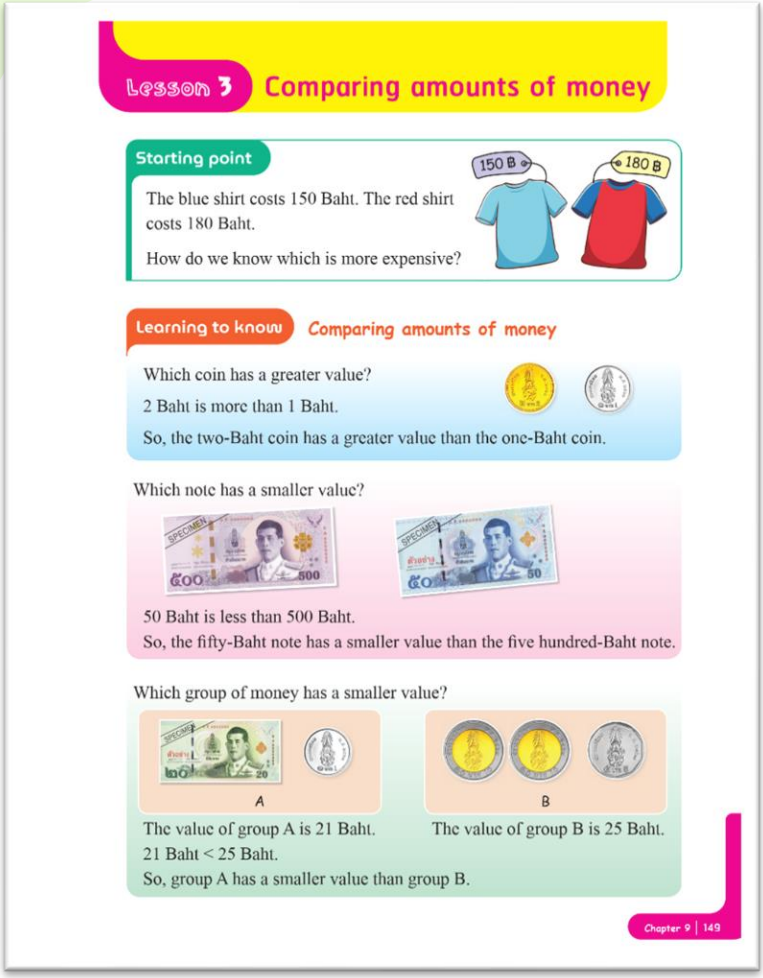
Suggested teaching time
3 periods (3 x 50 minutes)

Vocabulary
-

Materials needed
Play money, envelopes

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Tell the students that before comparing amounts of money, make sure they are in the same unit, either in Baht or Satang.
2. Advise them to count the amounts of money carefully.
3. Use the examples to explain further.



Lesson 3 Comparing amounts of money

Starting point

The blue shirt costs 150 Baht. The red shirt costs 180 Baht.

How do we know which is more expensive?

150 B 180 B

Learning to know Comparing amounts of money

Which coin has a greater value?

2 Baht is more than 1 Baht.

So, the two-Baht coin has a greater value than the one-Baht coin.

Which note has a smaller value?

50 Baht is less than 500 Baht.

So, the fifty-Baht note has a smaller value than the five hundred-Baht note.

Which group of money has a smaller value?

A

B

The value of group A is 21 Baht.

The value of group B is 25 Baht.

21 Baht < 25 Baht.

So, group A has a smaller value than group B.

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Which group of money has a greater value?

A

B

The value of group A is 1,140.75 Baht.
The value of group B is 1,150.00 Baht.
1,150.00 Baht > 1,140.75 Baht.
So, group B has a greater value than group A.

Kasem has 20 Baht.
Aroon has 100 Baht.
20 Baht is less than 100 Baht.
Kasem has less money than Aroon.
Aroon has more money than Kasem.

Activity for Reinforcement

Materials required: Play money, envelopes

Objective of the activity: Counting and comparing money

1. Put different amounts of play money in the envelopes.
2. Get the students into groups of 4.
3. Ask each group to randomly select 2 envelopes.
4. Ask them to count and compare the money in the envelopes.
5. Lead them to make statements to compare the amounts of money. Remind them to use comparative adjectives.

Teaching ideas

4. Use the examples to explain further.

Teaching ideas

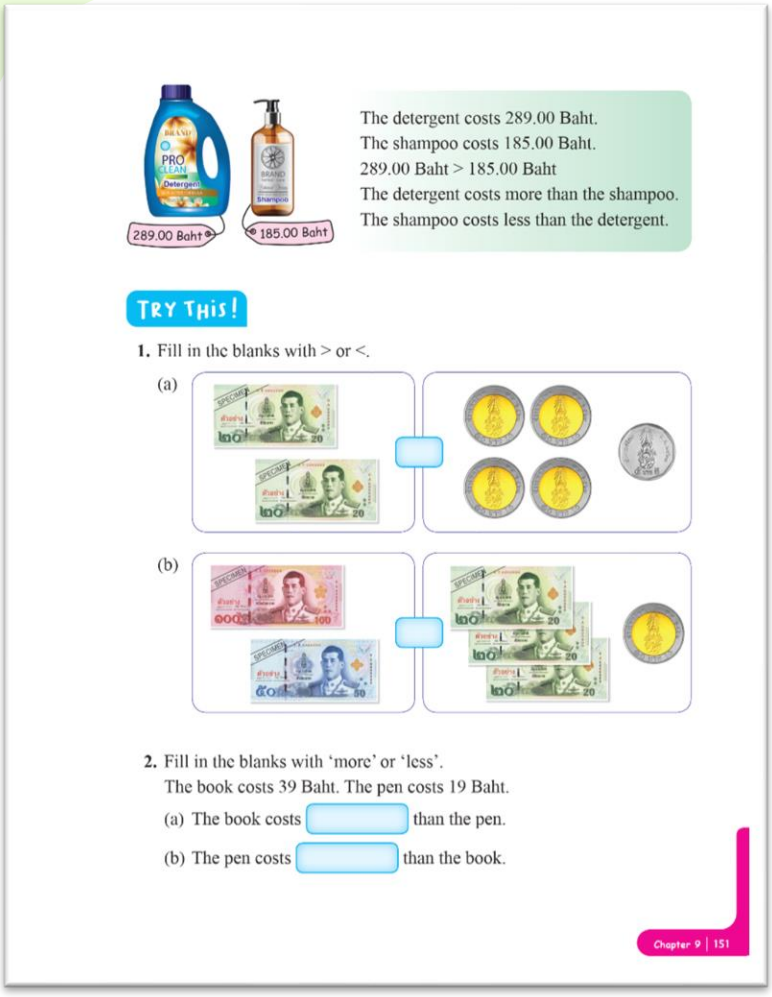
5. Use the example to explain further.
6. Guide the students to refer to **Starting Point** on page 149. Ask them to answer the question. Have a discussion to conclude the lesson.

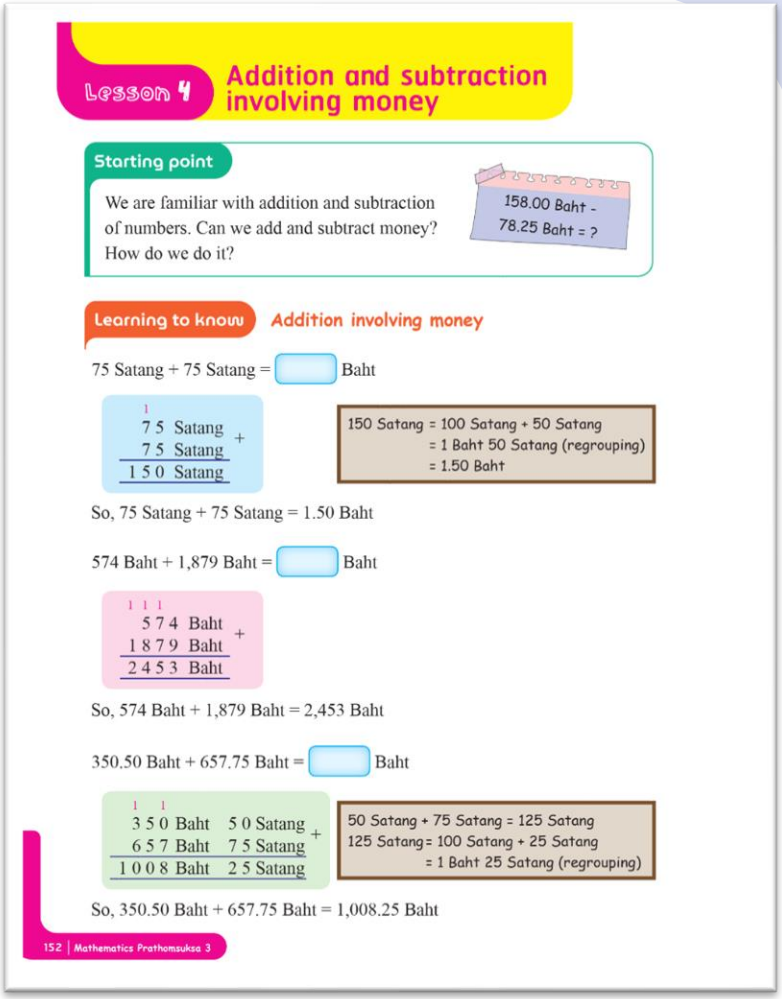
Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 139 to 141 in Go Get Maths Workbook P3.





Lesson 4 Addition and subtraction involving money

Starting point

We are familiar with addition and subtraction of numbers. Can we add and subtract money? How do we do it?

158.00 Baht - 78.25 Baht = ?

Learning to know Addition involving money

75 Satang + 75 Satang = ☐ Baht

75 Satang + 75 Satang = 150 Satang

150 Satang = 100 Satang + 50 Satang
= 1 Baht 50 Satang (regrouping)
= 1.50 Baht

So, 75 Satang + 75 Satang = 1.50 Baht

574 Baht + 1,879 Baht = ☐ Baht

574 Baht + 1879 Baht = 2453 Baht

So, 574 Baht + 1,879 Baht = 2,453 Baht

350.50 Baht + 657.75 Baht = ☐ Baht

350 Baht 50 Satang + 657 Baht 75 Satang = 1008 Baht 25 Satang

50 Satang + 75 Satang = 125 Satang
125 Satang = 100 Satang + 25 Satang
= 1 Baht 25 Satang (regrouping)

So, 350.50 Baht + 657.75 Baht = 1,008.25 Baht

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More Tasks

or visit
https://wordwall.net/resource/31162020

Lesson 4
Addition and subtraction involving money

Lesson objectives

By the end of the lesson, the students should be able to:

1. Add money.
2. Subtract money.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

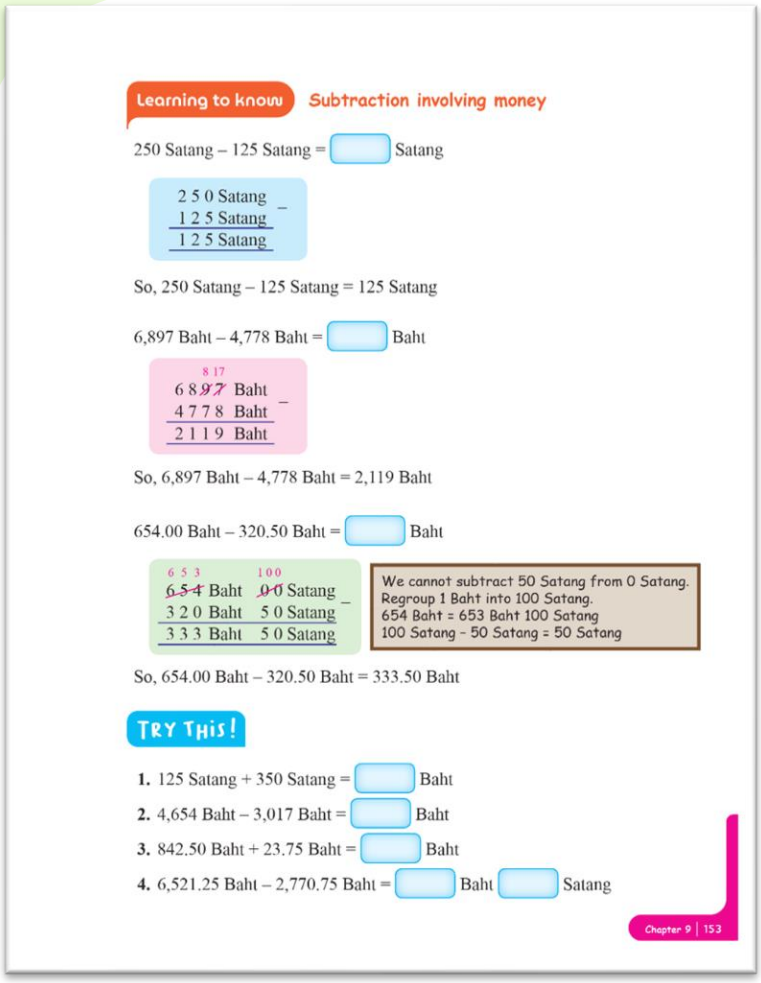
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas

1. Guide the students to add vertically.
2. Firstly, ask the students write the amounts vertically, with the same unit in the same column.
3. Tell them to align the digits in each unit based on their place values. This is very important.
4. Ask them to add the smaller unit first. Regroup when needed as 100 Satang equal to 1 Baht.
5. Use the examples to explain further.

Teaching ideas

1. Guide the students to subtract vertically.
2. Firstly, ask the students write the amounts vertically, with the same unit in the same column.
3. Tell them to align the digits in each unit based on their place values. This is very important.
4. Ask them to subtract the smaller unit first. Regroup when needed as 1 Baht equals to 100 Satang.
5. Use the examples to explain further.
6. Guide the students to refer to **Starting Point** on page 152. Ask them to answer the questions. Have a discussion to conclude the lesson.



Learning to know Subtraction involving money

250 Satang – 125 Satang = ☐ Satang

250 Satang
125 Satang –
125 Satang

So, 250 Satang – 125 Satang = 125 Satang

6,897 Baht – 4,778 Baht = ☐ Baht

8 17
6 8 9 7 Baht
4 7 7 8 Baht –
2 1 1 9 Baht

So, 6,897 Baht – 4,778 Baht = 2,119 Baht

654.00 Baht – 320.50 Baht = ☐ Baht

6 5 3 100
6 5 4 Baht 0 0 Satang
3 2 0 Baht 5 0 Satang –
3 3 3 Baht 5 0 Satang

We cannot subtract 50 Satang from 0 Satang.
Regroup 1 Baht into 100 Satang.
654 Baht = 653 Baht 100 Satang
100 Satang – 50 Satang = 50 Satang

So, 654.00 Baht – 320.50 Baht = 333.50 Baht

TRY THIS!

1. 125 Satang + 350 Satang = ☐ Baht
2. 4,654 Baht – 3,017 Baht = ☐ Baht
3. 842.50 Baht + 23.75 Baht = ☐ Baht
4. 6,521.25 Baht – 2,770.75 Baht = ☐ Baht ☐ Satang

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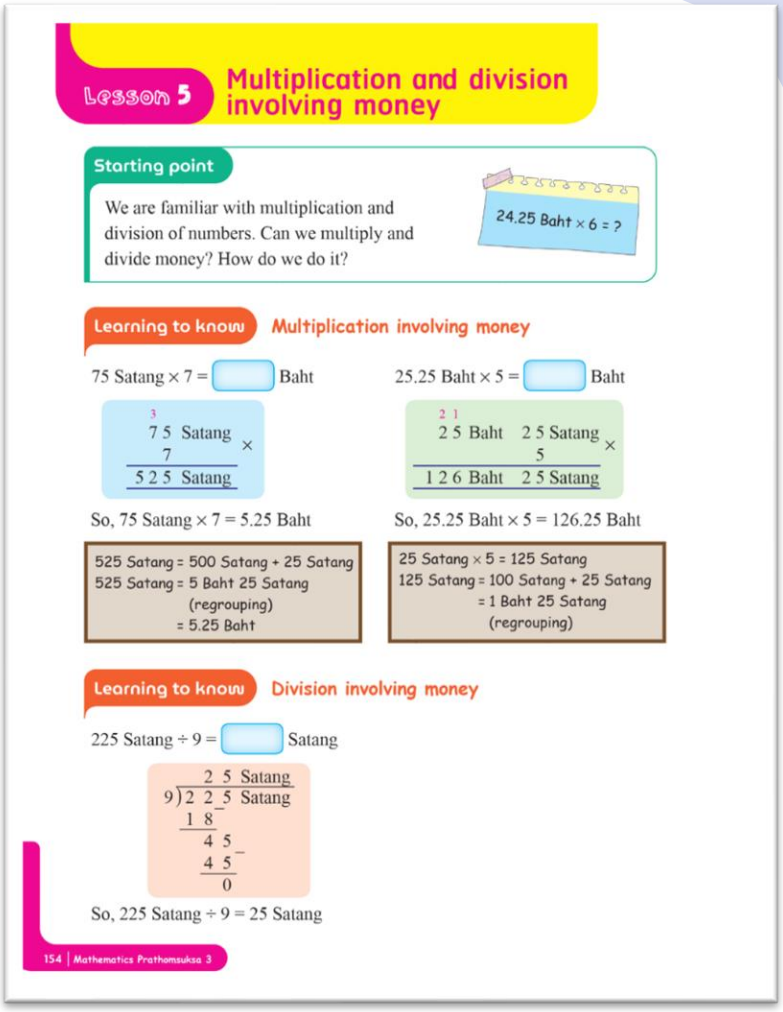
Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 142 and 143 in Go Get Maths Workbook P3.



Lesson 5 Multiplication and division involving money

Starting point

We are familiar with multiplication and division of numbers. Can we multiply and divide money? How do we do it?

24.25 Baht × 6 = ?

Learning to know Multiplication involving money

75 Satang × 7 = ☐ Baht

3
75 Satang
× 7
525 Satang

So, 75 Satang × 7 = 5.25 Baht

525 Satang = 500 Satang + 25 Satang
525 Satang = 5 Baht 25 Satang
(regrouping)
= 5.25 Baht

25.25 Baht × 5 = ☐ Baht

2 1
25 Baht 25 Satang
× 5
126 Baht 25 Satang

So, 25.25 Baht × 5 = 126.25 Baht

25 Satang × 5 = 125 Satang
125 Satang = 100 Satang + 25 Satang
= 1 Baht 25 Satang
(regrouping)

Learning to know Division involving money

225 Satang ÷ 9 = ☐ Satang

$$9\overline{)225}$$ Satang

25 Satang
18
45
45
0

So, 225 Satang ÷ 9 = 25 Satang

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Lesson 5 Multiplication and division involving money

Lesson objectives

By the end of the lesson, the students should be able to:

1. Multiply money.
2. Divide money.

Suggested teaching time

2 periods (2 x 5 minutes)

Vocabulary

-

Materials needed

-

Starting point

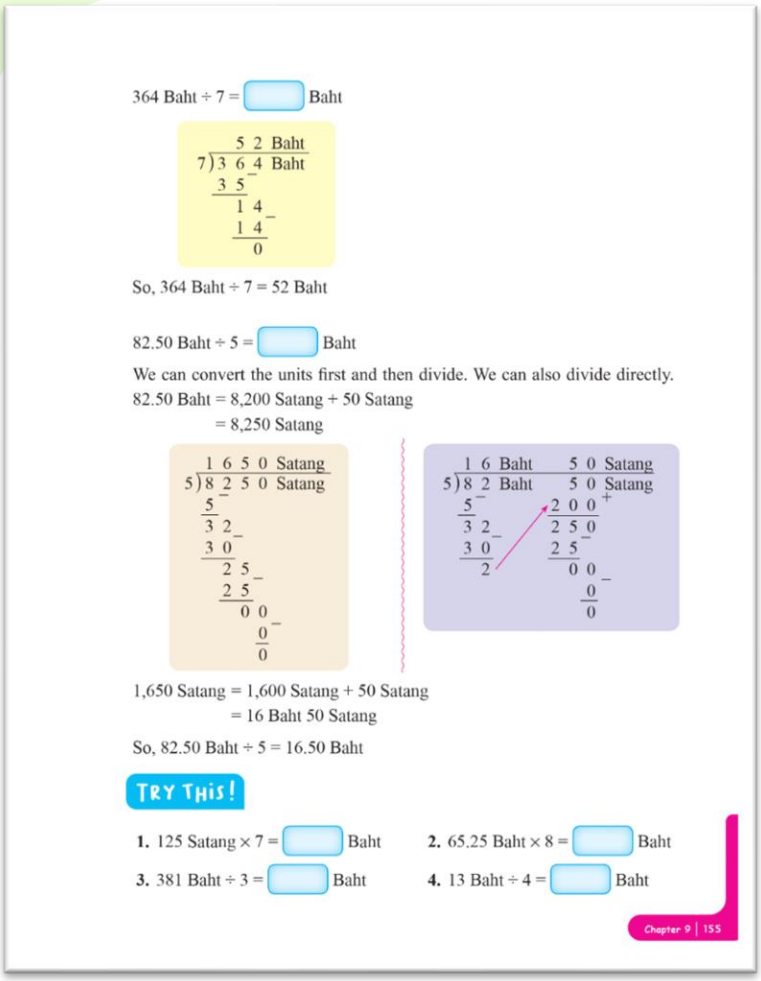
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas

1. Guide the students to multiply vertically.
2. Firstly, ask the students write the amount vertically.
3. Ask them to multiply the smaller unit first. Regroup when needed as 100 Satang equals to 1 Baht.
4. Use the examples to explain further.

Teaching ideas

5. Guide the students to divide using the long division method.
6. Tell them that they can either convert the different units into one unit first before dividing, or divide the different units together.
7. If they are going to divide the different units together, they should divide the greater unit first. Regroup when needed as 1 Baht equals to 100 Satang.
8. Use the examples to explain further.
9. Guide the students to refer to **Starting Point** on page 154. Ask them to answer the question. Have a discussion to conclude the lesson.



364 Baht ÷ 7 = ☐ Baht

```
      5 2 Baht
7 ) 3 6 4 Baht
    3 5
    ---
      1 4
      1 4
      ---
        0
```

So, 364 Baht ÷ 7 = 52 Baht

82.50 Baht ÷ 5 = ☐ Baht

We can convert the units first and then divide. We can also divide directly.

82.50 Baht = 8,200 Satang + 50 Satang
= 8,250 Satang

```
      1 6 5 0 Satang
5 ) 8 2 5 0 Satang
    5
    -
    3 2
    3 0
    ---
      2 5
      2 5
      ---
        0 0
        0
        -
        0
```

```
      1 6 Baht      5 0 Satang
5 ) 8 2 Baht      5 0 Satang
    5             +
    -           2 0 0
    3 2         ---
    3 0         2 5 0
    ---         2 5
      2         ---
                  0 0
                  0
                  -
                  0
```

1,650 Satang = 1,600 Satang + 50 Satang
= 16 Baht 50 Satang

So, 82.50 Baht ÷ 5 = 16.50 Baht

TRY THIS!

1. 125 Satang × 7 = ☐ Baht
2. 65.25 Baht × 8 = ☐ Baht
3. 381 Baht ÷ 3 = ☐ Baht
4. 13 Baht ÷ 4 = ☐ Baht

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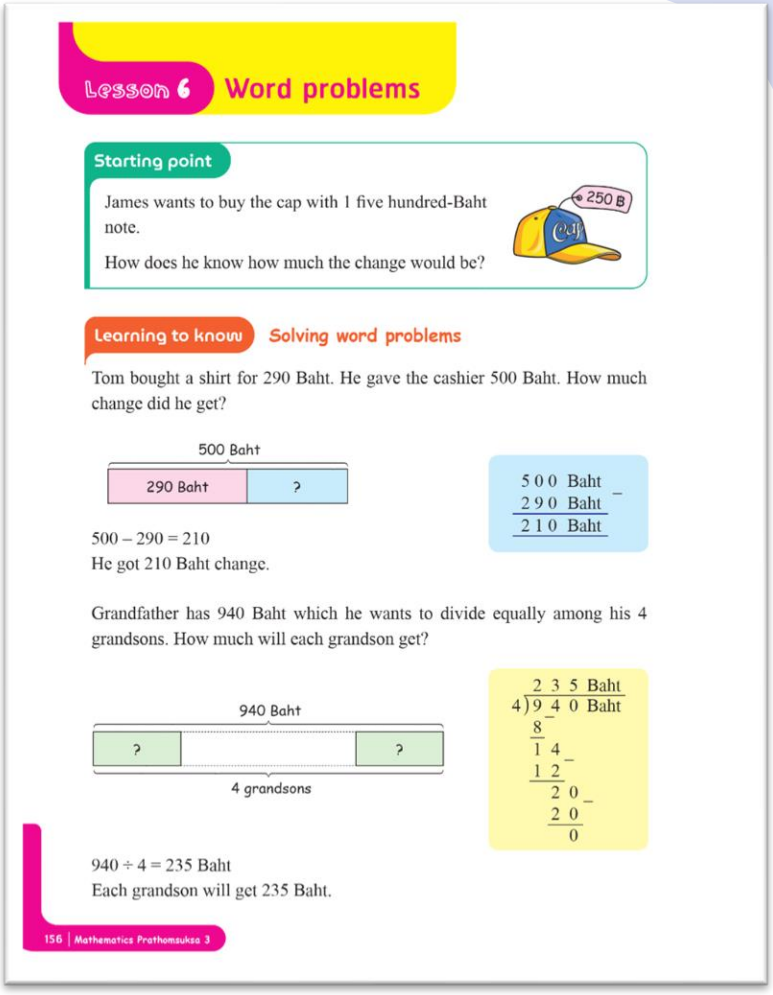
Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 144 and 145 in Go Get Maths Workbook P3.



Lesson 6 Word problems

Starting point

James wants to buy the cap with 1 five hundred-Baht note.

How does he know how much the change would be?

Learning to know Solving word problems

Tom bought a shirt for 290 Baht. He gave the cashier 500 Baht. How much change did he get?

500 Baht

290 Baht | ?

500 – 290 = 210

He got 210 Baht change.

500 Baht
− 290 Baht
210 Baht

Grandfather has 940 Baht which he wants to divide equally among his 4 grandsons. How much will each grandson get?

940 Baht

? | ? | 4 grandsons

235 Baht
4)940 Baht
8
14
12
20
20
0

940 ÷ 4 = 235 Baht

Each grandson will get 235 Baht.

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Lesson 6
Word problems

Lesson objectives

By the end of the lesson, the students should be able to:

1. Solve word problems involving money.

Suggested teaching time

4 periods (4 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Reiterate the 3 simple steps to solve a word problem.

   Step 1: Understand the problem

   - Ask the students to read the number story and the question silently. Then, read them together with the students. Explain further the number story and the question if the students do not understand.
   - Ask the students these questions to ensure they understand:
     a. What information is given?
     b. What do you need to find?
     c. Are you comparing the items?

Teaching ideas

Step 2: Plan and execute

- Ask the students to draw the suitable bar model including the knowns and unknowns.
- Ask them to find the keyword in the problem that indicates the operation whether to add, to subtract, to multiply or to divide.
- Analyze the bar model drawn.
- Then, write the number equation and solve it.

Step 3: Check the answer

- Always ask the students to check their answer. They need to check if the answer makes sense and is reasonable.

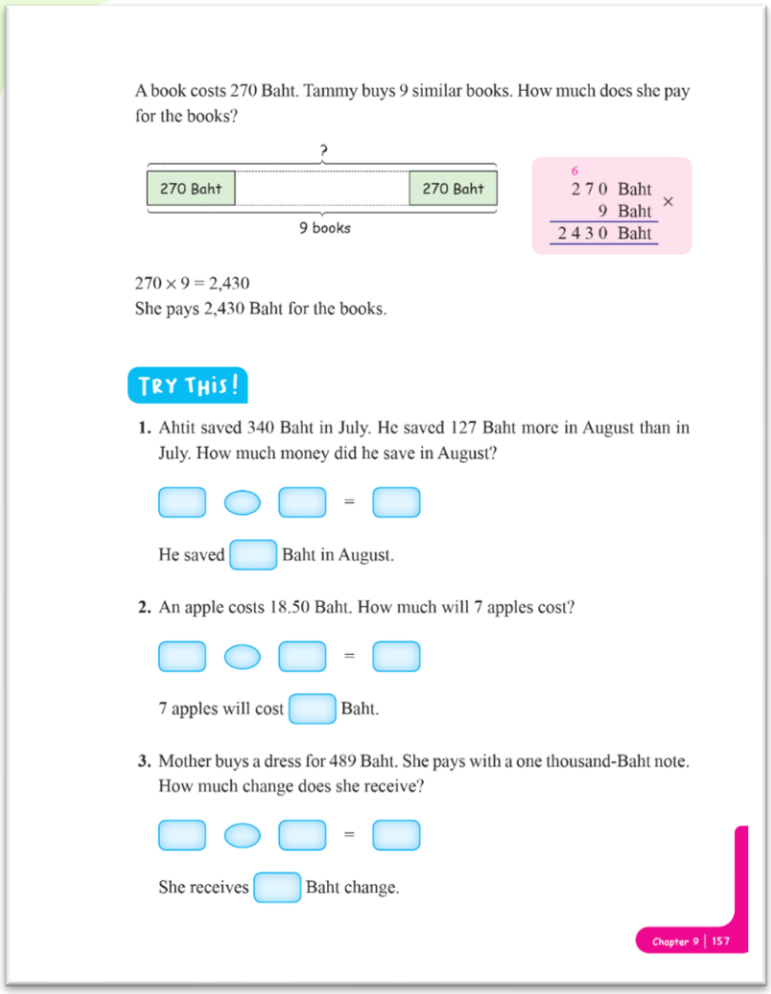
2. Remind the students to always take note of the units.
3. Work with them the 3 steps in solving the word problems.
4. Guide the students to refer to **Starting Point** on page 156. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 3 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 146 to 148 in Go Get Maths Workbook P3.



A book costs 270 Baht. Tammy buys 9 similar books. How much does she pay for the books?

$$\begin{array}{r} {\scriptstyle 6} \\ 270 \text{ Baht} \\ \times \quad 9 \text{ Baht} \\ \hline 2430 \text{ Baht} \end{array}$$

$270 \times 9 = 2{,}430$

She pays 2,430 Baht for the books.

TRY THIS!

1. Ahtit saved 340 Baht in July. He saved 127 Baht more in August than in July. How much money did he save in August?

He saved ☐ Baht in August.

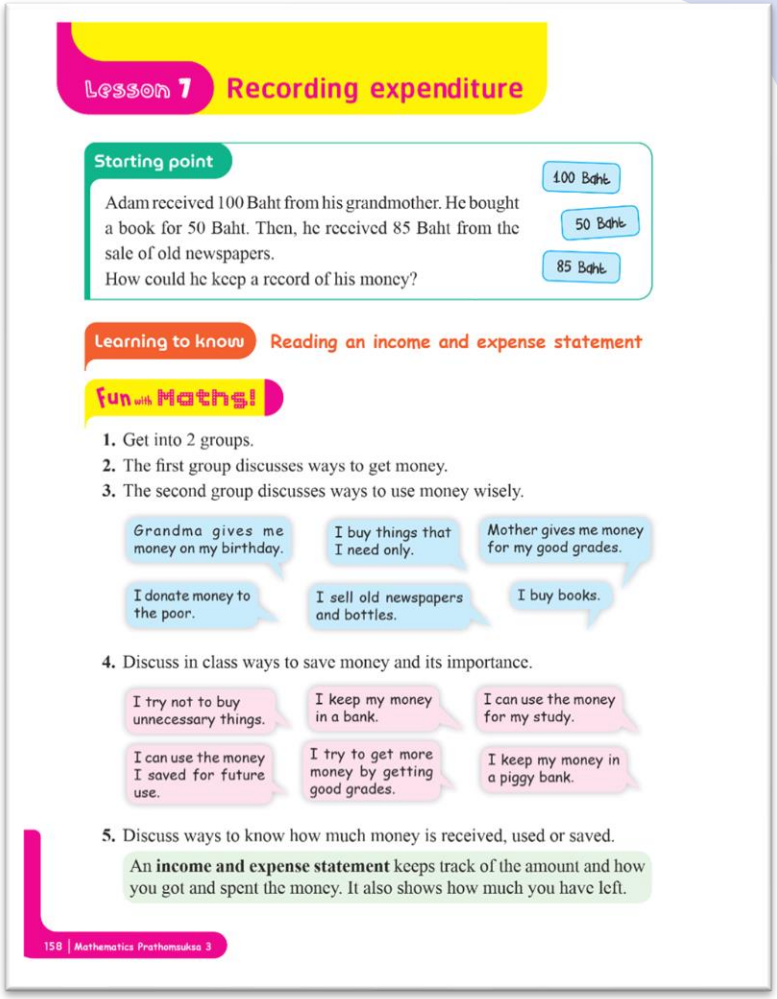
2. An apple costs 18.50 Baht. How much will 7 apples cost?

7 apples will cost ☐ Baht.

3. Mother buys a dress for 489 Baht. She pays with a one thousand-Baht note. How much change does she receive?

She receives ☐ Baht change.

Chapter 9 | 157



Lesson 7 Recording expenditure

Starting point

Adam received 100 Baht from his grandmother. He bought a book for 50 Baht. Then, he received 85 Baht from the sale of old newspapers.
How could he keep a record of his money?

100 Baht
50 Baht
85 Baht

Learning to know Reading an income and expense statement

Fun with Maths!

1. Get into 2 groups.
2. The first group discusses ways to get money.
3. The second group discusses ways to use money wisely.

Grandma gives me money on my birthday.
I buy things that I need only.
Mother gives me money for my good grades.
I donate money to the poor.
I sell old newspapers and bottles.
I buy books.

4. Discuss in class ways to save money and its importance.

I try not to buy unnecessary things.
I keep my money in a bank.
I can use the money for my study.
I can use the money I saved for future use.
I try to get more money by getting good grades.
I keep my money in a piggy bank.

5. Discuss ways to know how much money is received, used or saved.

An **income and expense statement** keeps track of the amount and how you got and spent the money. It also shows how much you have left.

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Extra notes

Income is the money you receive from different sources. It can be the money you earn from a job or the money given by your parents.

Expenses refer to the money you need to pay for goods such as a book or a pen that you buy, and services such as a haircut that you use.

Lesson 7
Recording expenditure

Lesson objectives

By the end of the lesson, the students should be able to:

1. Read an income and expense statement.
2. Write an income and expense statement.

Suggested teaching time

4 periods (4 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Fun with Maths!

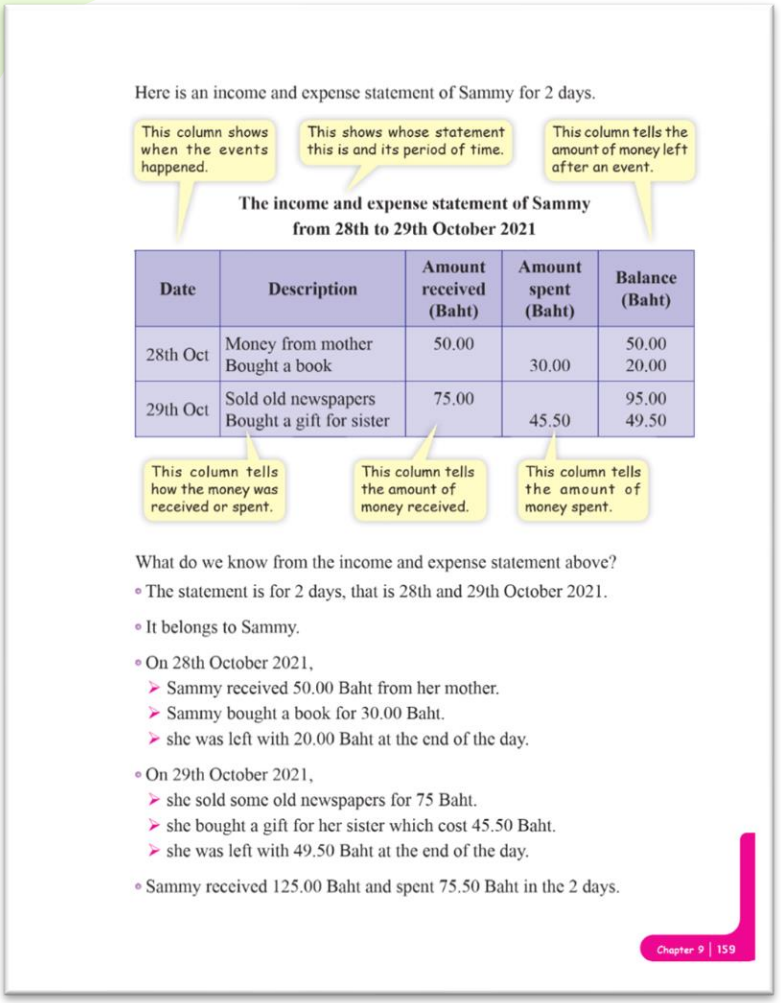
Materials required: -

Objective of the activity: Understanding how to earn money and how money is spent

Emphasize that saving money is important. They should be prudent and diligent with their spending.

Teaching ideas

1. Introduce the terms income and expense. Ask these questions to start a discussion:
   - What is an income?
   - Can you give a few examples of your incomes?
   - What is an expense?
   - Can you give a few examples of your expenses?
   - Can your expenses be more than your income? Why?
   - Can your income be more than your expenses? Why?
   - Which is better? Why?
   - Do you keep track of your income and expenses? If not, should you do so?
   - How do you keep track of your income and expenses?
2. Show an income and expense statement on the board. Guide them to understand it. Every detail is important.
3. Guide the students to understand how the balance is calculated at the end of each day of the transaction.
4. Advise the students to be careful with the columns to write the amounts. Do not mix up the columns.
5. Use the example to explain further.



Here is an income and expense statement of Sammy for 2 days.

This column shows when the events happened.

This shows whose statement this is and its period of time.

This column tells the amount of money left after an event.

The income and expense statement of Sammy from 28th to 29th October 2021

Date	Description	Amount received (Baht)	Amount spent (Baht)	Balance (Baht)
28th Oct	Money from mother	50.00		50.00
	Bought a book		30.00	20.00
29th Oct	Sold old newspapers	75.00		95.00
	Bought a gift for sister		45.50	49.50

This column tells how the money was received or spent.

This column tells the amount of money received.

This column tells the amount of money spent.

What do we know from the income and expense statement above?

- The statement is for 2 days, that is 28th and 29th October 2021.
- It belongs to Sammy.
- On 28th October 2021,
  - Sammy received 50.00 Baht from her mother.
  - Sammy bought a book for 30.00 Baht.
  - she was left with 20.00 Baht at the end of the day.
- On 29th October 2021,
  - she sold some old newspapers for 75 Baht.
  - she bought a gift for her sister which cost 45.50 Baht.
  - she was left with 49.50 Baht at the end of the day.
- Sammy received 125.00 Baht and spent 75.50 Baht in the 2 days.

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TRY THIS! Analyze the income and expense statement below. Answer the following questions.

The income and expense statement of Alice from 15th to 17th May 2021

Date	Description	Amount received (Baht)	Amount spent (Baht)	Balance (Baht)
15th May	Money from father	80.00		80.00
	Bought some cookies		45.50	34.50
	Bought a pen		12.50	22.00
16th May	Bought a newspaper		20.00	2.00
	Sold handmade crafts	56.00		58.00
17th May	Money from grandmother	100.00		158.00
	Bought a carton of milk		32.25	125.75
	Bought a book		85.50	40.25

1. Whose income and expense statement is this?
2. How much money did Alice's father give her?
3. What did she buy on 15th May?
4. How much money was left after Alice bought the pen?
5. How much money did Alice receive from selling her crafts?
6. When did her grandmother give her money?
7. How much money did Alice pay for a carton of milk?
8. How much money was left with Alice at the end of 16th May?
9. How much money did Alice receive in the 3 days?
10. How much money did Alice spend in the 3 days?

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Try This!

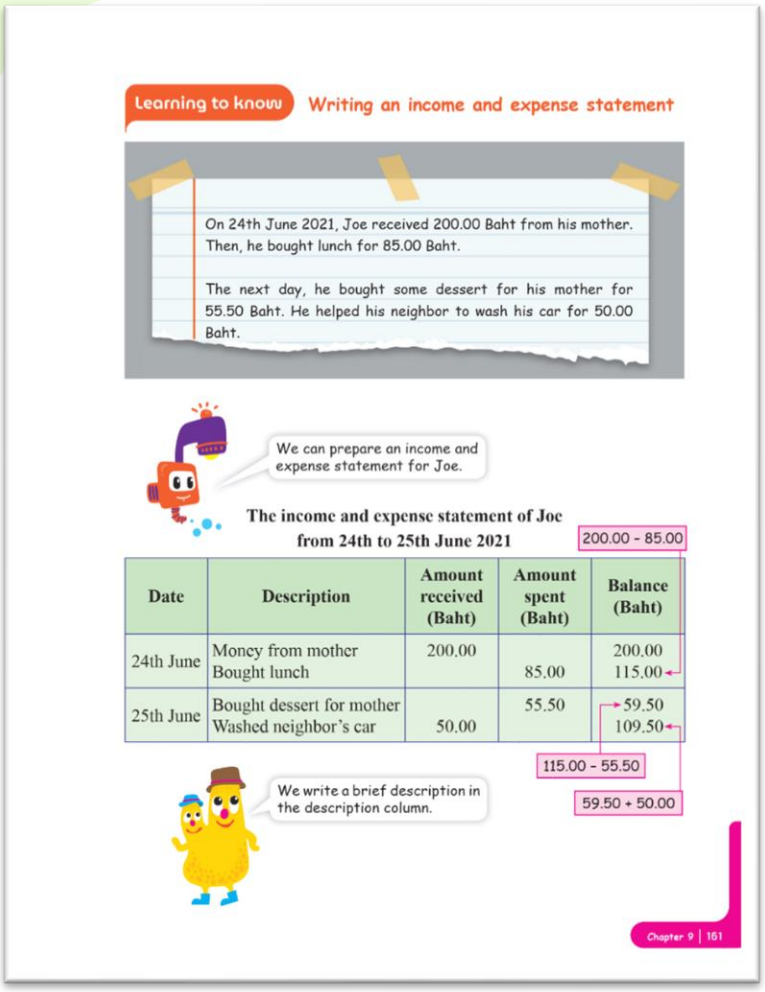
Get 10 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 149 and 150 in Go Get Maths Workbook P3.

Teaching ideas

1. Ask the students to read quietly the scenario given. Then, read with them loudly and explain to them to ensure they understand fully.
2. Guide them to understand how to prepare an income and expense statement based on the scenario. Use the income and expense statement to explain.
3. Guide the students to identify an income by referring to words such as given by, received, helped and sold.
4. Guide the students to identify an expense by referring to words such as bought and spent.
5. Guide the students to refer to **Starting Point** on page 158. Ask them to answer the question. Have a discussion to conclude the lesson.



Learning to know Writing an income and expense statement

On 24th June 2021, Joe received 200.00 Baht from his mother. Then, he bought lunch for 85.00 Baht.

The next day, he bought some dessert for his mother for 55.50 Baht. He helped his neighbor to wash his car for 50.00 Baht.

We can prepare an income and expense statement for Joe.

The income and expense statement of Joe from 24th to 25th June 2021

200.00 - 85.00

Date	Description	Amount received (Baht)	Amount spent (Baht)	Balance (Baht)
24th June	Money from mother	200.00		200.00
	Bought lunch		85.00	115.00
25th June	Bought dessert for mother		55.50	59.50
	Washed neighbor's car	50.00		109.50

115.00 - 55.50

59.50 + 50.00

We write a brief description in the description column.

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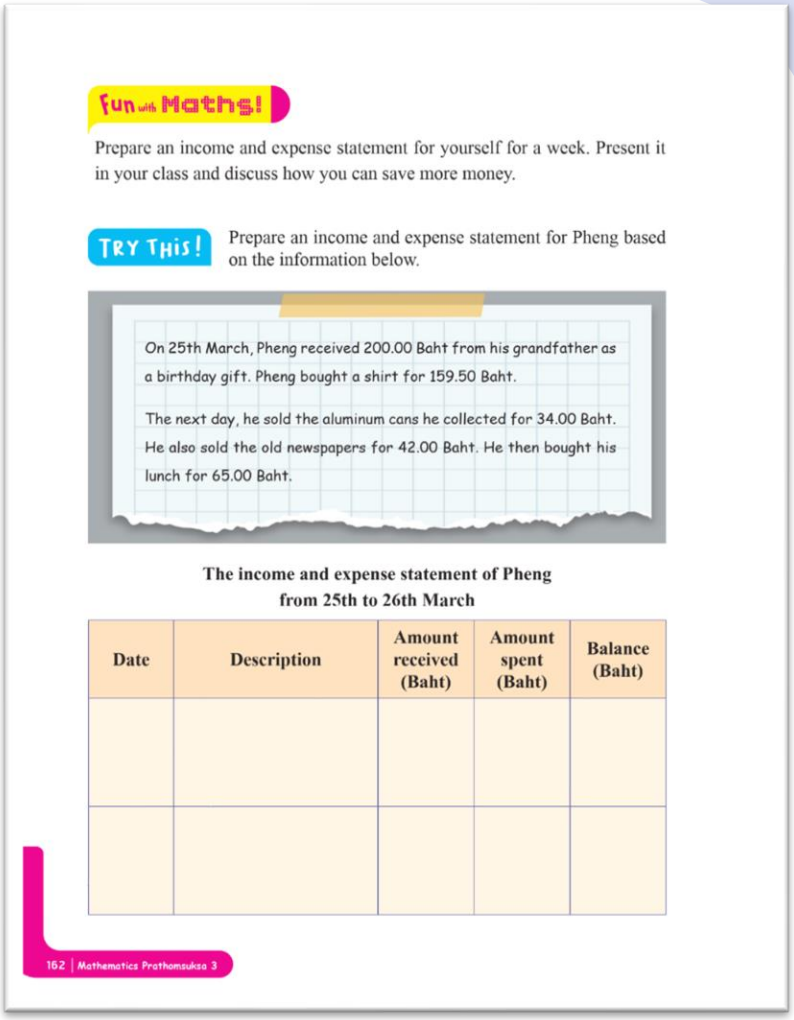
More Tasks

or visit
http://tiny.cc/p7fquz



Fun with Maths!

Prepare an income and expense statement for yourself for a week. Present it in your class and discuss how you can save more money.

TRY THIS! Prepare an income and expense statement for Pheng based on the information below.

On 25th March, Pheng received 200.00 Baht from his grandfather as a birthday gift. Pheng bought a shirt for 159.50 Baht.

The next day, he sold the aluminum cans he collected for 34.00 Baht. He also sold the old newspapers for 42.00 Baht. He then bought his lunch for 65.00 Baht.

The income and expense statement of Pheng from 25th to 26th March

Date	Description	Amount received (Baht)	Amount spent (Baht)	Balance (Baht)

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Fun with Maths!

Materials required: -

Objective of the activity: Preparing own income and expense statement

Help to analyze the statements done. Comment if the student has done a great work on prudent spending or has spent carelessly. Reiterate the importance of saving and practicing prudent spending.

Try This!

Get 2 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 151 to 153 in Go Get Maths Workbook P3.

Chapter 10
Mixed operations

The big idea

1. Ask the students to look at the picture carefully.
2. Ask them these questions to start a discussion:
   - How many boxes of multivitamin tablets are there?
   - How many tablets does each box have?
   - How many tablets are there altogether?
   - If 5 boxes are sold, how many tables are sold?
   - If 5 boxes are sold, how many tablets are left?

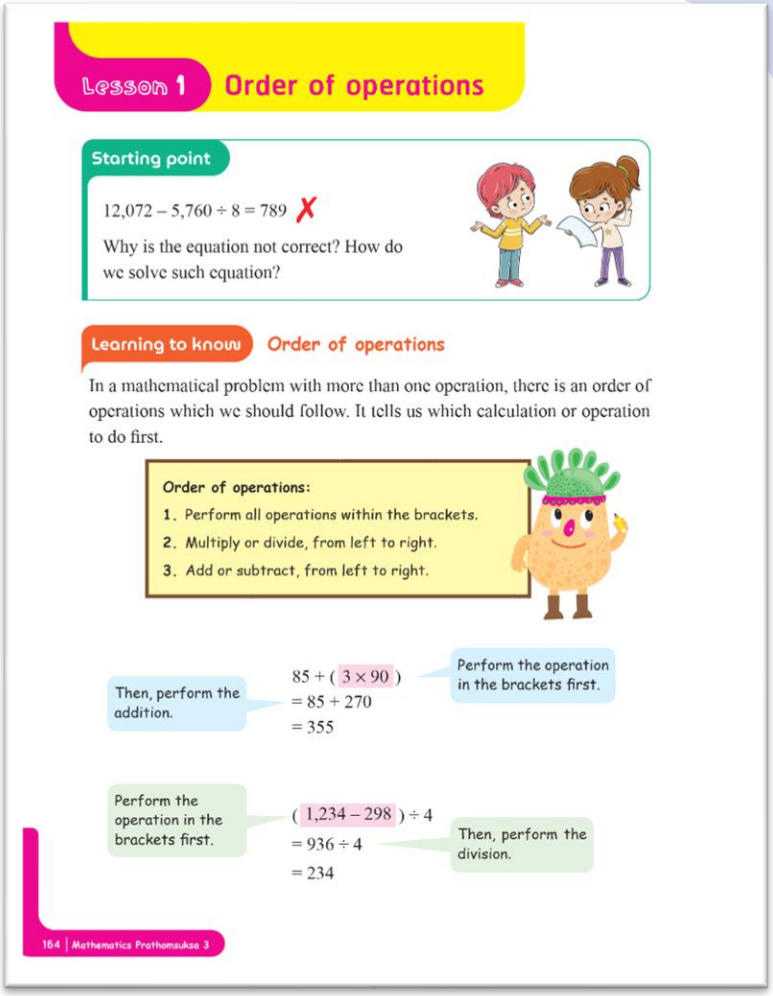
Strand 1: Numbers and algebra

Standard M.1.1 Numbers

Indicators:

M 1.1 Gr3/8 Find the answers of mixed addition, subtraction, multiplication and division of cardinal numbers not exceeding 100,000 and 0.

M 1.1 Gr3/9 Show mathematical methods to solve 2-step word problems of cardinal numbers not exceeding 100,000 and 0.



Lesson 1 Order of operations

Starting point

$12,072 - 5,760 \div 8 = 789$ ✗

Why is the equation not correct? How do we solve such equation?

Learning to know Order of operations

In a mathematical problem with more than one operation, there is an order of operations which we should follow. It tells us which calculation or operation to do first.

Order of operations:
1. Perform all operations within the brackets.
2. Multiply or divide, from left to right.
3. Add or subtract, from left to right.

$85 + (3 \times 90)$
$= 85 + 270$
$= 355$

Perform the operation in the brackets first.

Then, perform the addition.

$(1,234 - 298) \div 4$
$= 936 \div 4$
$= 234$

Perform the operation in the brackets first.

Then, perform the division.

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Lesson 1
Order of operations

Lesson objectives

By the end of the lesson, the students should be able to:

1. Explain the order of operations.
2. Apply the correct order of operations on problems.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

Oder of operations

Materials needed

-

Starting point

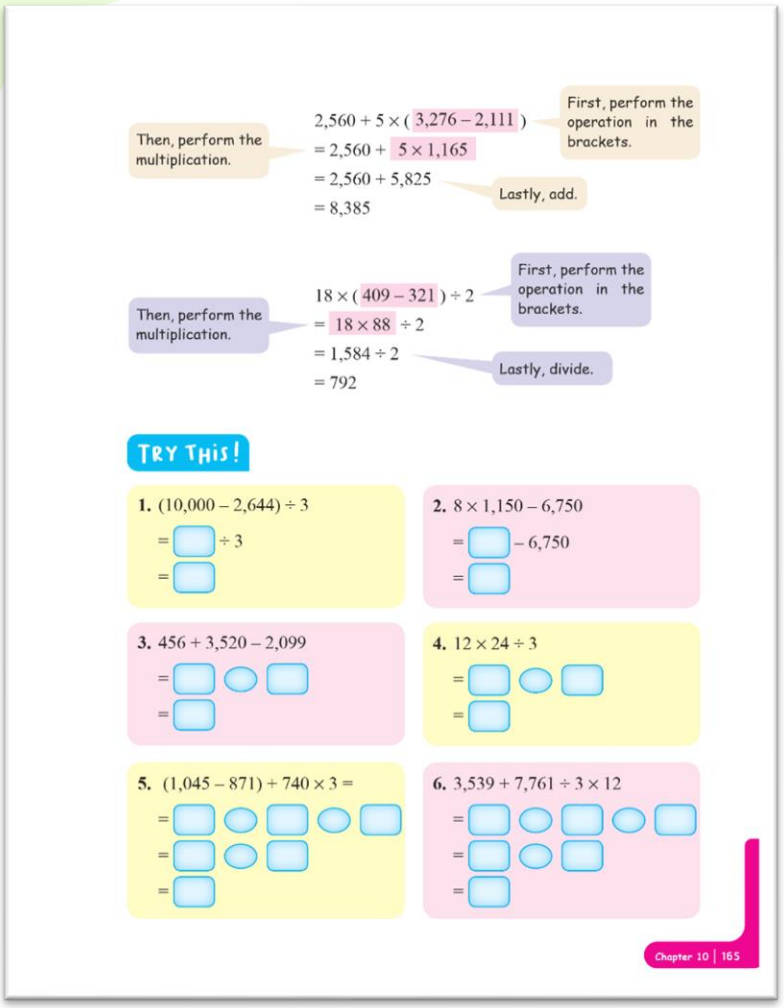
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas

1. Ask the students these questions to start a discussion about following orders.
   - What do you do first when you prepare a sandwich? Then, what do you do next? Name the order or sequence.
   - Can you jumble up the order, such as doing the last step first and the first step last?
   - What will happen if you do not follow the necessary order? Will your body be clean?
2. Inform the students that we need to follow some orders when solving mathematical problems.

Teaching ideas

3. Introduce the terms of mathematical operations. Inform them the basic mathematical operations which are addition, subtraction, multiplication and division.
4. Tell the students that any operations in brackets are the most prioritized. They must do the operations in the brackets first, then follow by multiplication/ division and lastly addition/ subtraction.
5. Inform them that multiplication and division have the same priority. When they have both multiplication and division in the same problem, they should solve them from left to right.
6. This goes the same for addition and subtraction.
7. Use the examples to explain further.
8. Guide the students to refer to **Starting Point** on page 164. Ask them to answer the questions. Have a discussion to conclude the lesson.



HOTS Qs

or visit
http://tiny.cc/jafquz

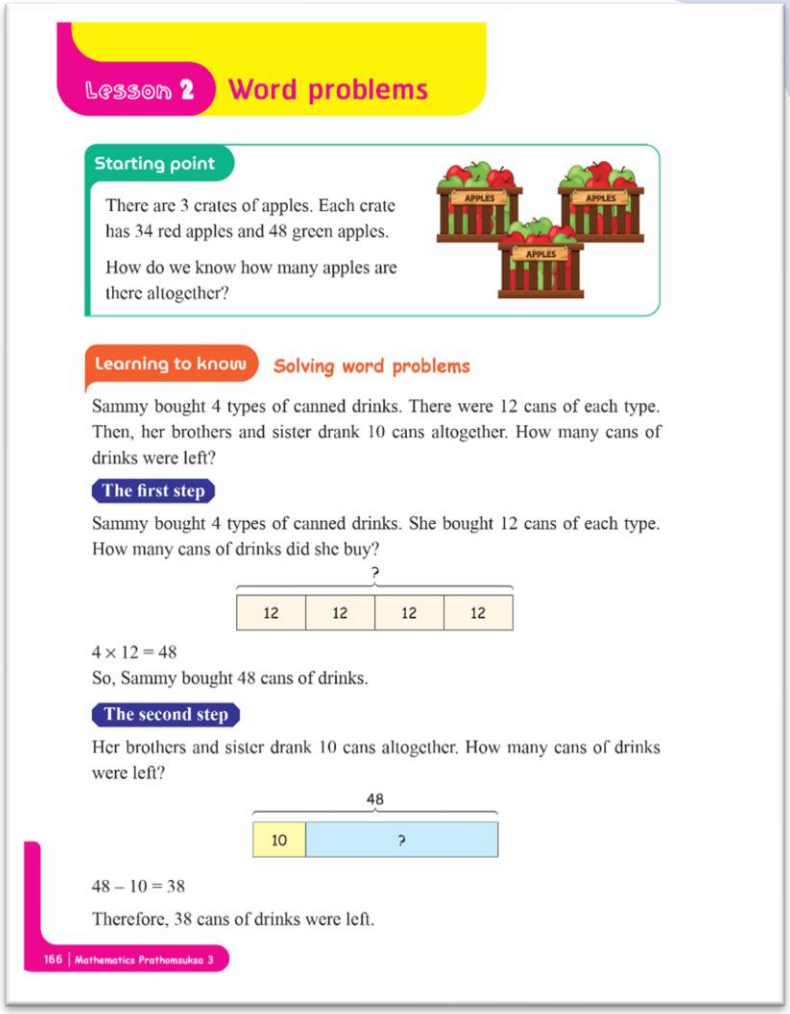
Try This!

Get 6 students to answer it. Ask the rest to verify the answers.

If the students answered wrongly, guide them to identify their mistakes.

Further practices

Get the students to complete the practices on pages 154 to 157 in Go Get Maths Workbook P3.



Lesson 2 Word problems

Starting point

There are 3 crates of apples. Each crate has 34 red apples and 48 green apples.

How do we know how many apples are there altogether?

Learning to know Solving word problems

Sammy bought 4 types of canned drinks. There were 12 cans of each type. Then, her brothers and sister drank 10 cans altogether. How many cans of drinks were left?

The first step

Sammy bought 4 types of canned drinks. She bought 12 cans of each type. How many cans of drinks did she buy?

?			
12	12	12	12

$4 \times 12 = 48$

So, Sammy bought 48 cans of drinks.

The second step

Her brothers and sister drank 10 cans altogether. How many cans of drinks were left?

48	
10	?

$48 - 10 = 38$

Therefore, 38 cans of drinks were left.

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Lesson 2
Word problems

Lesson objectives

By the end of the lesson, the students should be able to:

1. Solve word problems involving mixed operations.
2. Create 2-step word problems.

Suggested teaching time

4 periods (4 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Inform the students that these word problems involve 2 steps. They need to understand the number story and the question well.
2. For this example, guide the students to use the 3 steps. Set them thinking about these questions:
   a. What do I know?
   - How many types of canned drink did Sammy buy?
   - How many cans of each type did she buy?
   - How many cans of drink did her brother and sister drink?

   b. What do I need to find at the end?
   - How many cans of drink are left?

   c. What do I need to find out first?
   - How many cans of drink did she buy altogether?

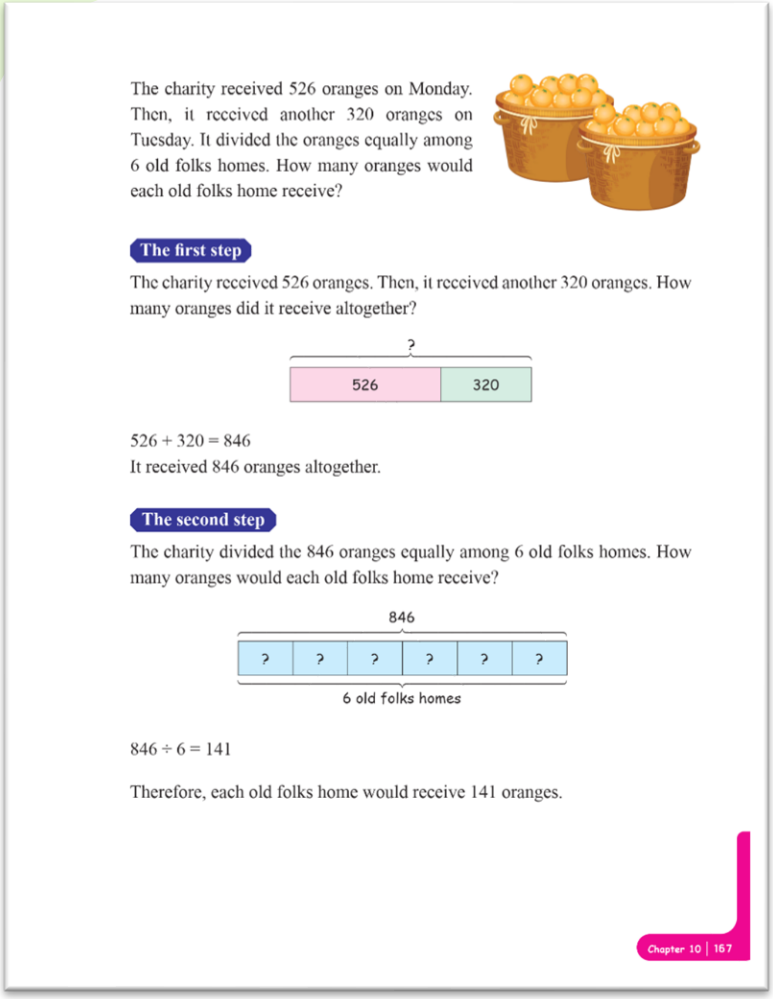
Teaching ideas

3. For this example, guide the students to use the 3 steps. Set them thinking about these questions:

   a. What do I know?
   - How many oranges did the charity receive on Monday?
   - How many oranges did the charity receive on Tuesday?
   - How many old folks homes were there?

   b. What do I need to find at the end?
   - How many oranges would each old folks home receive?

   c. What do I need to find out first?
   - How many oranges did each old folks home receive in total?



The charity received 526 oranges on Monday. Then, it received another 320 oranges on Tuesday. It divided the oranges equally among 6 old folks homes. How many oranges would each old folks home receive?

The first step

The charity received 526 oranges. Then, it received another 320 oranges. How many oranges did it receive altogether?

526 + 320 = 846
It received 846 oranges altogether.

The second step

The charity divided the 846 oranges equally among 6 old folks homes. How many oranges would each old folks home receive?

846 ÷ 6 = 141

Therefore, each old folks home would receive 141 oranges.

Chapter 10 | 167

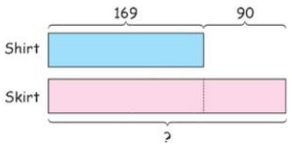
HOTS QS

or visit
http://tiny.cc/rafquz

The shirt costs 169 Baht. The skirt costs 90 Baht more than the shirt. Aom buys 2 similar skirts. How much does she need to pay altogether?

The first step

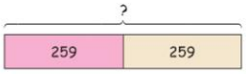
The shirt costs 169 Baht. The skirt costs 90 Baht more than the shirt. How much does the skirt cost?



169 + 90 = 259
The skirt costs 259 Baht.

The second step

Aom buys 2 similar skirts. How much will the 2 similar skirts cost?



259 + 259 = 518

Therefore, she needs to pay 518 Baht altogether.

Teaching ideas

4. For this example, guide the students to use the 3 steps. Set them thinking about these questions:

   a. What do I know?
   - How much does the shirt cost?
   - How much more does the skirt cost than the shirt?
   - How many skirts does Aom buy?

   b. What do I need to find at the end?
   - How much does Aom need to pay altogether?

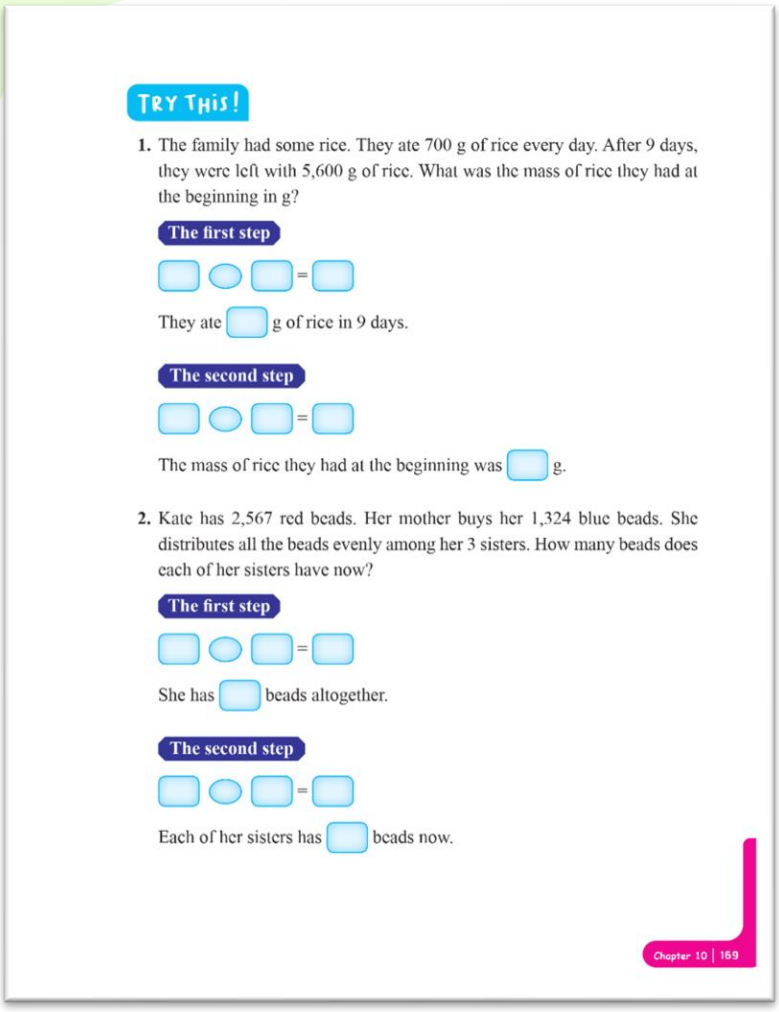
   c. What do I need to find out first?
   - How much does the skirt cost?

Try This!

Get 2 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 158 to 163 in Go Get Maths Workbook P3.



TRY THIS!

1. The family had some rice. They ate 700 g of rice every day. After 9 days, they were left with 5,600 g of rice. What was the mass of rice they had at the beginning in g?

The first step

□ ○ □ = □

They ate □ g of rice in 9 days.

The second step

□ ○ □ = □

The mass of rice they had at the beginning was □ g.

2. Kate has 2,567 red beads. Her mother buys her 1,324 blue beads. She distributes all the beads evenly among her 3 sisters. How many beads does each of her sisters have now?

The first step

□ ○ □ = □

She has □ beads altogether.

The second step

□ ○ □ = □

Each of her sisters has □ beads now.

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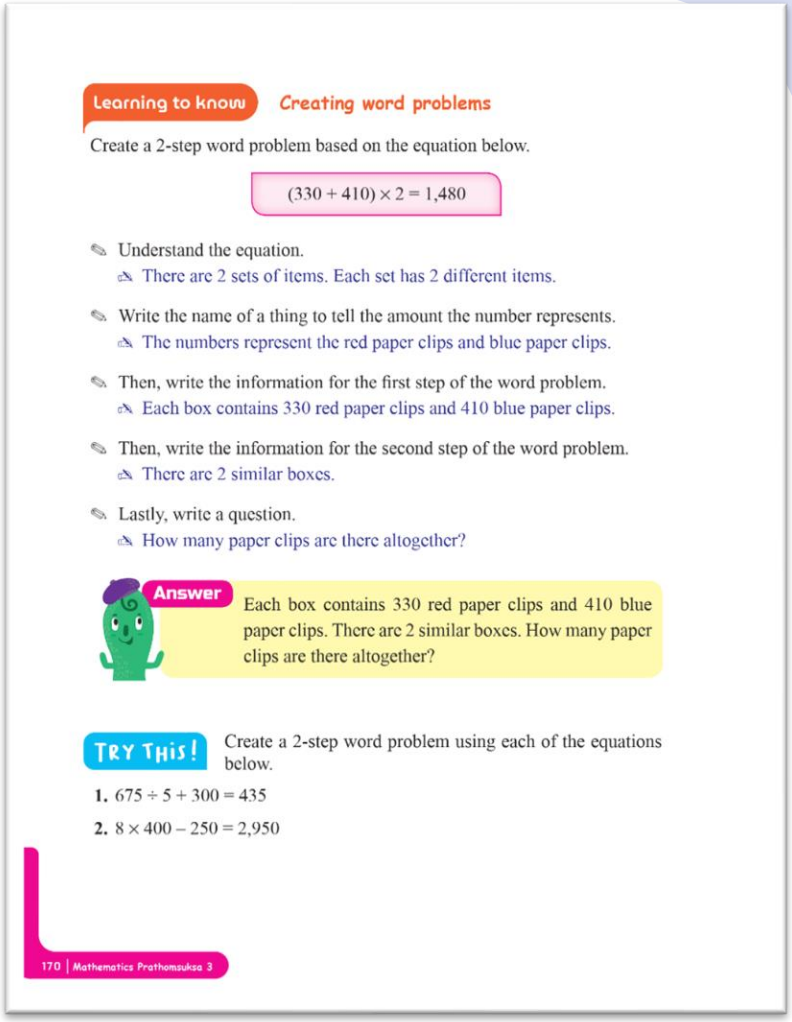

Learning to know **Creating word problems**

Create a 2-step word problem based on the equation below.

$(330 + 410) \times 2 = 1{,}480$

- Understand the equation.
  - There are 2 sets of items. Each set has 2 different items.
- Write the name of a thing to tell the amount the number represents.
  - The numbers represent the red paper clips and blue paper clips.
- Then, write the information for the first step of the word problem.
  - Each box contains 330 red paper clips and 410 blue paper clips.
- Then, write the information for the second step of the word problem.
  - There are 2 similar boxes.
- Lastly, write a question.
  - How many paper clips are there altogether?

Answer

Each box contains 330 red paper clips and 410 blue paper clips. There are 2 similar boxes. How many paper clips are there altogether?

TRY THIS! Create a 2-step word problem using each of the equations below.

1. $675 \div 5 + 300 = 435$
2. $8 \times 400 - 250 = 2{,}950$

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Teaching ideas

1. Write 56 x (1,567 – 1,348) on the board.
2. Guide them to create a 2-step word problem based on the equation. Use the example to explain further.
3. Invite some students to create other word problems based on the same equation.
4. Guide the students to refer to **Starting Point** on page 166. Ask them to answer the question. Have a discussion to conclude the lesson.

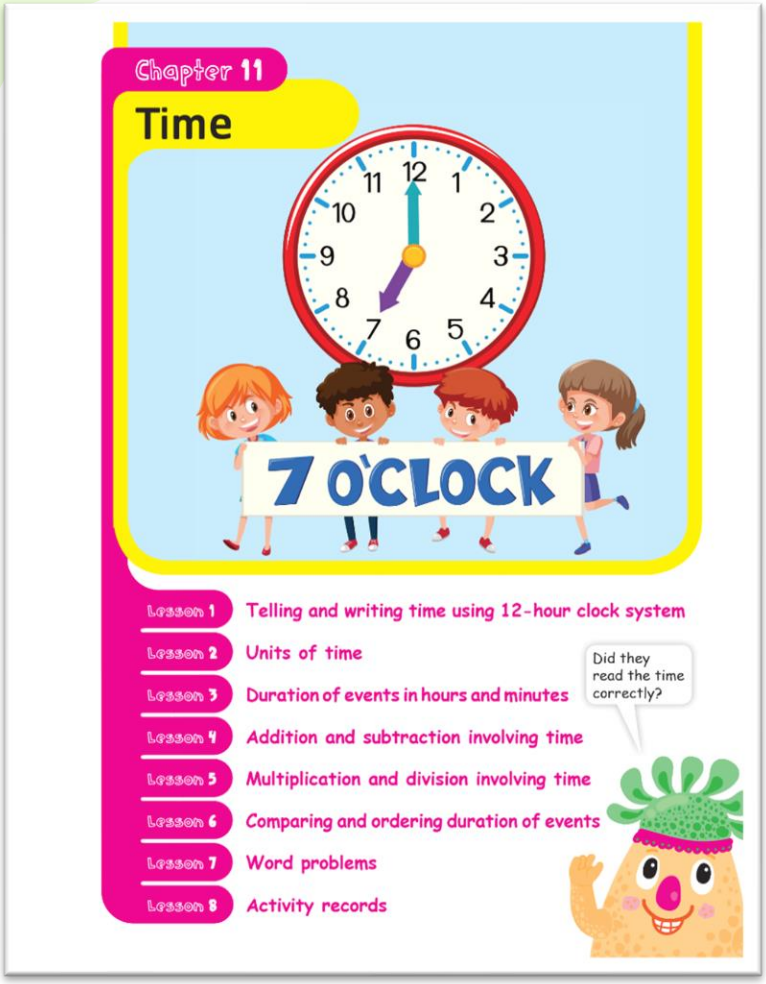
Try This!

Get 2 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 164 and 165 in Go Get Maths Workbook P3.

Chapter 11
Time



The big idea

Ask the students to look at the picture of the clock carefully. Ask them these questions to start a discussion:

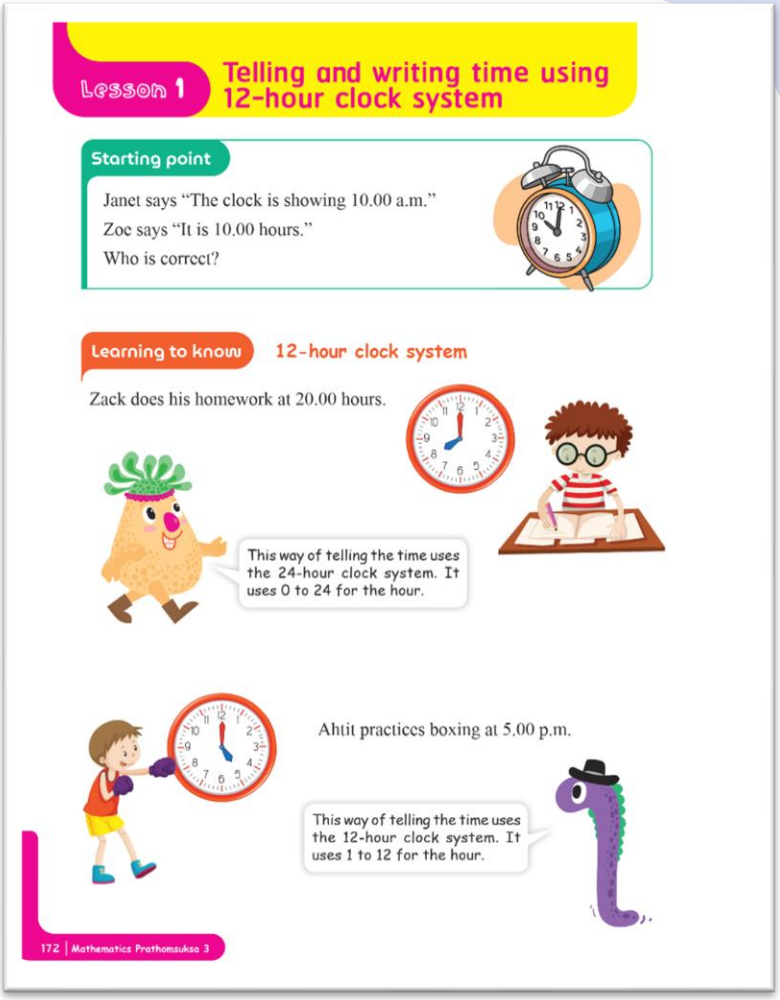
- Can you read the time if it is in the morning?
- Can you read the time if it is in the evening?
- The kids read it as 7o'clock. Is it correct?

Strand 2: Measurement and geometry

Standard M.2.1

Indicators:

M 2.1 Gr3/2 Demonstrate the methods of finding answers to word problems involving time and the period of time.


Lesson 1 Telling and writing time using 12-hour clock system

Starting point

Janet says "The clock is showing 10.00 a.m."
Zoe says "It is 10.00 hours."
Who is correct?

Learning to know 12-hour clock system

Zack does his homework at 20.00 hours.

This way of telling the time uses the 24-hour clock system. It uses 0 to 24 for the hour.

Ahtit practices boxing at 5.00 p.m.

This way of telling the time uses the 12-hour clock system. It uses 1 to 12 for the hour.

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Activity to Recall

Materials required: Analog clock

Objective of the activity: Recalling how to tell time using 24-hour system.

1. Show a time on the clock.
2. Get a student to state the period, either morning, afternoon or night.
3. Randomly select a student to read the time using 24-hour system.
4. Get a student to verify the answer.
5. Repeat a few times.

Lesson 1
Telling and writing time using 12-hour clock system

Lesson objectives

By the end of the lesson, the students should be able to:

1. Tell the time using 12-hour clock system.
2. Write the time using 12-hour system.

Suggested teaching time

3 periods (3 x 50 minutes)

Vocabulary

o'clock

Materials needed

Analog wall clock, cards

Starting point

Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Write 07.15 hours, 10.30 hours, 14.20 hours and 22.05 hours on the board. Ask these questions to start a discussion:
   - What system is used?
   - Do you realize that the hour part in these times ranges from 1 to 23?
   - How do you know the period of day for each of the mentioned times?
2. Tell the students that there is another system we can use to tell the time. It is known as the 12-hour system. It has a.m. and p.m. to indicate the period of day.

Teaching ideas

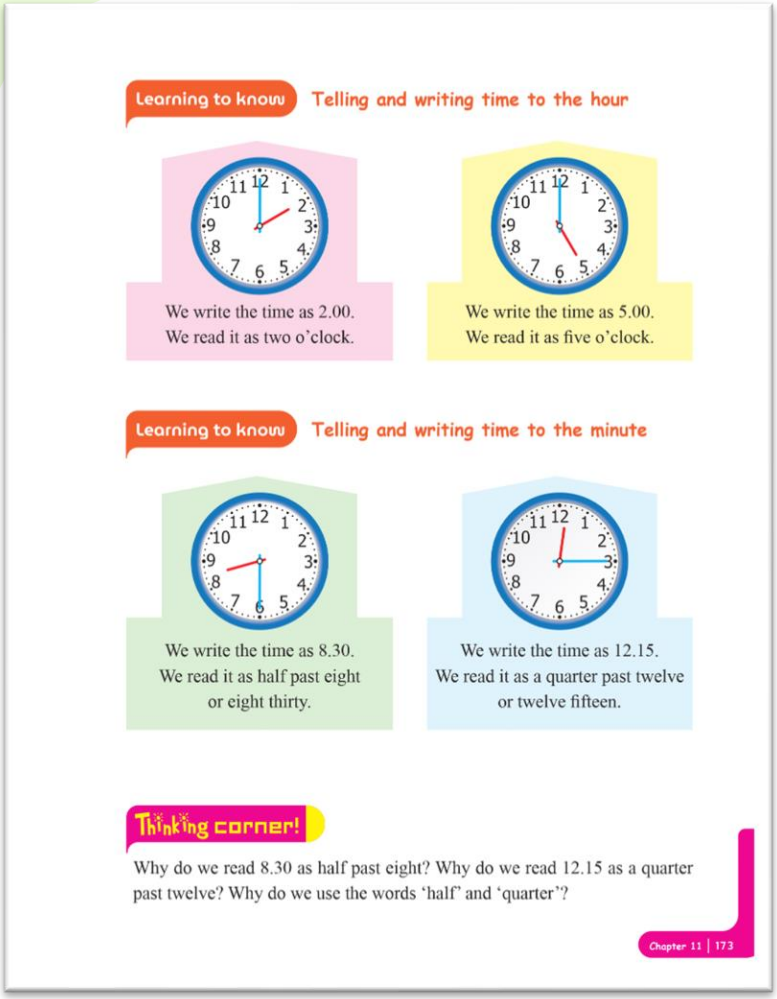
3. Tell the students that the hour hand of the clocks in this book is red and the minute hand is blue.
4. Discuss with the students how to tell the time to the hour from a clock using these questions:
   - Where is the minute hand pointing to?
   - Where is the hour hand pointing to?
   - What is the time?
5. Inform the students that when the minute hand is point to 12, the clock tells the time to the hour. We use o'clock for telling time to the hour.
6. Guide them to read write and read the time based on the examples.

Teaching ideas

1. Discuss with the students how to tell the time to the minute from a clock using these questions:
   - Where is the minute hand pointing to?
   - Where is the hour hand pointing to?
   - What is the time?
2. Tell the students that there are a few ways to tell the time using the 12-hour system.

Thinking Corner!

Using a clock, ask the students to focus on the minute hand. Show the minute hand moving from 12 to 6. Ask them how much of the complete circle has the minute hand moved. Repeat with the minute hand moving from 12 to 3.



Extra notes

There are 2 ways to tell the time:

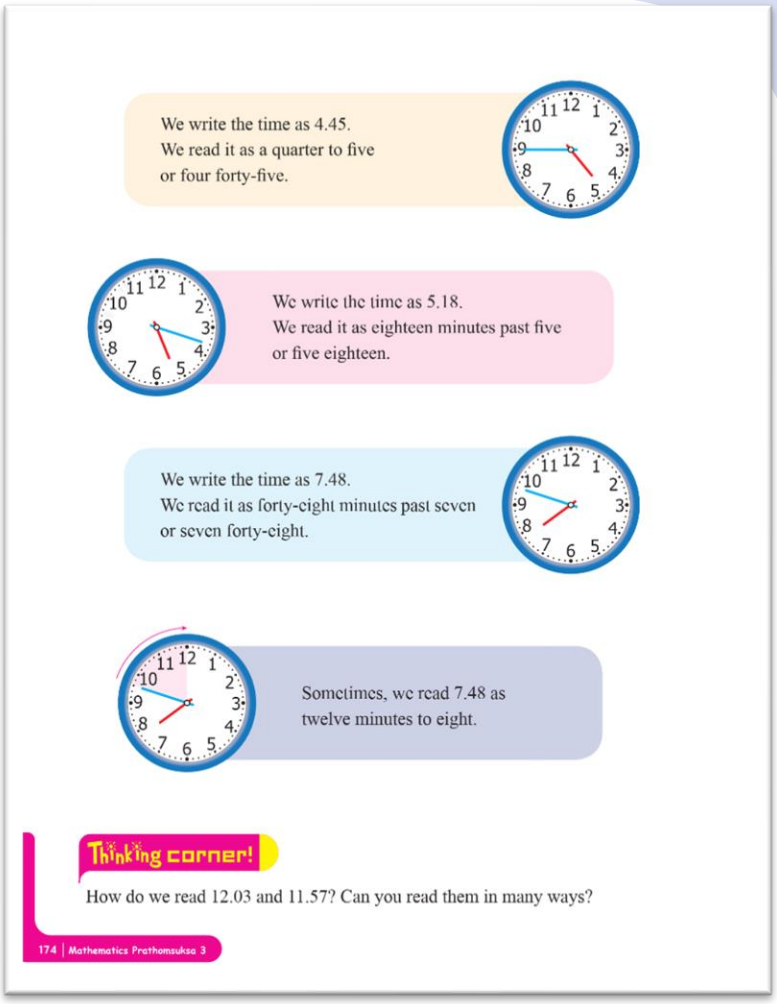
1) Say the minutes first and then the hour (minutes + PAST / TO + Hour)

For minutes 1-30 we use PAST after the minutes.
For minutes 31-59 we use TO after the minutes.

- 2:35 – It is twenty-five to three.
- 11:20 – It is twenty minutes past eleven.
- 4:30 – It is half past four.
- 8:51 – It is nine to nine.
- 6:45 – It is a quarter to seven.

2) Say the hour first and then the minutes (hour + minutes)

- 6:25 – It is six twenty-five.
- 8:05 – It is eight O-five.
- 9:11 – It is nine eleven.
- 2:34 – It is two thirty-four.



Activity for Reinforcement

The students need more practice to tell, write and read time using the 12-hour system. Use a clock to give them more exposure. Ask them to tell and write the time.

In addition, write a time on the board and get a student to read the time and show it with a clock.

Teaching ideas

3. Guide them to read write and read the time based on the examples.

Thinking Corner!

Start with asking them to tell the time by saying the minutes first and then the hour.

- 12.03 Three minutes past twelve
- 11.57 Fifty-seven minutes past eleven
- 11.57 Three minutes to twelve

Then, ask them to tell the time by saying the hour first and then the minutes.

- 12.03 Twelve O-three
- 11.57 Eleven fifty-seven

Teaching ideas

1. Ask the students if they can tell the period of day from the time 9.30.
2. Tell them that we use a.m. or p.m. after the time to indicate the period of time. a.m. is used to tell the time from midnight to midday. p.m. is used to tell the time from midday to midnight.
3. Guide them to read write and read the time based on the examples.
4. Tell the students that there is only one way to tell the time to hour. For example, 8.00 a.m is read as eight o'clock in the morning only.
5. Guide them to read the other times in other ways. 6.30 p.m. is read as thirty minutes past six in the evening too.

Thinking Corner!

Ask them these questions to start a discussion:

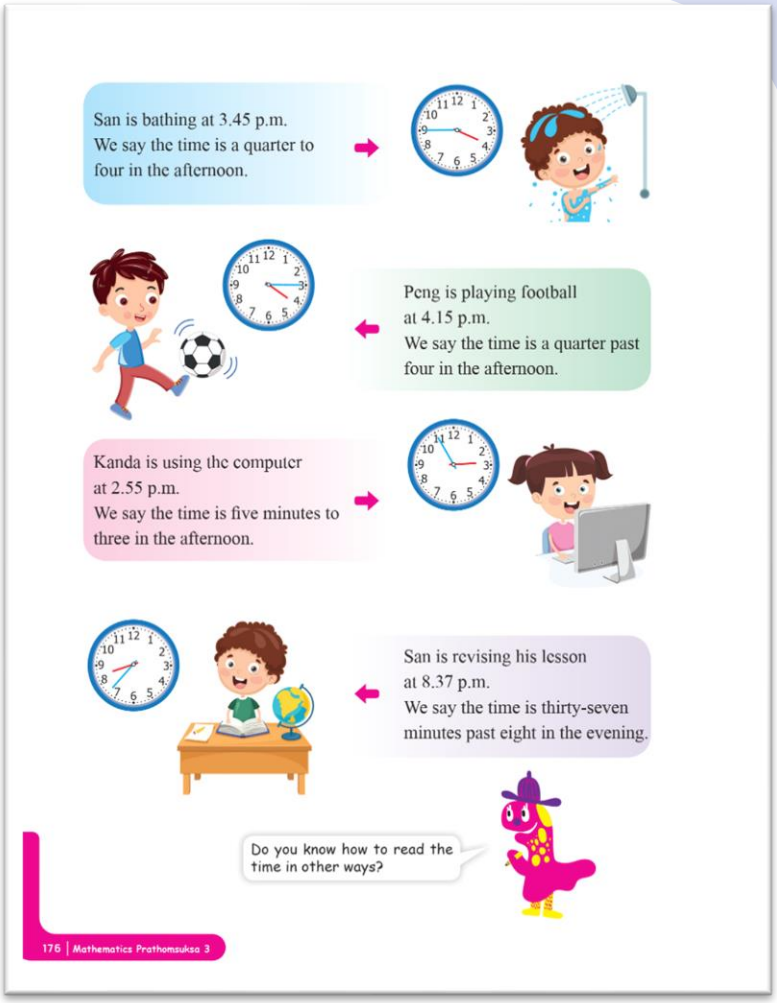
- What is the period of day when the time is 3.00 a.m.?
- What do you usually do at this period of the day?

More Info

or visit
http://tiny.cc/1hfquz

Extra notes

The 12-hour system divides the 24 hours of the day into two sections. The two halves are called ante meridiem (a.m.) and post meridiem (p.m.).



Activity for Reinforcement

The students need more practice to tell, write and read time using the 12-hour system and the a.m. and p.m. Use a clock to give them more exposure. Ask them to tell and write the time. In addition, write a time on the board and get a student to read the time and show it with a clock. In this activity, state the period of the day for each time.

Teaching ideas

6. Guide them to read write and read the time based on the examples. Guide to read the time in other ways too.
   - 3.45 p.m.
     - fifteen minutes to four in the afternoon
     - forty-five minutes past three in the afternoon
     - three forty-five in the afternoon
   - 4.15 p.m.
     - fifteen minutes past four in the afternoon
     - four fifteen in the afternoon
   - 2.55 p.m.
     - fifty-five minutes past two in the afternoon
     - two fifty-five in the afternoon
   - 8.37 p.m.
     - twenty-three minutes to nine in the evening
     - eight thirty-seven in the evening
7. Guide the students to refer to **Starting Point** on page 172. Ask them to answer the questions. Have a discussion to conclude the lesson.

Fun with Maths!

Materials required: Analog clock

Objective of the activity: Telling and write the time

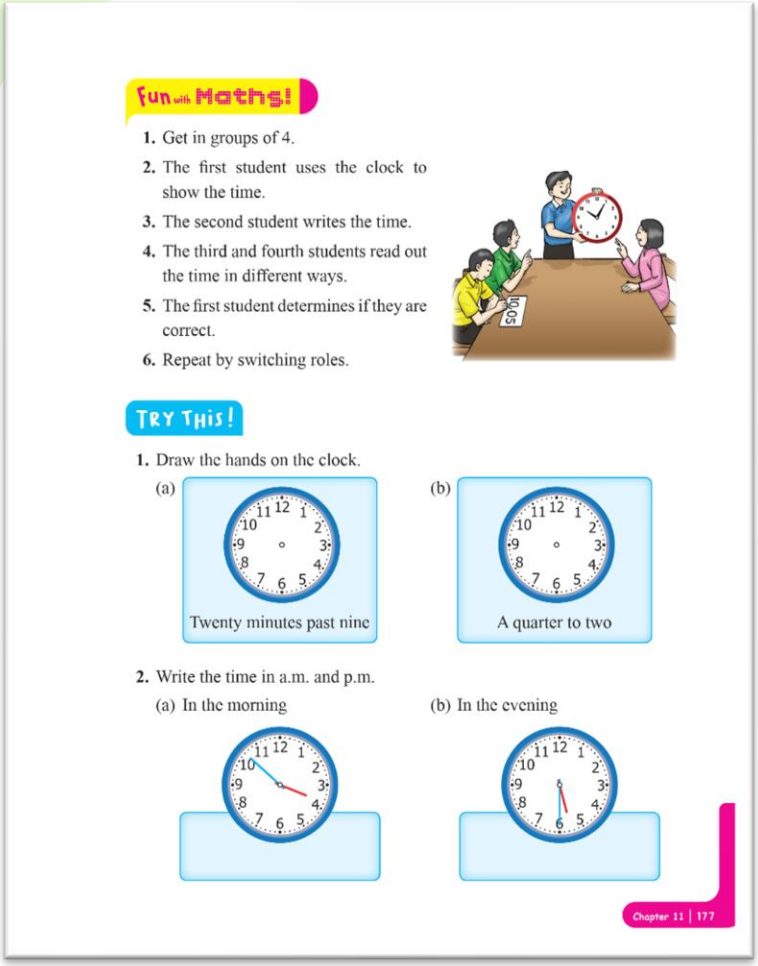
Ask them to indicate the period of the day for each time.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 166 to 172 in Go Get Maths Workbook P3.



Fun with Maths!

1. Get in groups of 4.
2. The first student uses the clock to show the time.
3. The second student writes the time.
4. The third and fourth students read out the time in different ways.
5. The first student determines if they are correct.
6. Repeat by switching roles.

TRY THIS!

1. Draw the hands on the clock.

(a) Twenty minutes past nine

(b) A quarter to two

2. Write the time in a.m. and p.m.

(a) In the morning

(b) In the evening

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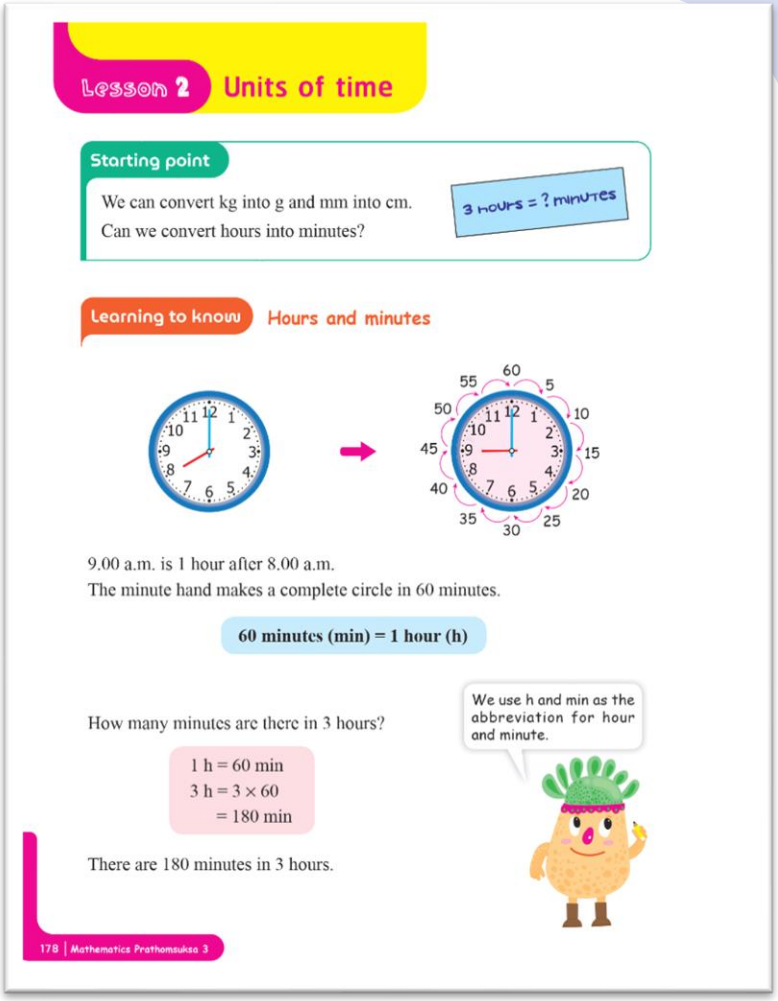
Lesson 2 Units of time

Starting point

We can convert kg into g and mm into cm.
Can we convert hours into minutes?

3 hours = ? minutes

Learning to know Hours and minutes

9.00 a.m. is 1 hour after 8.00 a.m.
The minute hand makes a complete circle in 60 minutes.

60 minutes (min) = 1 hour (h)

How many minutes are there in 3 hours?

1 h = 60 min
3 h = 3 × 60
= 180 min

There are 180 minutes in 3 hours.

We use h and min as the abbreviation for hour and minute.

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Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to convert the units. Ask them to explain their answers. Invite a few to verify the answers.

1 h = ☐ min
2 h = ☐ min
3 h = ☐ min
4 h = ☐ min
5 h = ☐ min

Lesson 2
Units of time

Lesson objectives

By the end of the lesson, the students should be able to:

1. Convert units of time.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

-

Materials needed

Analog clocks

Starting point

Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Show the student a clock showing 8 o'clock. Ask them for the time.
2. Then, make the minute hand move 1 complete circle. Ask them these questions:
   - How much time did the minute hand take to make 1 complete circle?
   - What time is the clock showing now?
   - How much time has passed from 8 o'clock to 9 o'clock?
3. Help the students to recall that 60 minutes make 1 hour.
4. Ask them for the numbers of minutes in 2 hours and 5 hours.

Teaching ideas

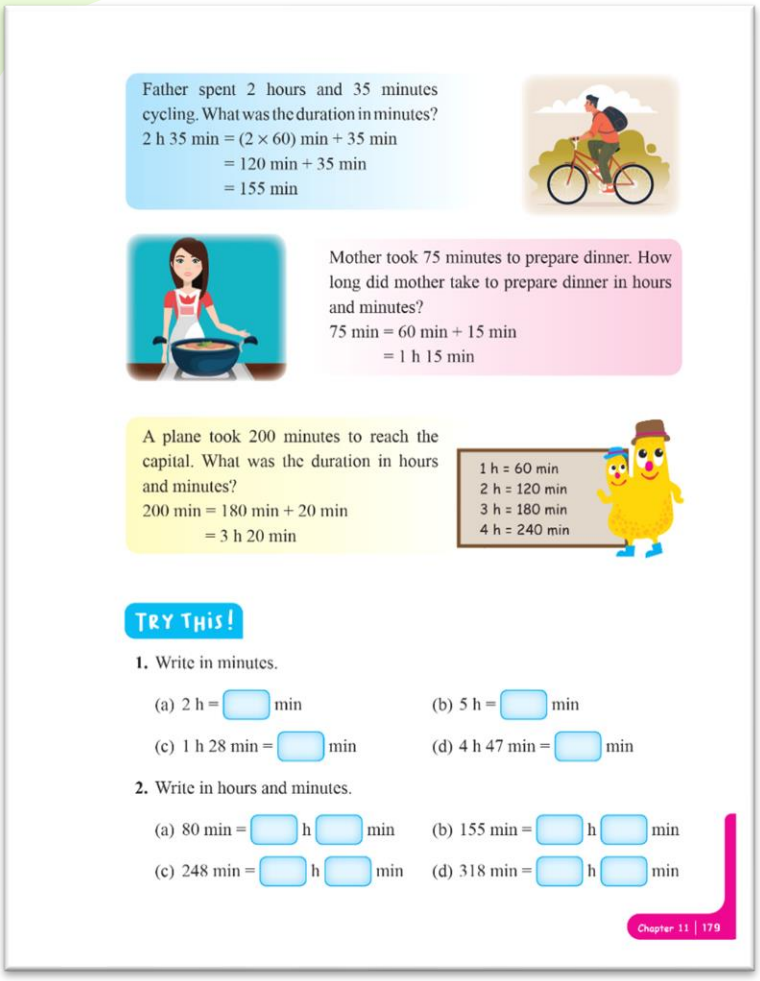
5. Use the examples to guide the students how to convert h and min into min, and also min to h and min.
6. Guide the students to refer to **Starting Point** on page 178. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 8 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 173 to 174 in Go Get Maths Workbook P3.



Father spent 2 hours and 35 minutes cycling. What was the duration in minutes?

2 h 35 min = (2 × 60) min + 35 min
= 120 min + 35 min
= 155 min

Mother took 75 minutes to prepare dinner. How long did mother take to prepare dinner in hours and minutes?

75 min = 60 min + 15 min
= 1 h 15 min

A plane took 200 minutes to reach the capital. What was the duration in hours and minutes?

200 min = 180 min + 20 min
= 3 h 20 min

1 h = 60 min
2 h = 120 min
3 h = 180 min
4 h = 240 min

TRY THIS!

1. Write in minutes.

(a) 2 h = ☐ min (b) 5 h = ☐ min
(c) 1 h 28 min = ☐ min (d) 4 h 47 min = ☐ min

2. Write in hours and minutes.

(a) 80 min = ☐ h ☐ min (b) 155 min = ☐ h ☐ min
(c) 248 min = ☐ h ☐ min (d) 318 min = ☐ h ☐ min

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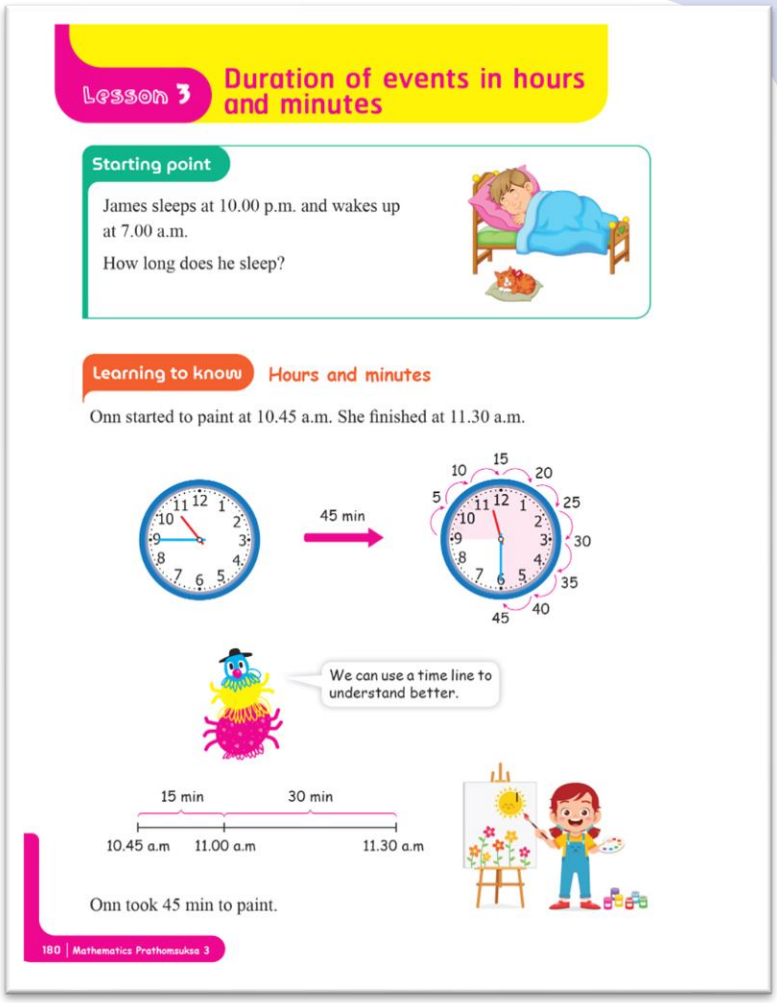
More Info

or visit
http://tiny.cc/fhfquz


Lesson 3 Duration of events in hours and minutes

Starting point

James sleeps at 10.00 p.m. and wakes up at 7.00 a.m.

How long does he sleep?

Learning to know Hours and minutes

Onn started to paint at 10.45 a.m. She finished at 11.30 a.m.

45 min

We can use a time line to understand better.

15 min 30 min

10.45 a.m 11.00 a.m 11.30 a.m

Onn took 45 min to paint.

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Lesson 3 Duration of events in hours and minutes

Lesson objectives

By the end of the lesson, the students should be able to:

1. Tell the duration of events in hours and minutes.

Suggested teaching time

4 periods (4 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

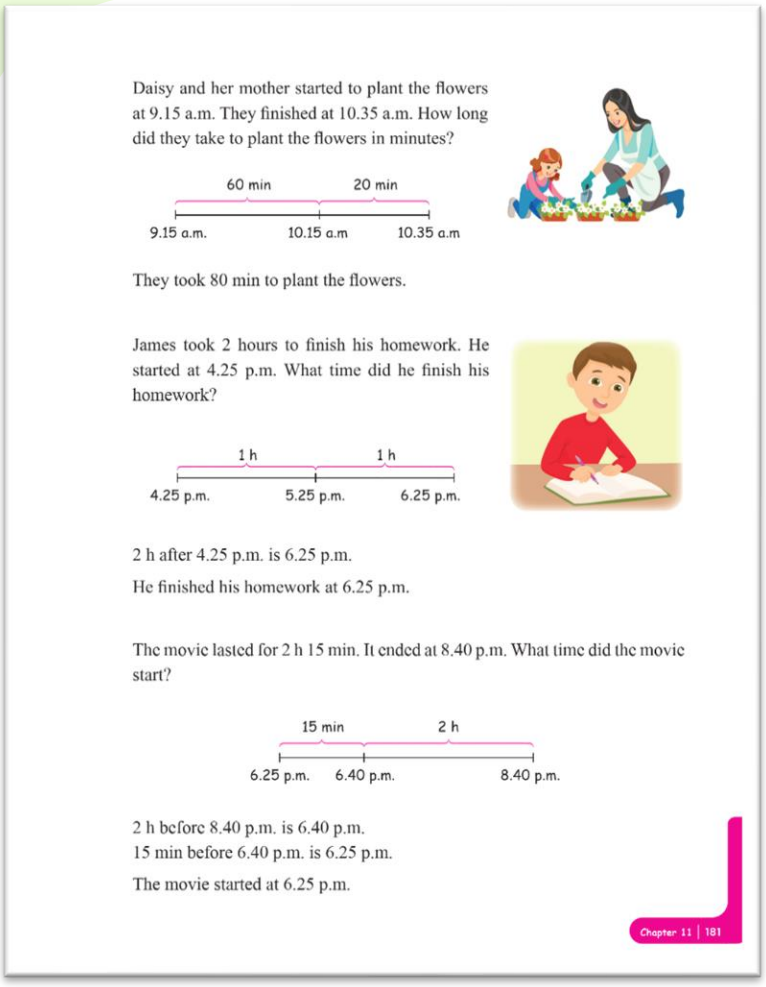
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Read the example to the students and ask them how long Onn painted.
2. Guide them to realize that from 10.45 a.m. to 11.30 a.m., the minute hand has moved from 9 to 6. Count on fives together. Tell them that it took 45 min.
3. Guide them to draw the timeline.

Teaching ideas

4. For these events, count the nearest hours the events had taken up, before counting the remaining minutes.
5. For this example, the event starts at 9.15 a.m. and ends at 10.35 a.m.
6. From 9.15 a.m. to 10.15 a.m., it takes up 1 hour or 60 min. From 10.15 a.m. to 10.35 a.m., it takes up another 20 min. So, they took altogether 80 min.
7. Guide them to draw the timeline.
8. For the next example, the students need to find the end time with given the elapsed time. Guide them to count forward 2 h with a timeline.
9. In the last example, the elapsed time and the end time are given. The students need to find the start time. Guide them to count backward with the hours first and then the minutes with a timeline. You may want to use a clock or draw a clock for this part to explain further.
10. Guide the students to refer to **Starting Point** on page 180. Ask them to answer the questions. Have a discussion to conclude the lesson.



Daisy and her mother started to plant the flowers at 9.15 a.m. They finished at 10.35 a.m. How long did they take to plant the flowers in minutes?

They took 80 min to plant the flowers.

James took 2 hours to finish his homework. He started at 4.25 p.m. What time did he finish his homework?

2 h after 4.25 p.m. is 6.25 p.m.

He finished his homework at 6.25 p.m.

The movie lasted for 2 h 15 min. It ended at 8.40 p.m. What time did the movie start?

2 h before 8.40 p.m. is 6.40 p.m.
15 min before 6.40 p.m. is 6.25 p.m.

The movie started at 6.25 p.m.

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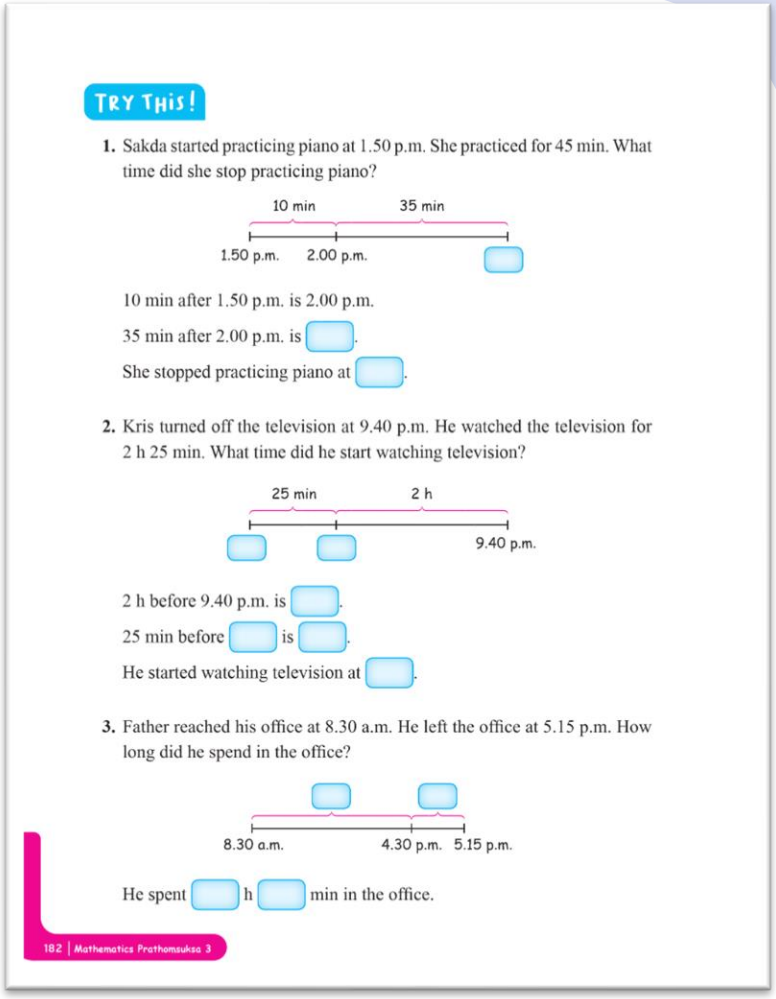

TRY THIS!

1. Sakda started practicing piano at 1.50 p.m. She practiced for 45 min. What time did she stop practicing piano?

10 min after 1.50 p.m. is 2.00 p.m.

35 min after 2.00 p.m. is ____.

She stopped practicing piano at ____.

2. Kris turned off the television at 9.40 p.m. He watched the television for 2 h 25 min. What time did he start watching television?

2 h before 9.40 p.m. is ____.

25 min before ____ is ____.

He started watching television at ____.

3. Father reached his office at 8.30 a.m. He left the office at 5.15 p.m. How long did he spend in the office?

He spent ____ h ____ min in the office.

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Try This!

Get 3 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 174 to 178 in Go Get Maths Workbook P3.

Lesson 4
Addition and subtraction involving time

Lesson objectives
By the end of the lesson, the students should be able to:
1. Add hours and minutes.
2. Subtract hours and minutes.

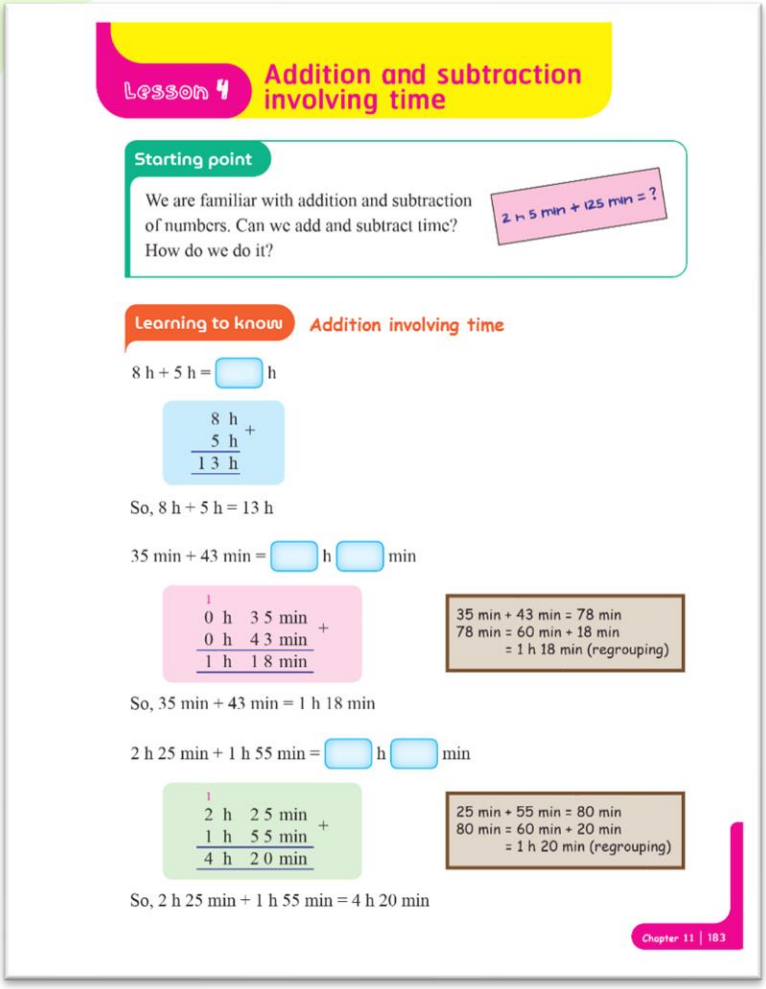
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas
1. Guide the students to add vertically.
2. Ask the students write the time vertically, with the same unit in the same column.
3. Tell them to align the digits in each unit based on their place values. This is very important.
4. Ask them to add the minutes first. Regroup when needed as 60 minutes equal to 1 hour.
5. Use the examples to explain further.



Lesson 4 Addition and subtraction involving time

Starting point

We are familiar with addition and subtraction of numbers. Can we add and subtract time? How do we do it?

2 h 5 min + 125 min = ?

Learning to know Addition involving time

8 h + 5 h = ☐ h

8 h + 5 h = 13 h

35 min + 43 min = ☐ h ☐ min

35 min + 43 min = 78 min
78 min = 60 min + 18 min
= 1 h 18 min (regrouping)

So, 35 min + 43 min = 1 h 18 min

2 h 25 min + 1 h 55 min = ☐ h ☐ min

25 min + 55 min = 80 min
80 min = 60 min + 20 min
= 1 h 20 min (regrouping)

So, 2 h 25 min + 1 h 55 min = 4 h 20 min

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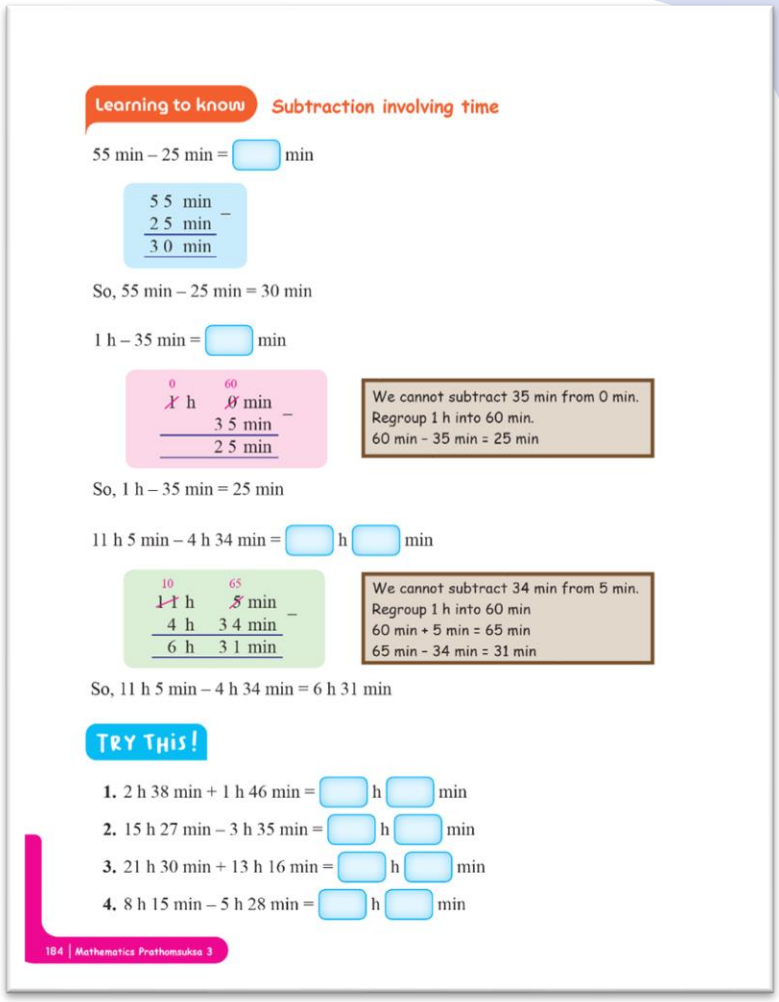
Activity for Reinforcement
Get a few students to write these questions on the board. Then, get others to add. Ask them to explain their answers. Invite a few to verify the answers.

5 h + 4 h = ☐ h
3 h 52 min + 1 h 37 min = ☐ h ☐ min
7 h 36 min + 2 h 50 min = ☐ h ☐ min
2 h + 3 h 48 min = ☐ h ☐ min



Learning to know Subtraction involving time

55 min – 25 min = ☐ min

55 min	
25 min	–
30 min	

So, 55 min – 25 min = 30 min

1 h – 35 min = ☐ min

0	60	
~~1~~ h	~~0~~ min	
	35 min	–
	25 min	

We cannot subtract 35 min from 0 min.
Regroup 1 h into 60 min.
60 min – 35 min = 25 min

So, 1 h – 35 min = 25 min

11 h 5 min – 4 h 34 min = ☐ h ☐ min

10	65	
~~11~~ h	~~5~~ min	
4 h	34 min	–
6 h	31 min	

We cannot subtract 34 min from 5 min.
Regroup 1 h into 60 min
60 min + 5 min = 65 min
65 min – 34 min = 31 min

So, 11 h 5 min – 4 h 34 min = 6 h 31 min

TRY THIS!

1. 2 h 38 min + 1 h 46 min = ☐ h ☐ min
2. 15 h 27 min – 3 h 35 min = ☐ h ☐ min
3. 21 h 30 min + 13 h 16 min = ☐ h ☐ min
4. 8 h 15 min – 5 h 28 min = ☐ h ☐ min

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Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to subtract. Ask them to explain their answers. Invite a few to verify the answers.

3 h – 1 h = ☐ h

4 h 20 min – 1 h 18 min = ☐ h ☐ min

5 h 25 min – 3 h 40 min = ☐ h ☐ min

8 h – 5 h 46 min = ☐ h ☐ min

Teaching ideas

1. Guide the students to subtract vertically.
2. Ask the students write the time vertically, with the same unit in the same column.
3. Tell them to align the digits in each unit based on their place values. This is very important.
4. Ask them to subtract the minutes first. Regroup when needed as 1 hour equals to 60 minutes.
5. Use the examples to explain further.
6. Guide the students to refer to **Starting Point** on page 183. Ask them to answer the questions. Have a discussion to conclude the lesson.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 179 and 180 in Go Get Maths Workbook P3.

or visit
http://tiny.cc/ctjquz

Lesson 5
Multiplication and division involving time

Lesson objectives
By the end of the lesson, the students should be able to:

1. Multiply hours and minutes.
2. Divide hours and minutes.

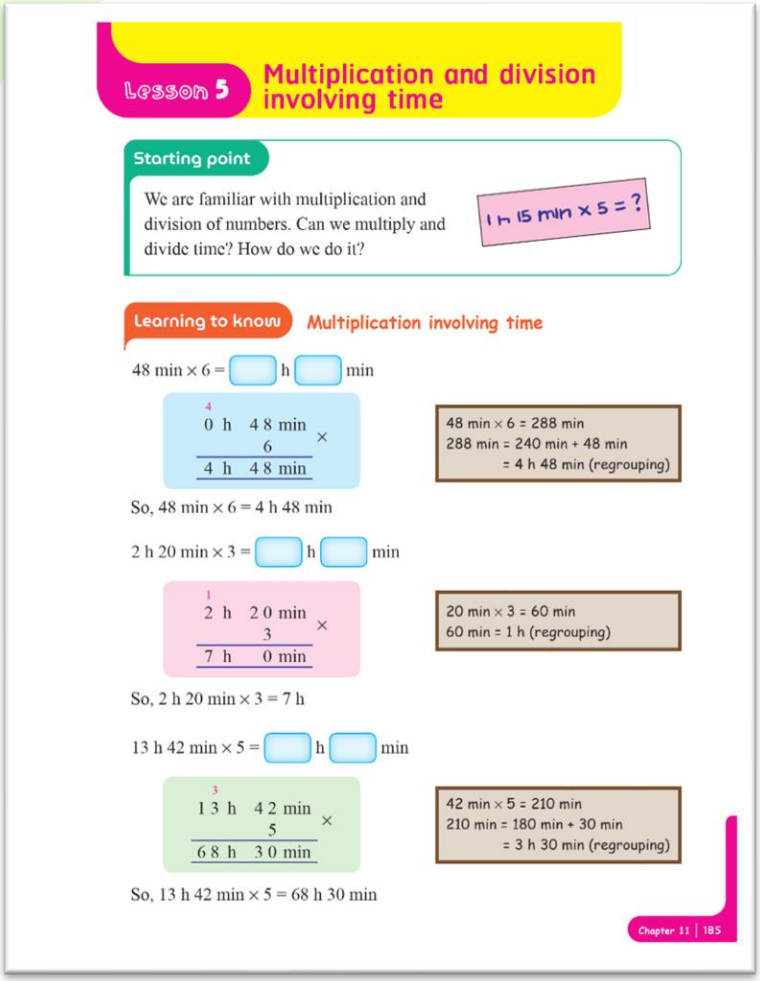
Suggested teaching time
2 periods (2 x 50 minutes)

Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas
1. Guide the students to multiply vertically.
2. Firstly, ask the students write the time vertically.
3. Ask them to multiply the minutes first. Regroup when needed as 60 minutes equal to 1 hour.
4. Use the examples to explain further.



Lesson 5 Multiplication and division involving time

Starting point

We are familiar with multiplication and division of numbers. Can we multiply and divide time? How do we do it?

1 h 15 min × 5 = ?

Learning to know Multiplication involving time

48 min × 6 = ☐ h ☐ min

4
0 h 48 min
6 ×
4 h 48 min

48 min × 6 = 288 min
288 min = 240 min + 48 min
= 4 h 48 min (regrouping)

So, 48 min × 6 = 4 h 48 min

2 h 20 min × 3 = ☐ h ☐ min

1
2 h 20 min
3 ×
7 h 0 min

20 min × 3 = 60 min
60 min = 1 h (regrouping)

So, 2 h 20 min × 3 = 7 h

13 h 42 min × 5 = ☐ h ☐ min

3
13 h 42 min
5 ×
68 h 30 min

42 min × 5 = 210 min
210 min = 180 min + 30 min
= 3 h 30 min (regrouping)

So, 13 h 42 min × 5 = 68 h 30 min

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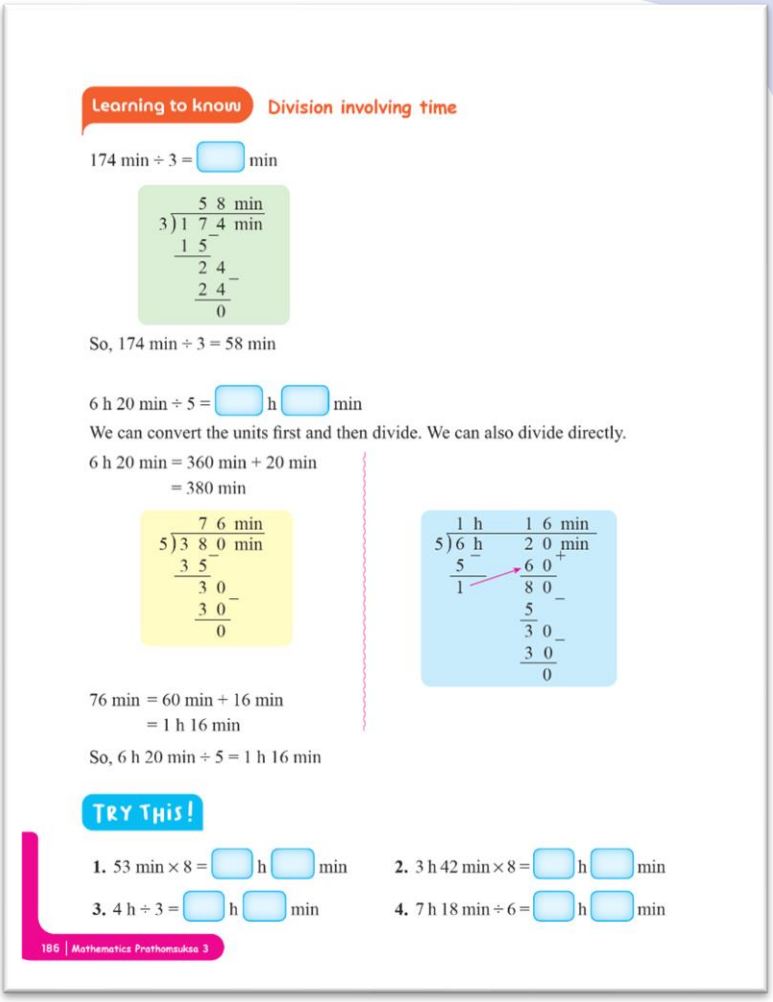
Activity for Reinforcement
Get a few students to write these questions on the board. Then, get others to multiply. Ask them to explain their answers. Invite a few to verify the answers.

3 h x 3 = ☐ h
1 h 20 min x 4 = ☐ h ☐ min
2 h 15 min x 6 = ☐ h ☐ min
1 h 25 min x 7 = ☐ h ☐ min



Learning to know Division involving time

174 min ÷ 3 = ☐ min

$$\begin{array}{r} 58\ \text{min} \\ 3\overline{)174\ \text{min}} \\ -15 \\ \hline 24 \\ -24 \\ \hline 0 \end{array}$$

So, 174 min ÷ 3 = 58 min

6 h 20 min ÷ 5 = ☐ h ☐ min

We can convert the units first and then divide. We can also divide directly.

6 h 20 min = 360 min + 20 min
= 380 min

$$\begin{array}{r} 76\ \text{min} \\ 5\overline{)380\ \text{min}} \\ -35 \\ \hline 30 \\ -30 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 1\ \text{h}\quad 16\ \text{min} \\ 5\overline{)6\ \text{h}\quad 20\ \text{min}} \\ -5 \\ \hline 1 \\ +60 \\ \hline 80 \\ -5 \\ \hline 30 \\ -30 \\ \hline 0 \end{array}$$

76 min = 60 min + 16 min
= 1 h 16 min

So, 6 h 20 min ÷ 5 = 1 h 16 min

TRY THIS!

1. 53 min × 8 = ☐ h ☐ min
2. 3 h 42 min × 8 = ☐ h ☐ min
3. 4 h ÷ 3 = ☐ h ☐ min
4. 7 h 18 min ÷ 6 = ☐ h ☐ min

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Activity for Reinforcement

Get a few students to write these questions on the board. Then, get others to divide. Ask them to explain their answers. Invite a few to verify the answers.

32 h ÷ 8 = ☐ h
6 h 40 min ÷ 2 = ☐ h ☐ min
3 h 25 min ÷ 5 = ☐ h ☐ min
10 h 16 min ÷ 8 = ☐ h ☐ min

Teaching ideas

5. Guide the students to divide using the long division method.
6. Tell them that they can either convert the different units into one unit first before dividing, or divide the different units together.
7. If they are going to divide the different units together, they should divide the hours first. Regroup when needed as 1 hour equals to 60 minutes.
8. Use the examples to explain further.
9. Guide the students to refer to **Starting Point** on page 185. Ask them to answer the questions. Have a discussion to conclude the lesson.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 181 to 183 in Go Get Maths Workbook P3.

Lesson 6
Comparing and ordering duration of events

Lesson objectives
By the end of the lesson, the students should be able to:

1. Compare and order duration of events.

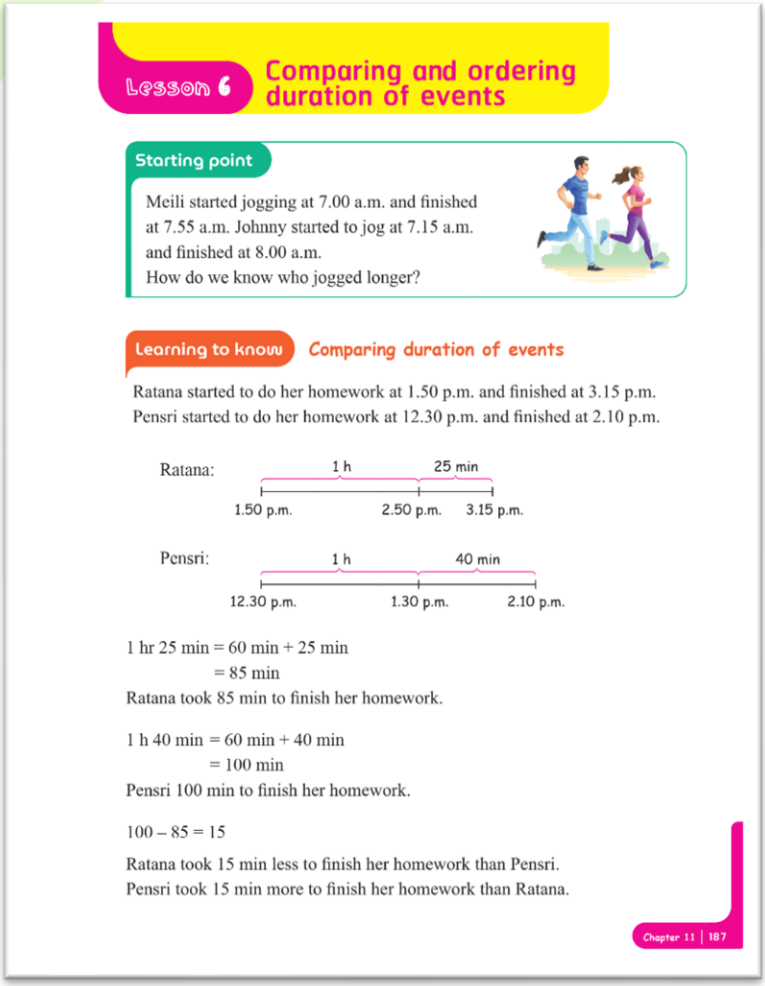
Suggested teaching time
3 periods (3 x 50 minutes)

Vocabulary
-

Materials needed
-

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Inform the students that when we need to compare the duration of events, we need to find the duration of each event first.
2. Reiterate to draw the clocks if they cannot comprehend.
3. Guide them to draw the timeline.



Lesson 6 Comparing and ordering duration of events

Starting point

Meili started jogging at 7.00 a.m. and finished at 7.55 a.m. Johnny started to jog at 7.15 a.m. and finished at 8.00 a.m.
How do we know who jogged longer?

Learning to know Comparing duration of events

Ratana started to do her homework at 1.50 p.m. and finished at 3.15 p.m.
Pensri started to do her homework at 12.30 p.m. and finished at 2.10 p.m.

Ratana: 1 h 25 min — 1.50 p.m. — 2.50 p.m. — 3.15 p.m.

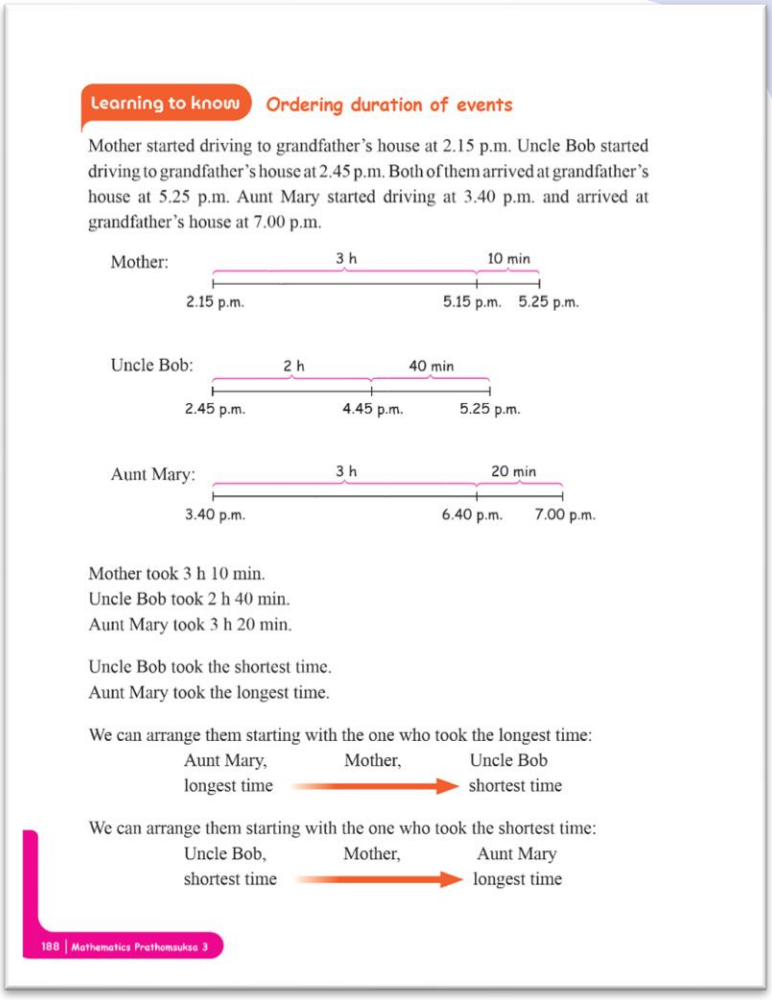
Pensri: 1 h 40 min — 12.30 p.m. — 1.30 p.m. — 2.10 p.m.

1 hr 25 min = 60 min + 25 min
= 85 min
Ratana took 85 min to finish her homework.

1 h 40 min = 60 min + 40 min
= 100 min
Pensri 100 min to finish her homework.

100 – 85 = 15
Ratana took 15 min less to finish her homework than Pensri.
Pensri took 15 min more to finish her homework than Ratana.

Chapter 11 | 187



Learning to know Ordering duration of events

Mother started driving to grandfather's house at 2.15 p.m. Uncle Bob started driving to grandfather's house at 2.45 p.m. Both of them arrived at grandfather's house at 5.25 p.m. Aunt Mary started driving at 3.40 p.m. and arrived at grandfather's house at 7.00 p.m.

Mother: 3 h, 10 min
2.15 p.m. — 5.15 p.m. — 5.25 p.m.

Uncle Bob: 2 h, 40 min
2.45 p.m. — 4.45 p.m. — 5.25 p.m.

Aunt Mary: 3 h, 20 min
3.40 p.m. — 6.40 p.m. — 7.00 p.m.

Mother took 3 h 10 min.
Uncle Bob took 2 h 40 min.
Aunt Mary took 3 h 20 min.

Uncle Bob took the shortest time.
Aunt Mary took the longest time.

We can arrange them starting with the one who took the longest time:
Aunt Mary, Mother, Uncle Bob
longest time → shortest time

We can arrange them starting with the one who took the shortest time:
Uncle Bob, Mother, Aunt Mary
shortest time → longest time

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Teaching ideas

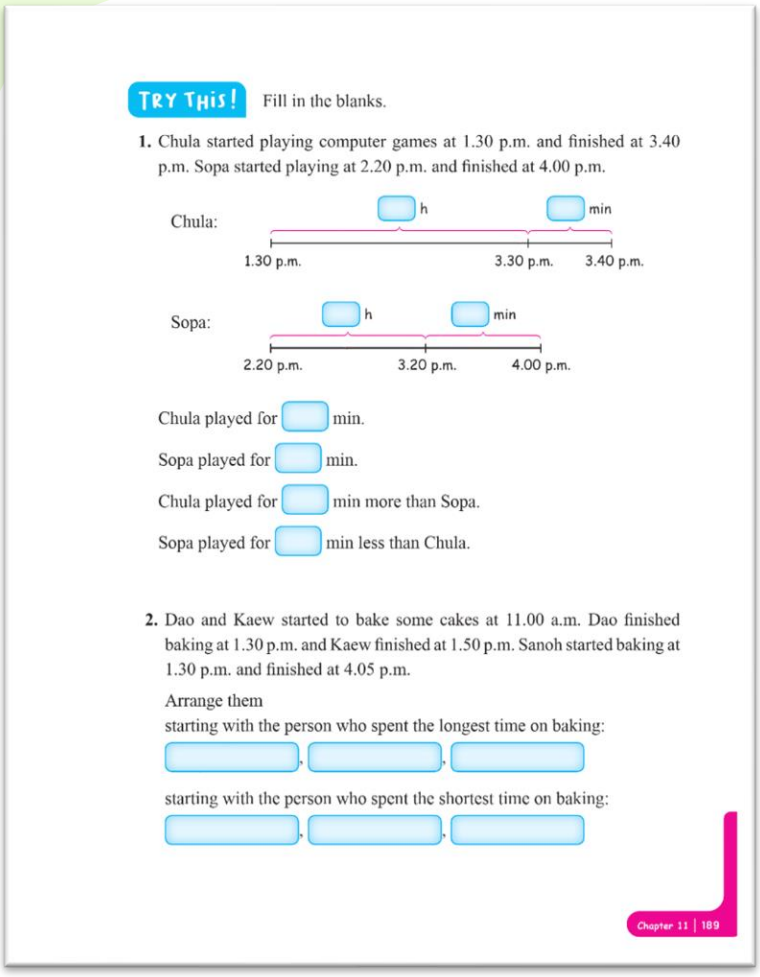
1. Tell the students that to order duration of events, we need to find the duration of each event first.
2. Then, we compare and arrange them either starting from the one with the shortest duration or with the longest duration.
3. Tell the students try not to draw the clocks anymore. They should be able to calculate the duration of time using the timeline. If cannot, they can still draw the clocks.
4. Guide the students to refer to **Starting Point** on page 187. Ask them to answer the question. Have a discussion to conclude the lesson.

Try This!

Get 2 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 184 and 185 in Go Get Maths Workbook P2.



TRY THIS! Fill in the blanks.

1. Chula started playing computer games at 1.30 p.m. and finished at 3.40 p.m. Sopa started playing at 2.20 p.m. and finished at 4.00 p.m.

Chula: ☐ h ☐ min

1.30 p.m. 3.30 p.m. 3.40 p.m.

Sopa: ☐ h ☐ min

2.20 p.m. 3.20 p.m. 4.00 p.m.

Chula played for ☐ min.

Sopa played for ☐ min.

Chula played for ☐ min more than Sopa.

Sopa played for ☐ min less than Chula.

2. Dao and Kaew started to bake some cakes at 11.00 a.m. Dao finished baking at 1.30 p.m. and Kaew finished at 1.50 p.m. Sanoh started baking at 1.30 p.m. and finished at 4.05 p.m.

Arrange them

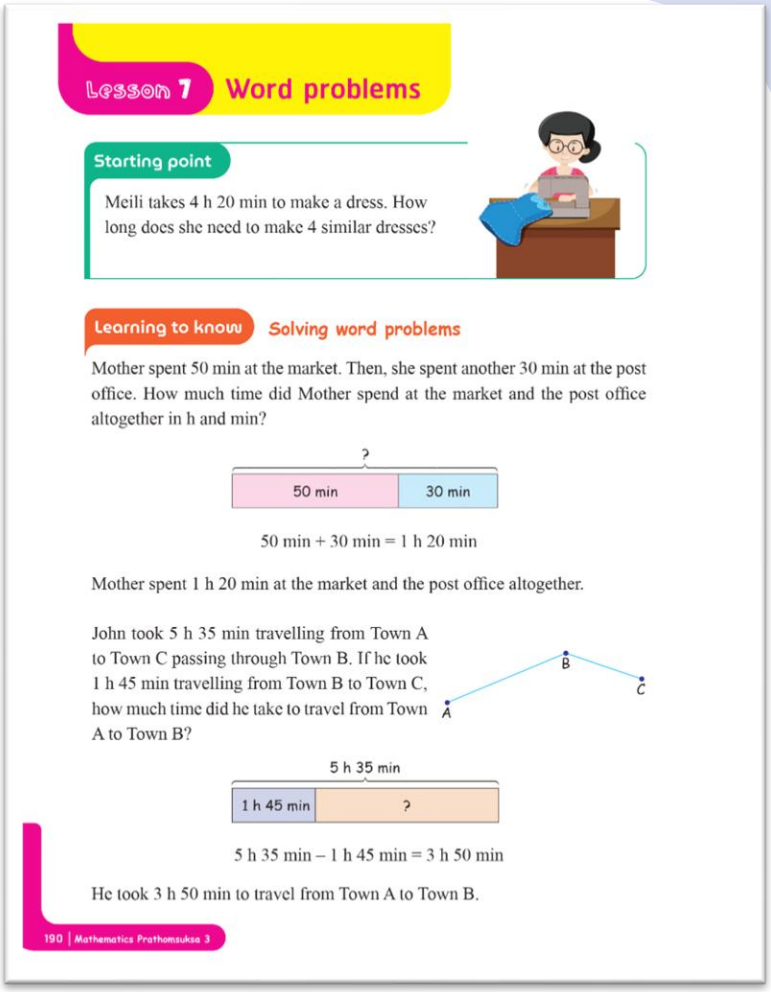
starting with the person who spent the longest time on baking:

☐ , ☐ , ☐

starting with the person who spent the shortest time on baking:

☐ , ☐ , ☐

Chapter 11 | 189



Lesson 7 Word problems

Starting point

Meili takes 4 h 20 min to make a dress. How long does she need to make 4 similar dresses?

Learning to know Solving word problems

Mother spent 50 min at the market. Then, she spent another 30 min at the post office. How much time did Mother spend at the market and the post office altogether in h and min?

50 min + 30 min = 1 h 20 min

Mother spent 1 h 20 min at the market and the post office altogether.

John took 5 h 35 min travelling from Town A to Town C passing through Town B. If he took 1 h 45 min travelling from Town B to Town C, how much time did he take to travel from Town A to Town B?

5 h 35 min – 1 h 45 min = 3 h 50 min

He took 3 h 50 min to travel from Town A to Town B.

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Lesson 7
Word problems

Lesson objectives

By the end of the lesson, the students should be able to:

1. Solve word problems involving duration of events.

Suggested teaching time

4 periods (4 x 50 minutes)

Vocabulary

-

Materials needed

-

Starting point

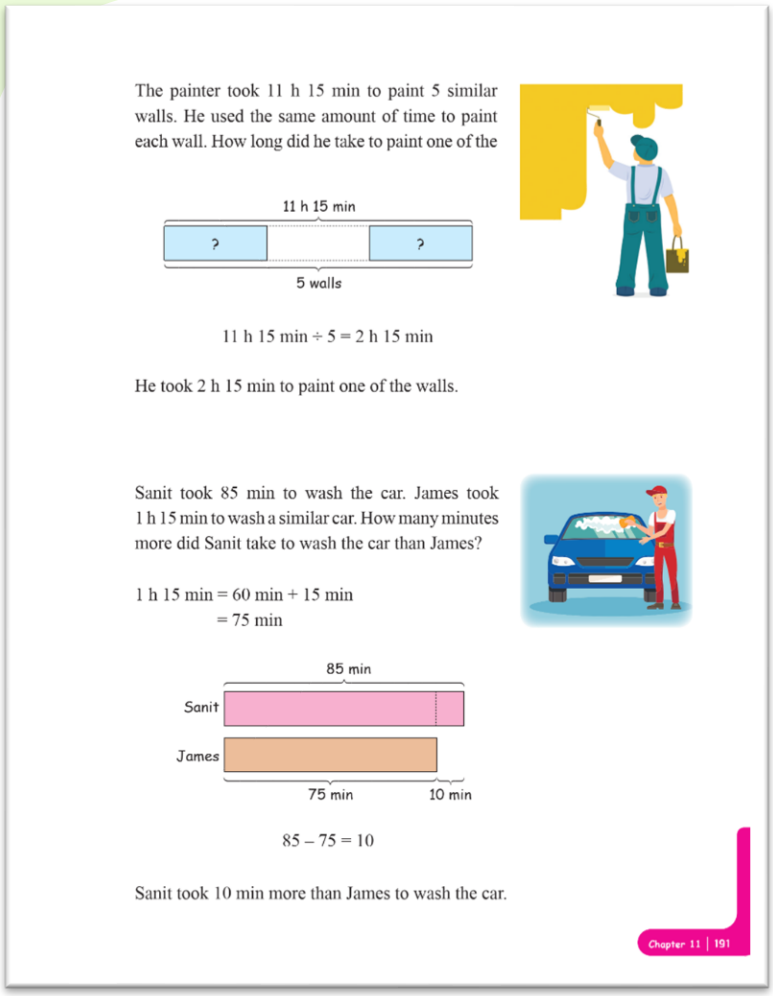
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Guide them to understand the word problems.
2. Work through the first example with the students to find the total time Mother spent at the market and the post office together.
3. Work through the second example with the students.
4. Remind them to regroup when necessary.

Teaching ideas

5. Work through the first example with the students to divide the time.
6. Work through the second example with the students to compare the duration of the 2 events.
7. Guide them to draw the comparison bar model. Ask them to convert the units into minutes. This will ease their calculation.
8. Guide the students to refer to **Starting Point** on page 190. Ask them to answer the question. Have a discussion to conclude the lesson.



The painter took 11 h 15 min to paint 5 similar walls. He used the same amount of time to paint each wall. How long did he take to paint one of the

11 h 15 min ÷ 5 = 2 h 15 min

He took 2 h 15 min to paint one of the walls.

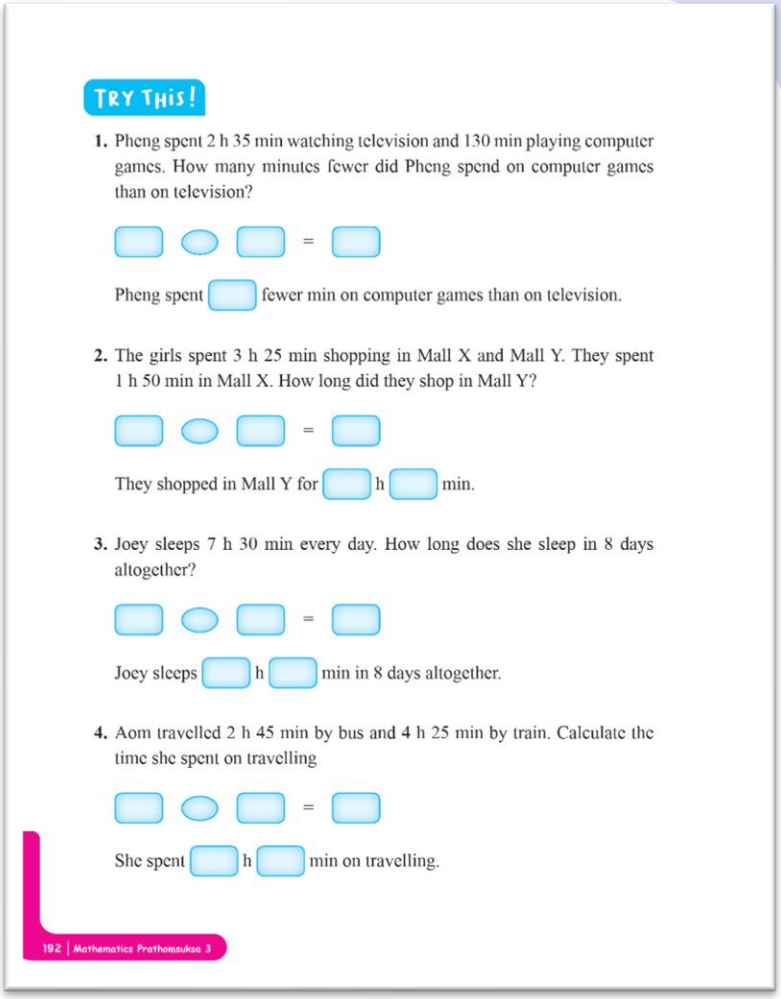
Sanit took 85 min to wash the car. James took 1 h 15 min to wash a similar car. How many minutes more did Sanit take to wash the car than James?

1 h 15 min = 60 min + 15 min
= 75 min

85 – 75 = 10

Sanit took 10 min more than James to wash the car.

Chapter 11 | 191



TRY THIS!

1. Pheng spent 2 h 35 min watching television and 130 min playing computer games. How many minutes fewer did Pheng spend on computer games than on television?

□ ○ □ = □

Pheng spent □ fewer min on computer games than on television.

2. The girls spent 3 h 25 min shopping in Mall X and Mall Y. They spent 1 h 50 min in Mall X. How long did they shop in Mall Y?

□ ○ □ = □

They shopped in Mall Y for □ h □ min.

3. Joey sleeps 7 h 30 min every day. How long does she sleep in 8 days altogether?

□ ○ □ = □

Joey sleeps □ h □ min in 8 days altogether.

4. Aom travelled 2 h 45 min by bus and 4 h 25 min by train. Calculate the time she spent on travelling

□ ○ □ = □

She spent □ h □ min on travelling.

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Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 186 to 188 in Go Get Maths Workbook P3.

Lesson 8
Activity records

Lesson objectives
By the end of the lesson, the students should be able to:
1. Read records of activities.
2. Write records of activities.

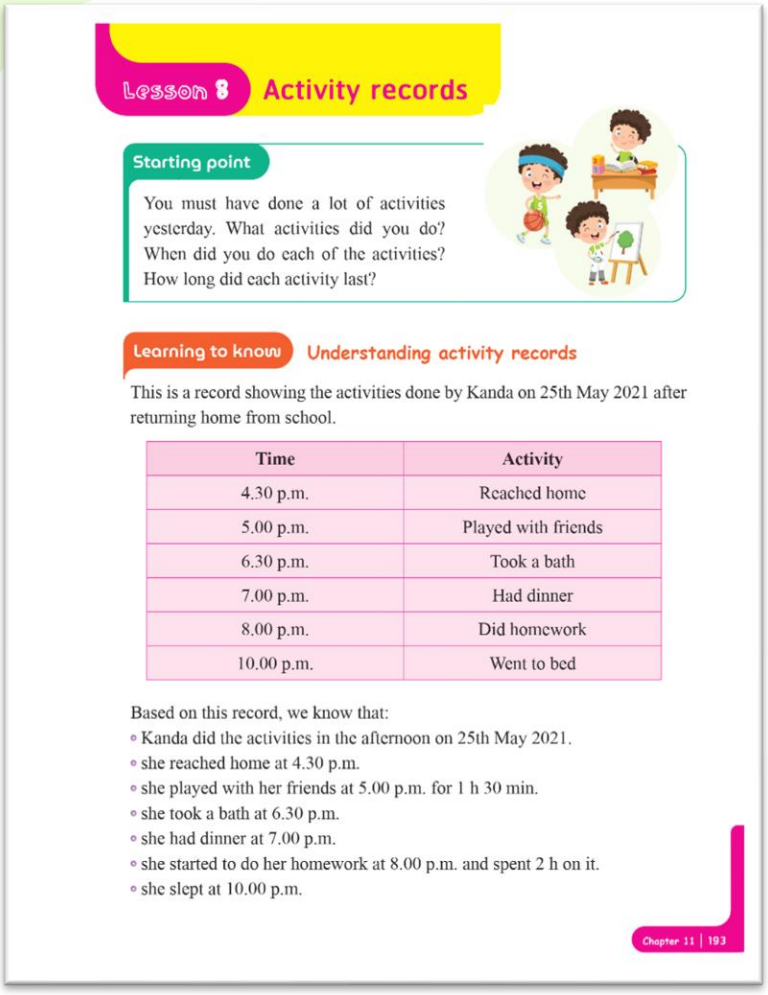
Suggested teaching time
4 periods (4 x 50 minutes)

Vocabulary
Activity record

Materials needed
-

Starting point
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas
1. Using the record in the book, guide the students to realize that on the left column there is the time indicating the starting time of each of the activities which is indicated in the right column.
2. Always ask the students to read the text telling whose activity record this belongs to.
3. Guide them to understand each row of activity and the start time.



Lesson 8 Activity records

Starting point

You must have done a lot of activities yesterday. What activities did you do? When did you do each of the activities? How long did each activity last?

Learning to know Understanding activity records

This is a record showing the activities done by Kanda on 25th May 2021 after returning home from school.

Time	Activity
4.30 p.m.	Reached home
5.00 p.m.	Played with friends
6.30 p.m.	Took a bath
7.00 p.m.	Had dinner
8.00 p.m.	Did homework
10.00 p.m.	Went to bed

Based on this record, we know that:
- Kanda did the activities in the afternoon on 25th May 2021.
- she reached home at 4.30 p.m.
- she played with her friends at 5.00 p.m. for 1 h 30 min.
- she took a bath at 6.30 p.m.
- she had dinner at 7.00 p.m.
- she started to do her homework at 8.00 p.m. and spent 2 h on it.
- she slept at 10.00 p.m.

Chapter 11 | 193

This is a record showing the activities done by Nut on 20th August 2021.

Time	Activity
7.00 a.m.	Woke up
8.00 a.m.	Had breakfast
9.00 a.m.	Went to market with Mother
11.00 a.m.	Reached home and helped with the party preparation work
12.30 p.m.	Had lunch
1.30 p.m.	Helped with the preparation work
4.00 p.m.	Friends started to arrive
4.30 p.m.	Blew candles on cake
5.00 p.m.	Had snacks and drinks with friends
6.00 p.m.	Had games with friends
7.00 p.m.	Friends left

Based on this record, we know that:

- Nut did the activities on 20th August 2021.
- he woke up at 7.00 a.m.
- after breakfast, he went to the market with his mother at 9.00 a.m.
- he helped to prepare for the party before and after lunch.
- he had lunch at 12.30 p.m.
- the party started at 4.00 p.m.
- he served food and drinks at the party.
- he played games with his friends at 6.00 p.m.
- the party ended at 7.00 p.m.

Teaching ideas

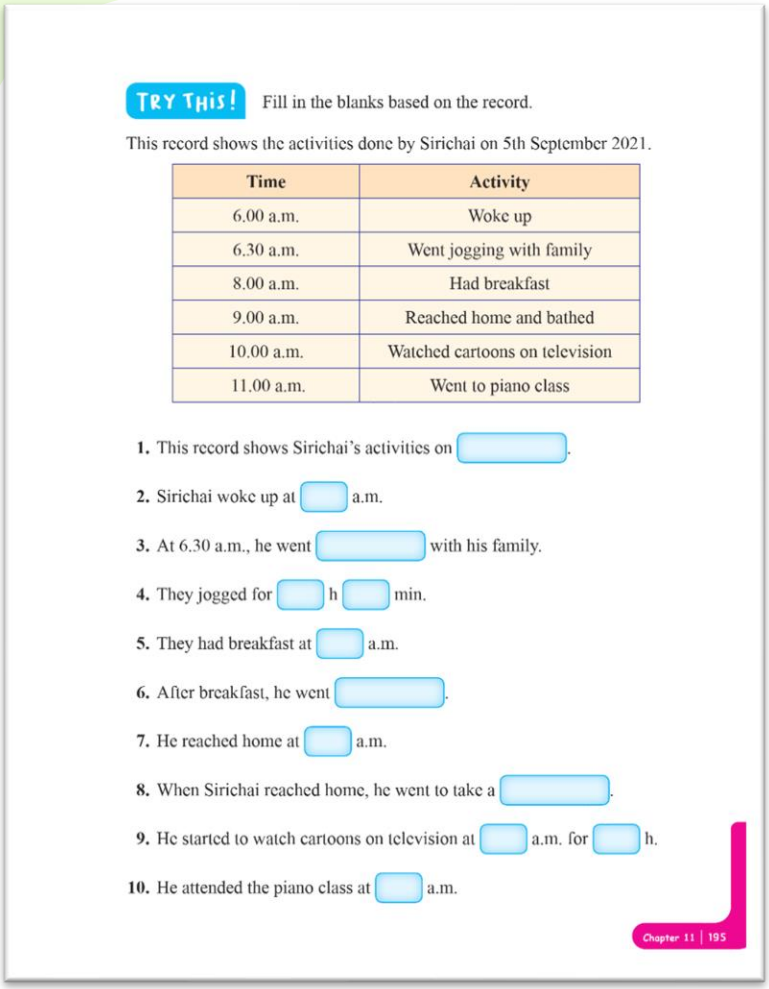
4. Repeat with this activity record.

Try This!

Get 10 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 189 and 190 in Go Get Maths Workbook P3.



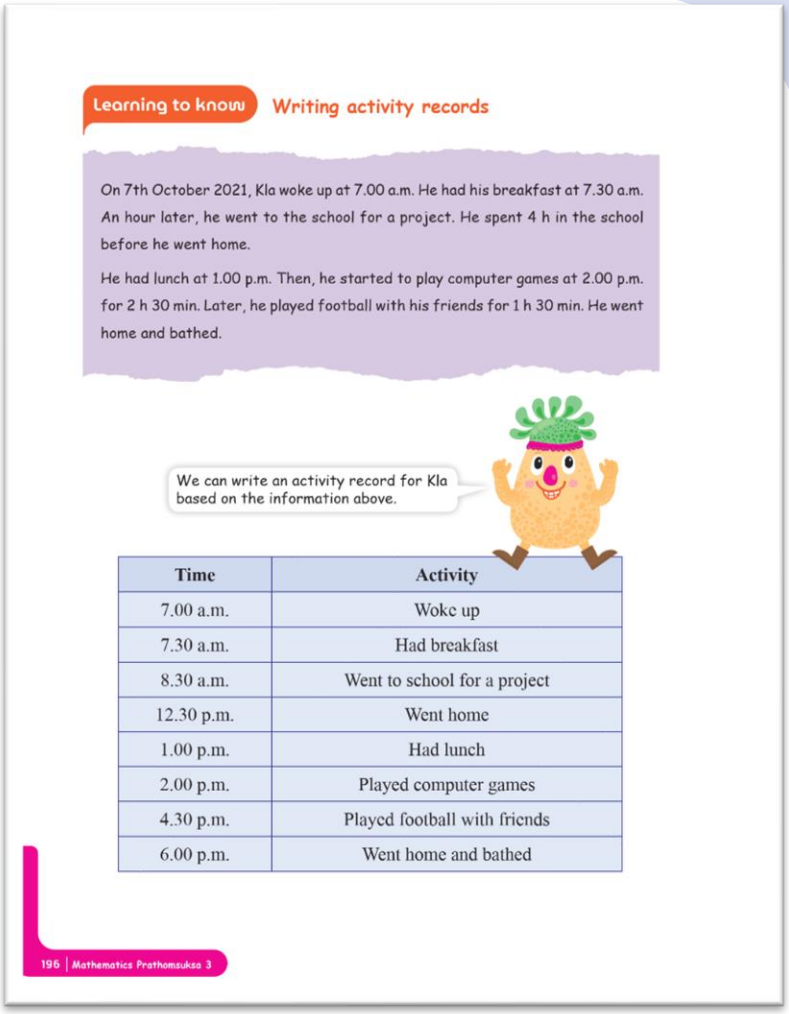
TRY THIS! Fill in the blanks based on the record.

This record shows the activities done by Sirichai on 5th September 2021.

Time	Activity
6.00 a.m.	Woke up
6.30 a.m.	Went jogging with family
8.00 a.m.	Had breakfast
9.00 a.m.	Reached home and bathed
10.00 a.m.	Watched cartoons on television
11.00 a.m.	Went to piano class

1. This record shows Sirichai's activities on _____.
2. Sirichai woke up at _____ a.m.
3. At 6.30 a.m., he went _____ with his family.
4. They jogged for _____ h _____ min.
5. They had breakfast at _____ a.m.
6. After breakfast, he went _____.
7. He reached home at _____ a.m.
8. When Sirichai reached home, he went to take a _____.
9. He started to watch cartoons on television at _____ a.m. for _____ h.
10. He attended the piano class at _____ a.m.

Chapter 11 | 195



Learning to know **Writing activity records**

On 7th October 2021, Kla woke up at 7.00 a.m. He had his breakfast at 7.30 a.m. An hour later, he went to the school for a project. He spent 4 h in the school before he went home.

He had lunch at 1.00 p.m. Then, he started to play computer games at 2.00 p.m. for 2 h 30 min. Later, he played football with his friends for 1 h 30 min. He went home and bathed.

We can write an activity record for Kla based on the information above.

Time	Activity
7.00 a.m.	Woke up
7.30 a.m.	Had breakfast
8.30 a.m.	Went to school for a project
12.30 p.m.	Went home
1.00 p.m.	Had lunch
2.00 p.m.	Played computer games
4.30 p.m.	Played football with friends
6.00 p.m.	Went home and bathed

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Teaching ideas

1. Tell the students that now they are going to learn how to prepare an activity record based on some information.
2. Ask the students to read silently the information given for a while. Then, read together with them and explain if they do not fully understand it.
3. Guide them put in the time and the activity in each row of the activity record.
4. Guide the students to refer to **Starting Point** on page 193. Ask them to answer the question. Have a discussion to conclude the lesson.

Fun with Maths!

Materials required: -

Objective of the activity: Writing an activity record

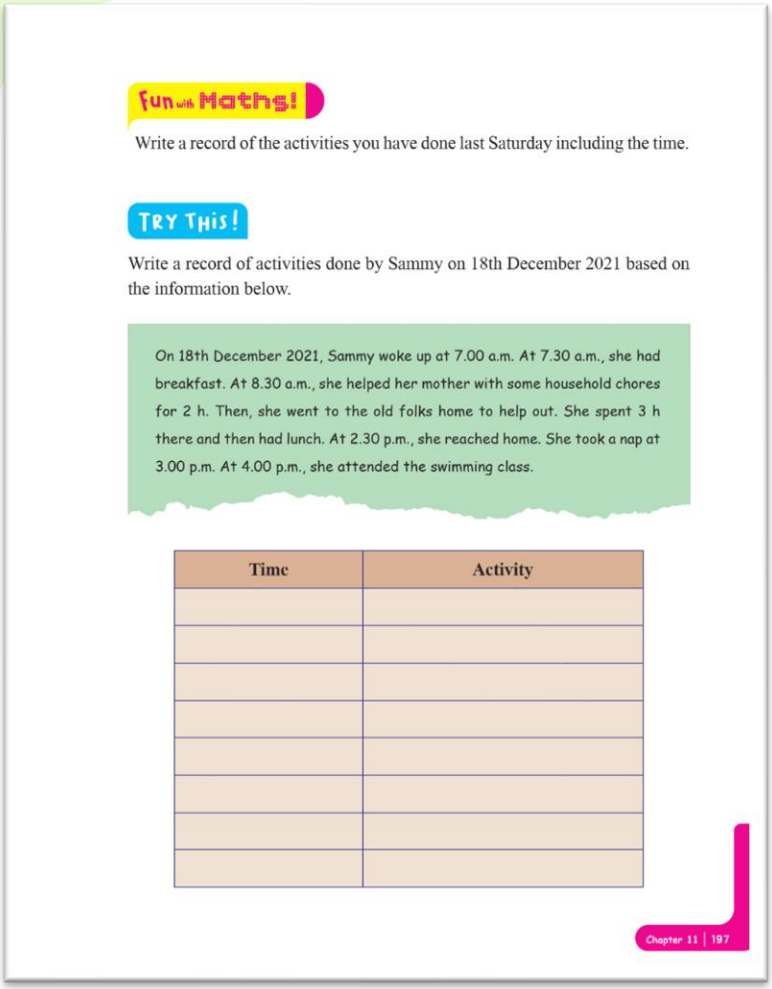
Ask the students if they spent too much or too little time on certain activities.

Try This!

Get 7 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 191 and 192 in Go Get Maths Workbook P3.



Fun with Maths!

Write a record of the activities you have done last Saturday including the time.

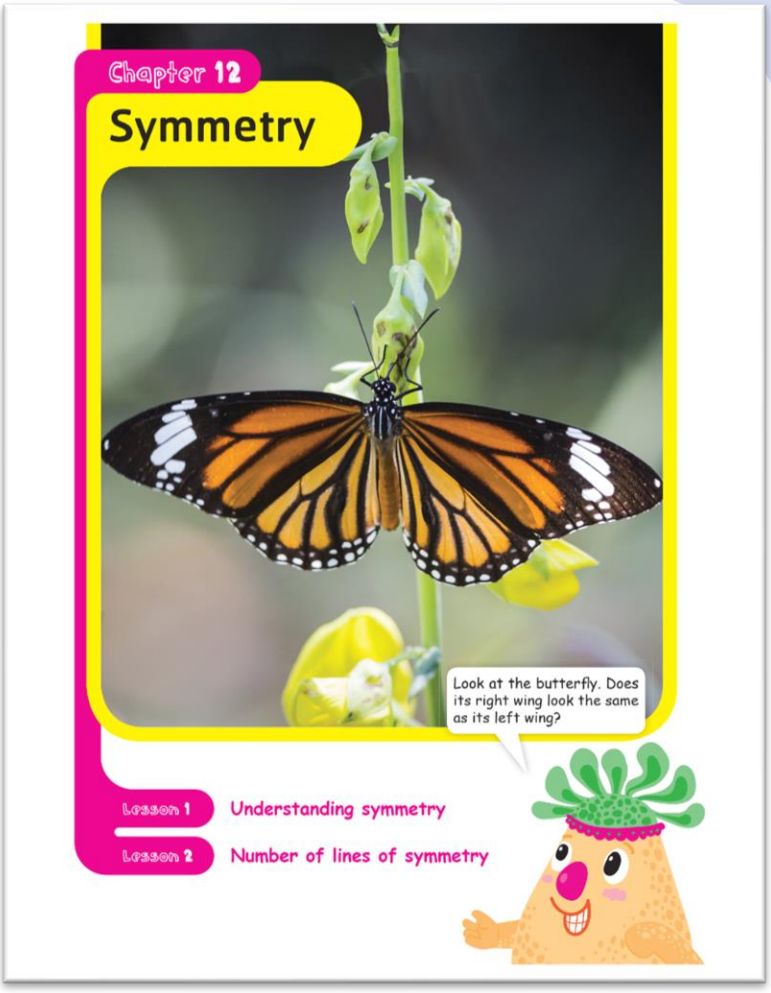
TRY THIS!

Write a record of activities done by Sammy on 18th December 2021 based on the information below.

On 18th December 2021, Sammy woke up at 7.00 a.m. At 7.30 a.m., she had breakfast. At 8.30 a.m., she helped her mother with some household chores for 2 h. Then, she went to the old folks home to help out. She spent 3 h there and then had lunch. At 2.30 p.m., she reached home. She took a nap at 3.00 p.m. At 4.00 p.m., she attended the swimming class.

Time	Activity

Chapter 11 | 197



Chapter 12
Symmetry

The big idea

1. Get a piece of blank rectangular paper. Fold it into halves. Open it and ask the students these questions to start a discussion:
   - Do these 2 halves have the same shape?
   - Do these 2 halves have the same size?
   - What happens when the 2 sides are placed onto of each other?
   - Are they identical?
   - Where is the folding line?
2. Ask the students to look at the picture carefully. Ask them these questions to start a discussion:
   - Do both wings of the butterfly have the same shape and design?
   - Do both wings of the butterfly have the same size?
   - Are they identical?
   - Can you guess where the 'folding line' is?

Strand 2: Measurement and geometry

Standard M.2.2

Indicators:

M 2.2 Gr3/1 Identify two-dimensional geometric figures with axis of symmetry and numbers of axis of symmetry.

Lesson 1
Understanding symmetry

Lesson objectives
By the end of the lesson, the students should be able to:

1. Know and understand what symmetrical shapes and lines of symmetry are.

Suggested teaching time
2 periods (2 x 50 minutes)

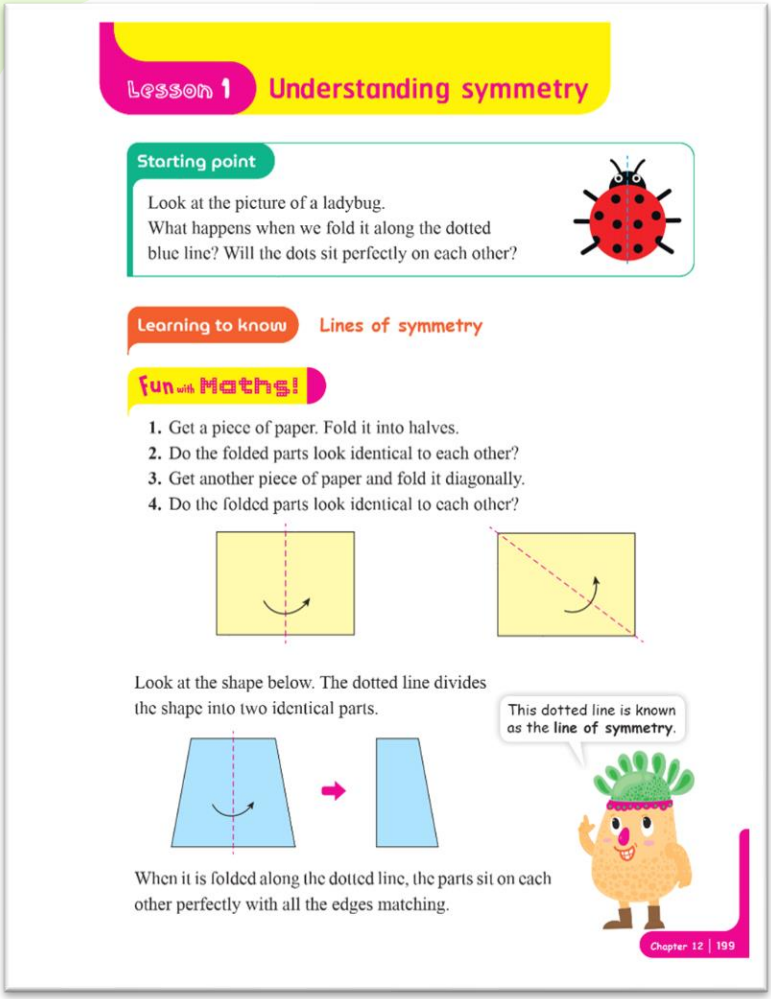
Vocabulary
Symmetry, line of symmetry

Materials needed
Paper

Starting point
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Fun with Maths!
Materials required: Rectangular paper
Objective of the activity: Making lines of symmetry
The students should realize that only with certain folds they can make 2 identical parts with the paper.

Teaching ideas
1. Guide the students to understand that certain shapes can be turned into 2 identical parts by folding. The parts can be placed on top of each other perfectly.
2. Introduce the term line of symmetry. Guide them to understand where the lines of symmetry are.


Lesson 1 Understanding symmetry

Starting point

Look at the picture of a ladybug.
What happens when we fold it along the dotted blue line? Will the dots sit perfectly on each other?

Learning to know Lines of symmetry

Fun with Maths!

1. Get a piece of paper. Fold it into halves.
2. Do the folded parts look identical to each other?
3. Get another piece of paper and fold it diagonally.
4. Do the folded parts look identical to each other?

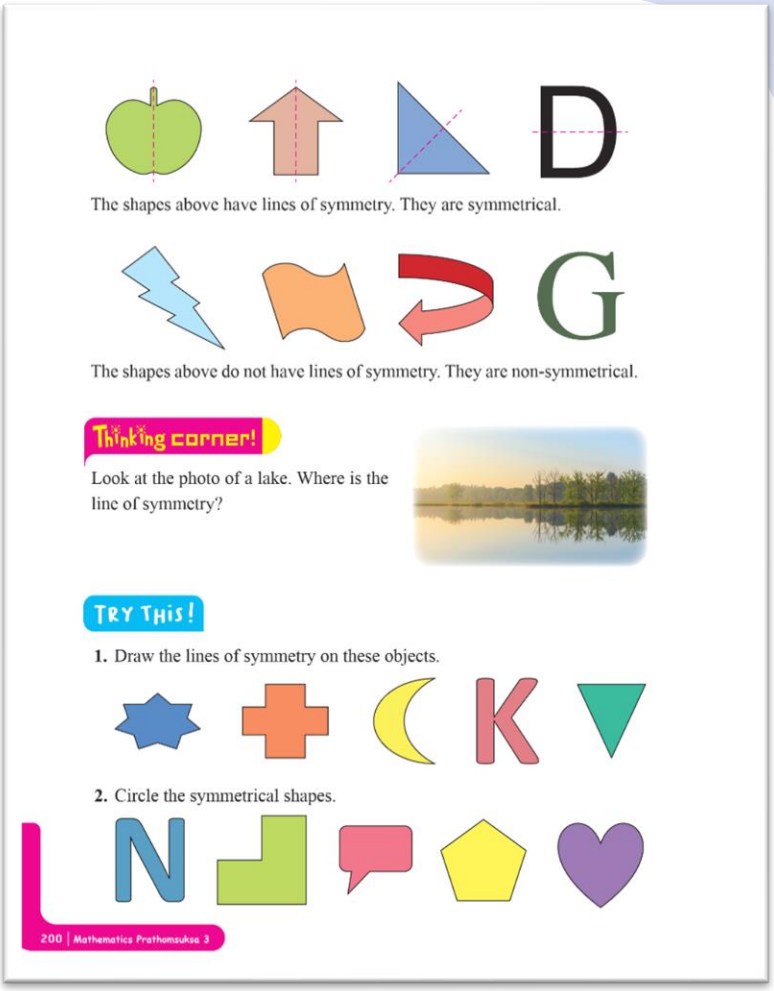
Look at the shape below. The dotted line divides the shape into two identical parts.

This dotted line is known as the line of symmetry.

When it is folded along the dotted line, the parts sit on each other perfectly with all the edges matching.

Chapter 12 | 199

Extra notes
Any line splitting a shape into 2 identical parts is called the line of symmetry. This line is also known as the '**mirror line**' because if we put a mirror on the line, the reflection will show the whole shape.



More Info

or visit
http://tiny.cc/tyjquz

Teaching ideas

3. Tell them that some shapes can be folded to make 2 identical parts. They are known as symmetrical shapes.
4. Some cannot be folded to make 2 identical parts. They are known as non-symmetrical shapes.
5. Since the students cannot fold some of the shapes physically, they will need to use their imagination.
6. Guide the students to refer to **Starting Point** on page 198. Ask them to answer the questions. Have a discussion to conclude the lesson.

Thinking Corner!

Use this as a discussion for the students' better understanding:

- Where are the similar parts?
- Where do the trees in the 2 parts 'meet'?
- Where is the line of symmetry?

Try This!

Get 2 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 193 to 195 in Go Get Maths Workbook P3.

Lesson 2
Number of lines of symmetry

Lesson objectives
By the end of the lesson, the students should be able to:

1. Identify the number of lines of symmetry of a shape.

Suggested teaching time
1 period (1 x 50 minutes)

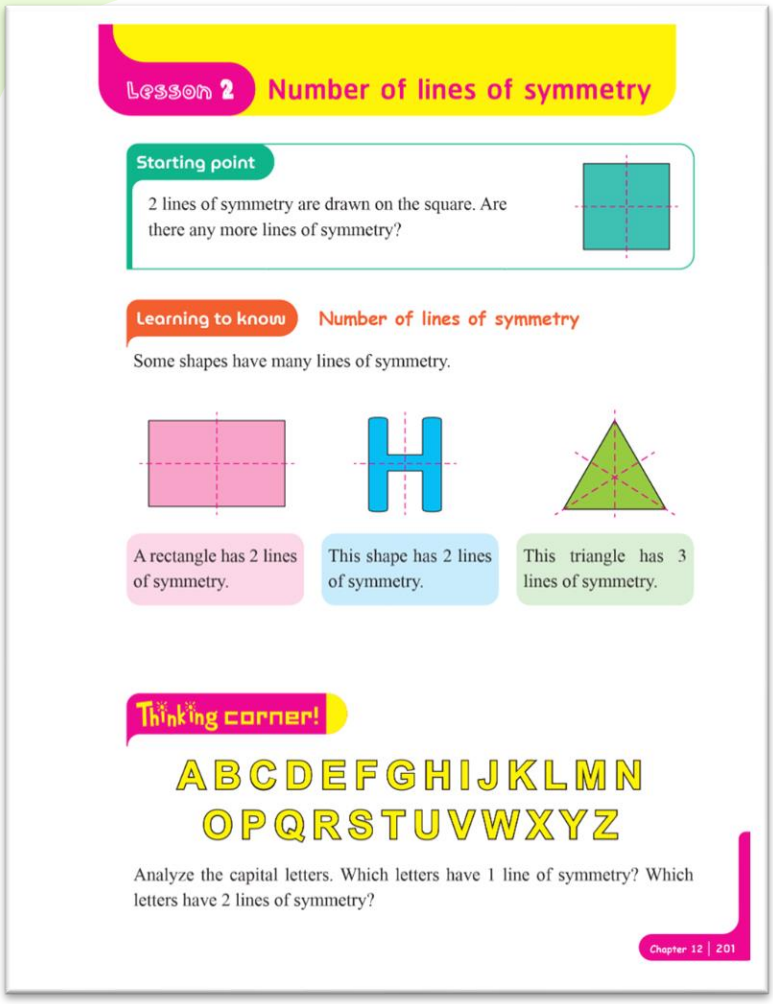
Vocabulary
-

Materials needed
Paper

Starting point
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas
1. Ask the students to look at the 3 shapes. Guide them to understand that some shapes have more than 1 line of symmetry.

Thinking Corner!
If the students cannot imagine how the letters are folded and how the parts will look like after folded, ask them to draw the letters on a paper and fold the paper.



Lesson 2 Number of lines of symmetry

Starting point

2 lines of symmetry are drawn on the square. Are there any more lines of symmetry?

Learning to know Number of lines of symmetry

Some shapes have many lines of symmetry.

A rectangle has 2 lines of symmetry.

This shape has 2 lines of symmetry.

This triangle has 3 lines of symmetry.

Thinking corner!

A B C D E F G H I J K L M N
O P Q R S T U V W X Y Z

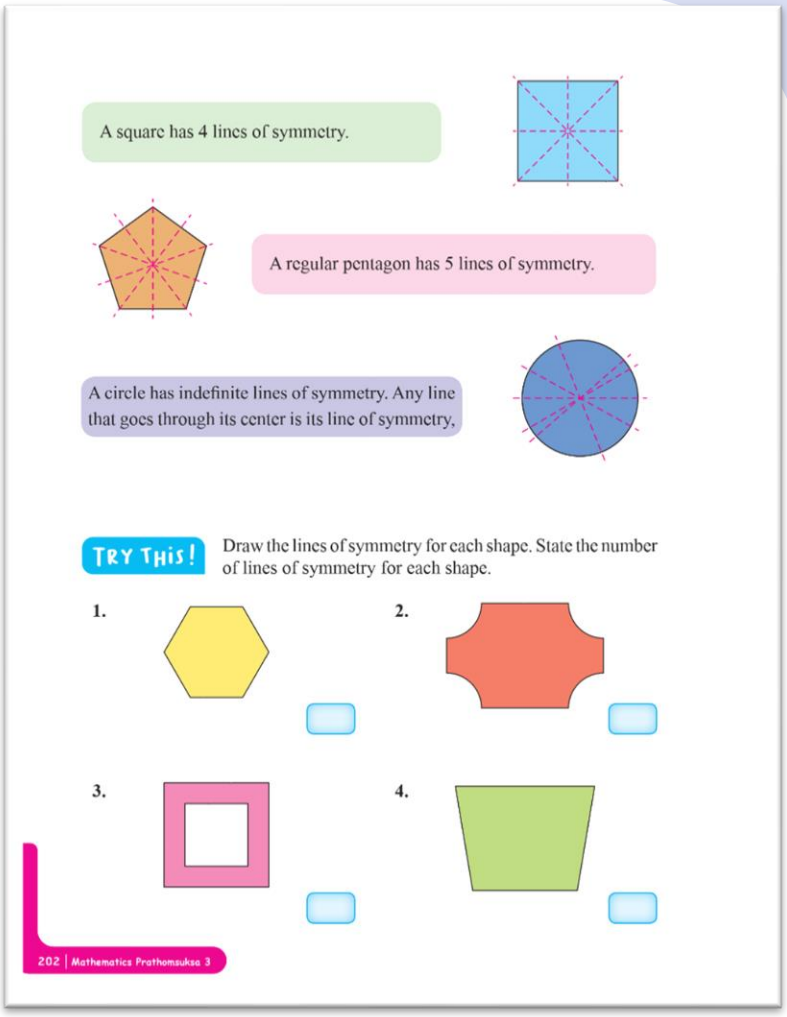
Analyze the capital letters. Which letters have 1 line of symmetry? Which letters have 2 lines of symmetry?

Chapter 12 | 201

Activity for Reinforcement
Materials required: Paper of different shapes

Objective of the activity: Identifying number of lines of symmetry

1. Get the students into groups of five.
2. Give each group 5 pieces of paper with different shapes.
3. Ask each group to fold and find the number of lines of symmetry of each piece of paper.
4. Ask each of the group to show in the class the lines and the identical parts.
5. Ask other groups to verify their answers.



More Tasks

or visit
http://tiny.cc/2zjquz

Teaching ideas

2. Use the examples to show students that some shapes have many lines of symmetry.
3. Guide the students to refer to **Starting Point** on page 201. Ask them to answer the question. Have a discussion to conclude the lesson.

Thinking Corner!

If the students cannot imagine how the letters are folded and how the parts will look like after folded, ask them to draw the letters on a paper and fold the paper.

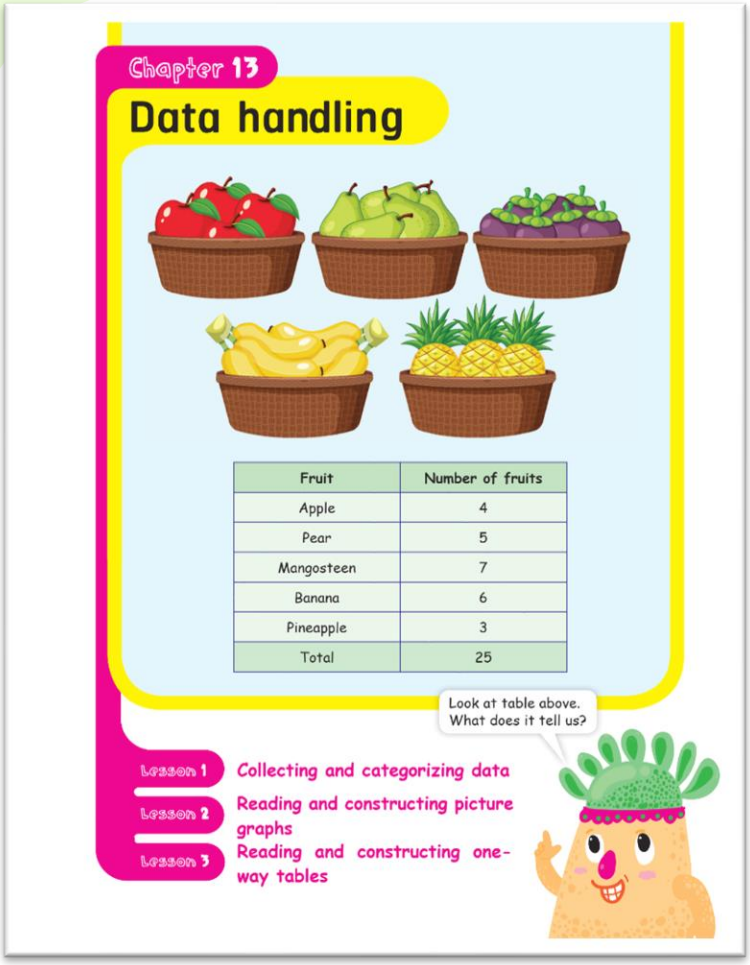
Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 196 and 197 in Go Get Maths Workbook P3.

Chapter 13
Data handling



The big idea

Ask the students to look at the picture carefully. Ask them these questions to start a discussion:

a. How many apples are there in the basket?

b. How many pears are there in the basket?

c. How many mangosteens are there in the basket?

d. How many bananas are there in the basket?

e. How many pineapples are there in the basket?

f. How many fruits are there altogether?

g. Did you count the fruits or do you refer to the table?

h. What are the differences between a picture graph and a table?

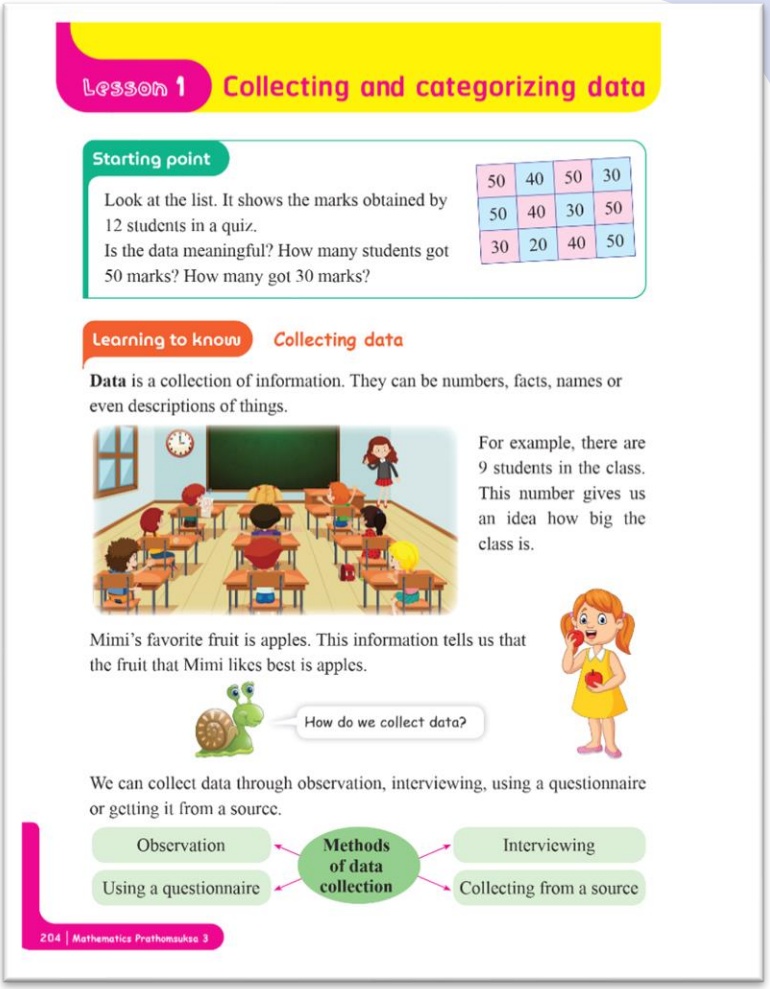
Strand 3: Statistics and probability

Standard M.3.1

Indicators:

M 3.1 Gr3/1 Draw pictograms and use data from pictograms to solve word problems.

M 3.1 Gr3/2 Write one-way table from data which are cardinal numbers and using the data from one-way table to find the answers to word problems.



Lesson 1 Collecting and categorizing data

Starting point

Look at the list. It shows the marks obtained by 12 students in a quiz.
Is the data meaningful? How many students got 50 marks? How many got 30 marks?

50	40	50	30
50	40	30	50
30	20	40	50

Learning to know Collecting data

Data is a collection of information. They can be numbers, facts, names or even descriptions of things.

For example, there are 9 students in the class. This number gives us an idea how big the class is.

Mimi's favorite fruit is apples. This information tells us that the fruit that Mimi likes best is apples.

How do we collect data?

We can collect data through observation, interviewing, using a questionnaire or getting it from a source.

Methods of data collection: Observation, Using a questionnaire, Interviewing, Collecting from a source

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Extra notes

Data is a collection of facts, such as numbers, words, measurements, observations or just descriptions of things.

Data can be qualitative or quantitative. Qualitative data is descriptive information as it describes something such colors and feelings. Quantitative data is numerical information such numbers and heights of students.

Lesson 1 Collecting and categorizing data

Lesson objectives

By the end of the lesson, the students should be able to:

1. Collect data.
2. Organize data.

Suggested teaching time

2 periods (2 x 50 minutes)

Vocabulary

Data, observation, questionnaire, interview, organize, tally mark

Materials needed

-

Starting point

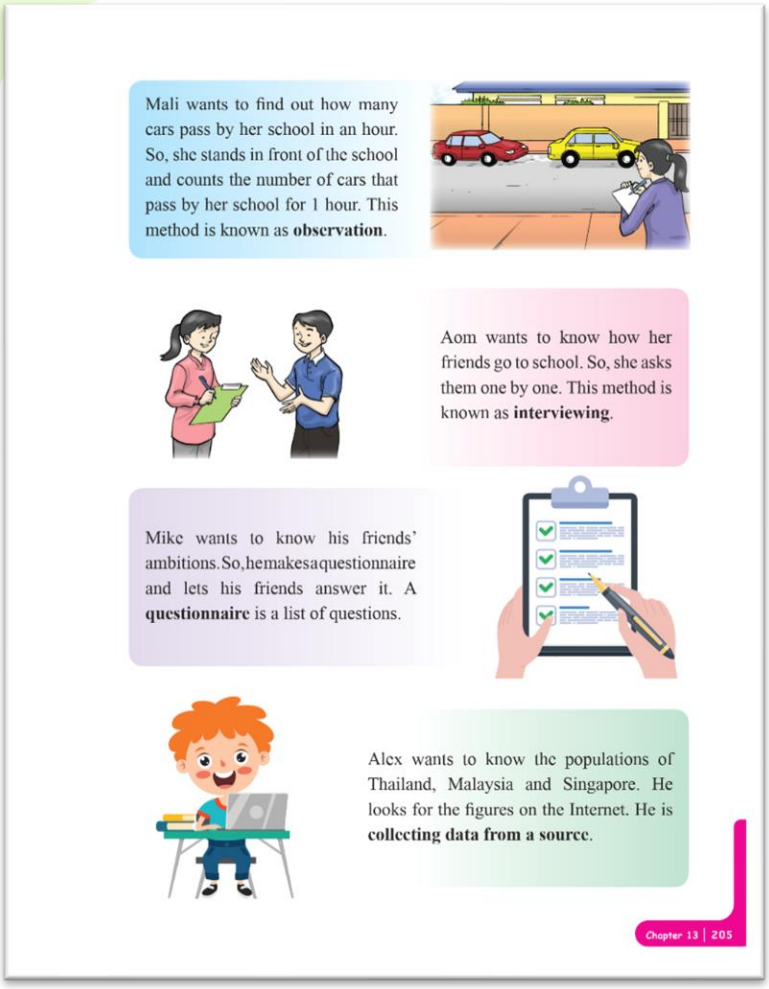
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas

1. Introduce the term data to the students. Tell them data are not necessary just numbers, but they can be measurements and facts.
2. Give examples of sets of data to the students such as:
   - the number of students in each class in the school,
   - the favorite fruits among the students,
   - how the students go to school.
3. Tell the students that we can collect the data using 4 methods.

Teaching ideas

4. Ask the students to read the text silently to understand it. Then, read together with them and explain if they do not understand.
5. Tell them that these 4 methods can be used to collect data.
6. Ask them these questions to start a discussion about each method:
    - Give examples of sets of data that you will collect using this method.
    - How do you use this method to collect the data? What will you do?
    - Is this a suitable method? If no, suggest others.



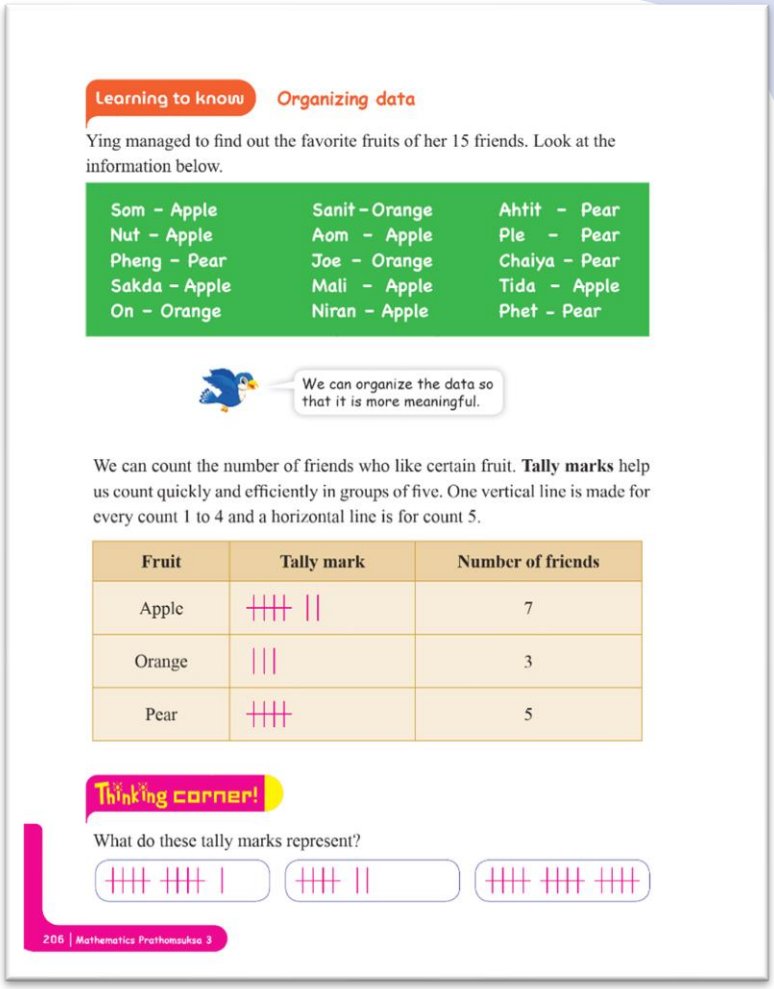
Mali wants to find out how many cars pass by her school in an hour. So, she stands in front of the school and counts the number of cars that pass by her school for 1 hour. This method is known as **observation**.

Aom wants to know how her friends go to school. So, she asks them one by one. This method is known as **interviewing**.

Mike wants to know his friends' ambitions. So, he makes a questionnaire and lets his friends answer it. A **questionnaire** is a list of questions.

Alex wants to know the populations of Thailand, Malaysia and Singapore. He looks for the figures on the Internet. He is **collecting data from a source**.

Chapter 13 | 205



Learning to know Organizing data

Ying managed to find out the favorite fruits of her 15 friends. Look at the information below.

Som – Apple	Sanit – Orange	Ahtit – Pear
Nut – Apple	Aom – Apple	Ple – Pear
Pheng – Pear	Joe – Orange	Chaiya – Pear
Sakda – Apple	Mali – Apple	Tida – Apple
On – Orange	Niran – Apple	Phet – Pear

We can organize the data so that it is more meaningful.

We can count the number of friends who like certain fruit. **Tally marks** help us count quickly and efficiently in groups of five. One vertical line is made for every count 1 to 4 and a horizontal line is for count 5.

Fruit	Tally mark	Number of friends
Apple	𝍸 ||	7
Orange	|||	3
Pear	𝍸	5

Thinking corner!

What do these tally marks represent?

𝍸 𝍸 \| 𝍸 \|\| 𝍸 𝍸 𝍸

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Extra notes

When the data is large, it may not be easy to count. So, we make use of tally marks.

Tally mark is the quick way of keeping track of numbers in groups of five. The first four tallies are marked vertically and the 5th tally in a bunch is marked diagonally across the four tallies. It makes it easy to see the total later on.

Teaching ideas

1. Ask these questions based on the data collected by Ying for discussion:
   - Do you know the favorite fruits among her friends?
   - Do you know how many friends like pears?
   - Do you know how many fruits are in the list at a glance?
   - Is the data useful?
   - How can you make the data more meaningful and useful?
2. Tell the students that they should organize the data.
3. Guide them to count the number of friends that like apples from the data. Guide them to use tally marks. Ask them to repeat with the rest of the fruits.
4. Guide them to count the total number of each fruit. Ask them if this method is useful to prevent mistake in counting.
5. Guide the students to refer to **Starting Point** on page 204. Ask them to answer the question. Have a discussion to conclude the lesson.

Thinking Corner!

Guide them to count the tally marks.

Fun with Maths!

Materials required: -

Objective of the activity: Collecting and organizing data

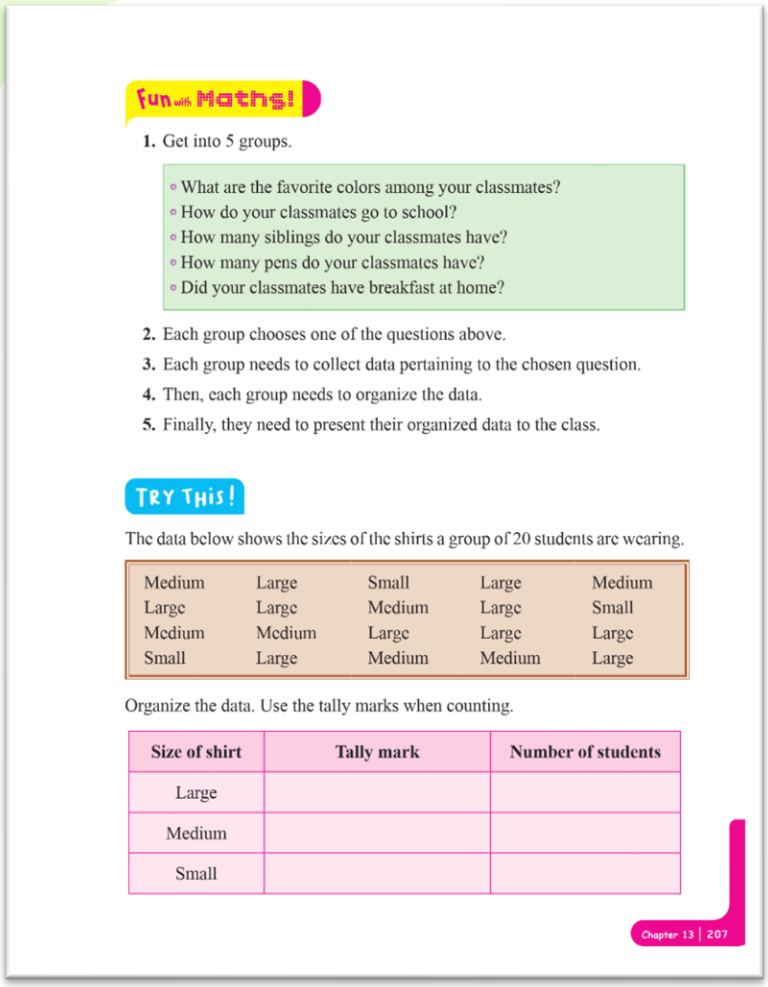
Ask the students to think which method is the best to collect the data. They will have the chance to communicate with each other and work towards a common goal.

Try This!

Get 3 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 198 and 199 in Go Get Maths Workbook P3.



Fun with Maths!

1. Get into 5 groups.

- What are the favorite colors among your classmates?
- How do your classmates go to school?
- How many siblings do your classmates have?
- How many pens do your classmates have?
- Did your classmates have breakfast at home?

2. Each group chooses one of the questions above.
3. Each group needs to collect data pertaining to the chosen question.
4. Then, each group needs to organize the data.
5. Finally, they need to present their organized data to the class.

TRY THIS!

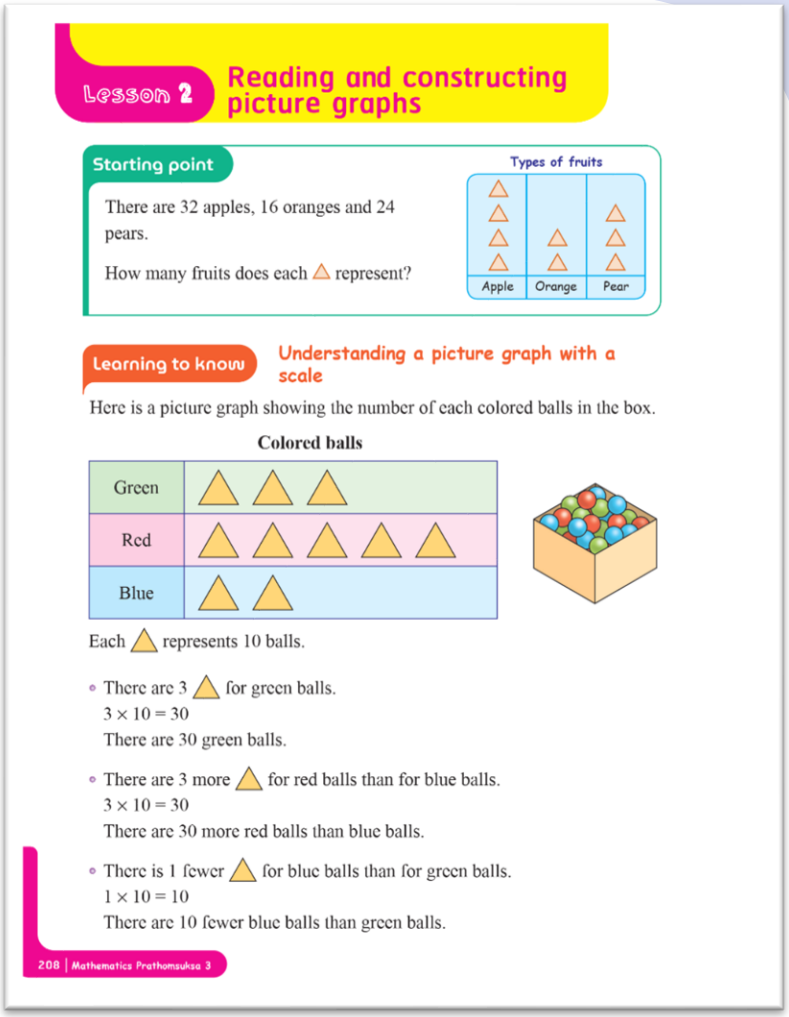
The data below shows the sizes of the shirts a group of 20 students are wearing.

Medium	Large	Small	Large	Medium
Large	Large	Medium	Large	Small
Medium	Medium	Large	Large	Large
Small	Large	Medium	Medium	Large

Organize the data. Use the tally marks when counting.

Size of shirt	Tally mark	Number of students
Large		
Medium		
Small		

Chapter 13 | 207



Lesson 2 Reading and constructing picture graphs

Starting point

There are 32 apples, 16 oranges and 24 pears.

How many fruits does each △ represent?

Types of fruits

Apple | Orange | Pear

Learning to know

Understanding a picture graph with a scale

Here is a picture graph showing the number of each colored balls in the box.

Colored balls

Green △△△

Red △△△△△

Blue △△

Each △ represents 10 balls.

- There are 3 △ for green balls.
  $3 \times 10 = 30$
  There are 30 green balls.
- There are 3 more △ for red balls than for blue balls.
  $3 \times 10 = 30$
  There are 30 more red balls than blue balls.
- There is 1 fewer △ for blue balls than for green balls.
  $1 \times 10 = 10$
  There are 10 fewer blue balls than green balls.

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Lesson 2
Reading and constructing picture graphs

Lesson objectives

By the end of the lesson, the students should be able to:

1. Read a picture graph with a scale.
2. Construct a picture graph.

Suggested teaching time

3 periods (3 x 50 minutes)

Vocabulary

-

Materials needed

Counters

Starting point

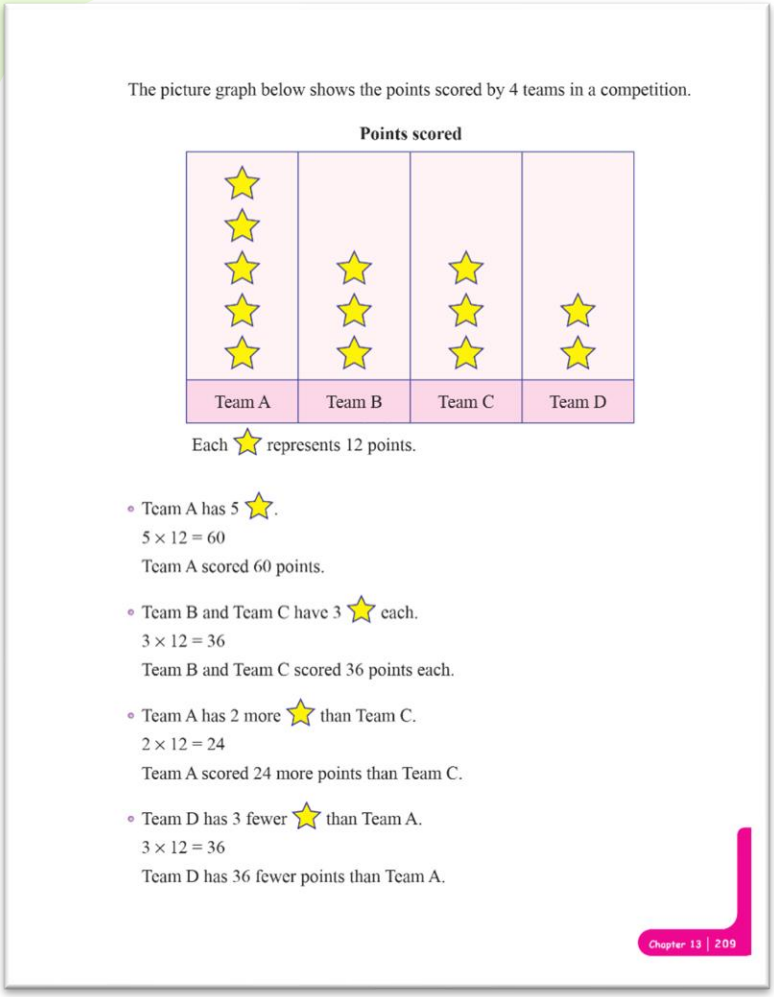
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

Teaching ideas

1. Ask the student to analyze the picture graph. Ask them these questions:
   - What does this picture graph tell us?
   - How many balls does a symbol represent?
   - How many types of colored balls are there?
2. Guide them to calculate the number of each type of colored balls and also the difference in the number of different colored balls.
3. Remind the students to always find out the number a symbol represents when analyzing a picture graph.

Teaching ideas

4. Use the example to explain further. Ask them these questions:
   - What does this picture graph tell us?
   - How many points does a symbol represent?
   - How many teams are there?
5. Guide them to calculate the number of points for each team and also the difference in the number of points of different teams.



The picture graph below shows the points scored by 4 teams in a competition.

Points scored

Team A	Team B	Team C	Team D
★★★★★	★★★	★★★	★★

Each ★ represents 12 points.

- Team A has 5 ★.
  $5 \times 12 = 60$
  Team A scored 60 points.
- Team B and Team C have 3 ★ each.
  $3 \times 12 = 36$
  Team B and Team C scored 36 points each.
- Team A has 2 more ★ than Team C.
  $2 \times 12 = 24$
  Team A scored 24 more points than Team C.
- Team D has 3 fewer ★ than Team A.
  $3 \times 12 = 36$
  Team D has 36 fewer points than Team A.

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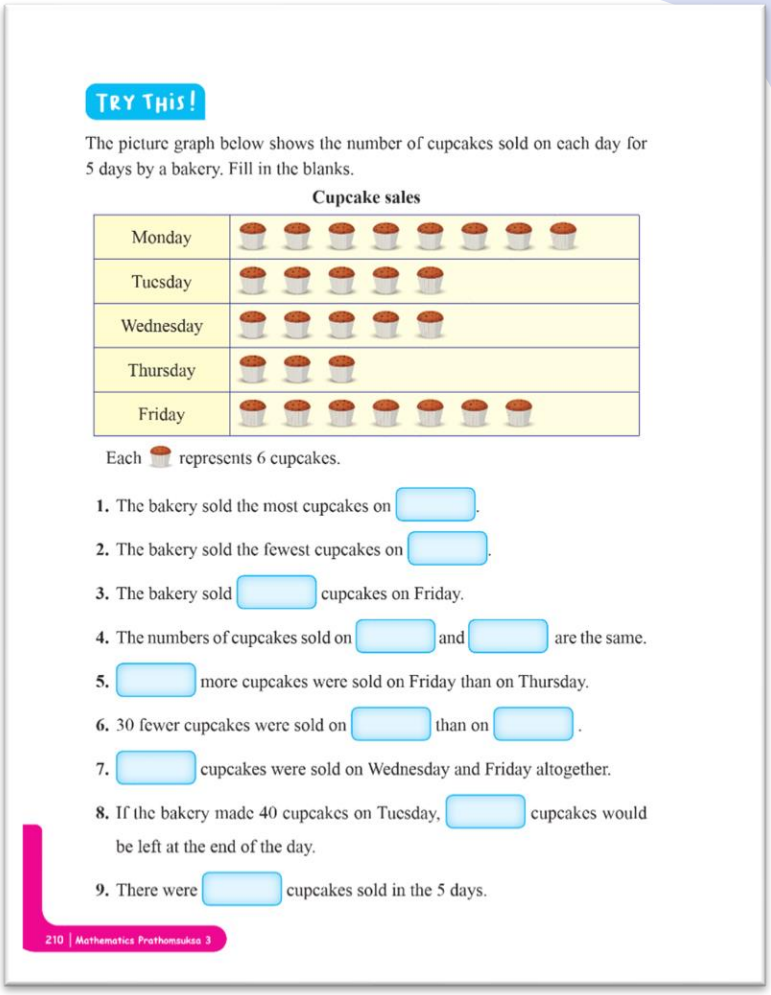

TRY THIS!

The picture graph below shows the number of cupcakes sold on each day for 5 days by a bakery. Fill in the blanks.

Cupcake sales

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Each represents 6 cupcakes.

1. The bakery sold the most cupcakes on ____.
2. The bakery sold the fewest cupcakes on ____.
3. The bakery sold ____ cupcakes on Friday.
4. The numbers of cupcakes sold on ____ and ____ are the same.
5. ____ more cupcakes were sold on Friday than on Thursday.
6. 30 fewer cupcakes were sold on ____ than on ____.
7. ____ cupcakes were sold on Wednesday and Friday altogether.
8. If the bakery made 40 cupcakes on Tuesday, ____ cupcakes would be left at the end of the day.
9. There were ____ cupcakes sold in the 5 days.

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Try This!

Get 9 students to answer it. Ask the rest to verify the answers.

Further practices

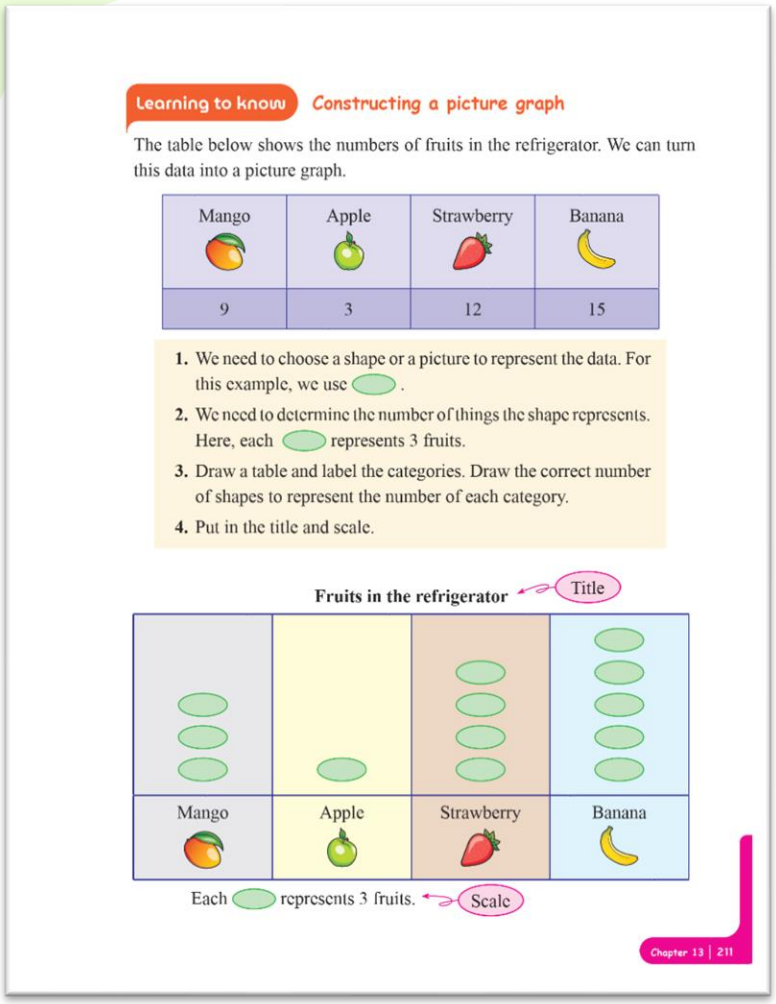
Get the students to complete the practices on pages 200 to 201 in Go Get Maths Workbook P3.

Teaching ideas

1. Tell the students that now the are going to learn how to construct a picture graph.
2. Ask them to analyze the data provided in the table. Ask them these questions:
   - What is the data showing?
   - How many types of fruits are there?
   - What is the number of each type of fruits?
3. Guide them the steps to construct a picture graph.

More Info

or visit
http://tiny.cc/szjquz



Learning to know Constructing a picture graph

The table below shows the numbers of fruits in the refrigerator. We can turn this data into a picture graph.

Mango	Apple	Strawberry	Banana
9	3	12	15

1. We need to choose a shape or a picture to represent the data. For this example, we use .
2. We need to determine the number of things the shape represents. Here, each represents 3 fruits.
3. Draw a table and label the categories. Draw the correct number of shapes to represent the number of each category.
4. Put in the title and scale.

Fruits in the refrigerator ← Title

Mango Apple Strawberry Banana

Each represents 3 fruits. ← Scale

Chapter 13 | 211

The table below shows the number of ice cream cones sold on each day for 5 days.

Sunday	Monday	Tuesday	Wednesday	Thursday
30	10	10	40	20

Here, we use a ▲. Each ▲ represents 5 ice cream cones.

Sales of ice cream cones

Sunday	▲ ▲ ▲ ▲ ▲ ▲
Monday	▲ ▲
Tuesday	▲ ▲
Wednesday	▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲
Thursday	▲ ▲ ▲ ▲

Each ▲ represents 5 ice cream cones.

Thinking corner!

Can we use a ▲ to represent 10 ice cream cones? What will happen to the picture graph?

Can we use a ▲ to represent 2 ice cream cones? What will happen to the picture graph?

Teaching ideas

4. Tell the students that the picture graphs can be vertical or horizontal.
5. Repeat with the example.
6. Guide the students to refer to **Starting Point** on page 208. Ask them to answer the question. Have a discussion to conclude the lesson.

Thinking Corner!

1. Ask the students to construct the picture graphs using a ▲ to represent 10 ice creams and 2 ice creams each.
2. Ask them to compare the picture graphs. Use these questions to start the discussion:
   - Do the 3 picture graphs look the same?
   - What are the differences?
   - Which picture graph is better and eases analyzing of data?

Fun with Maths!

Materials required: -

Objective of the activity: Constructing a picture graph

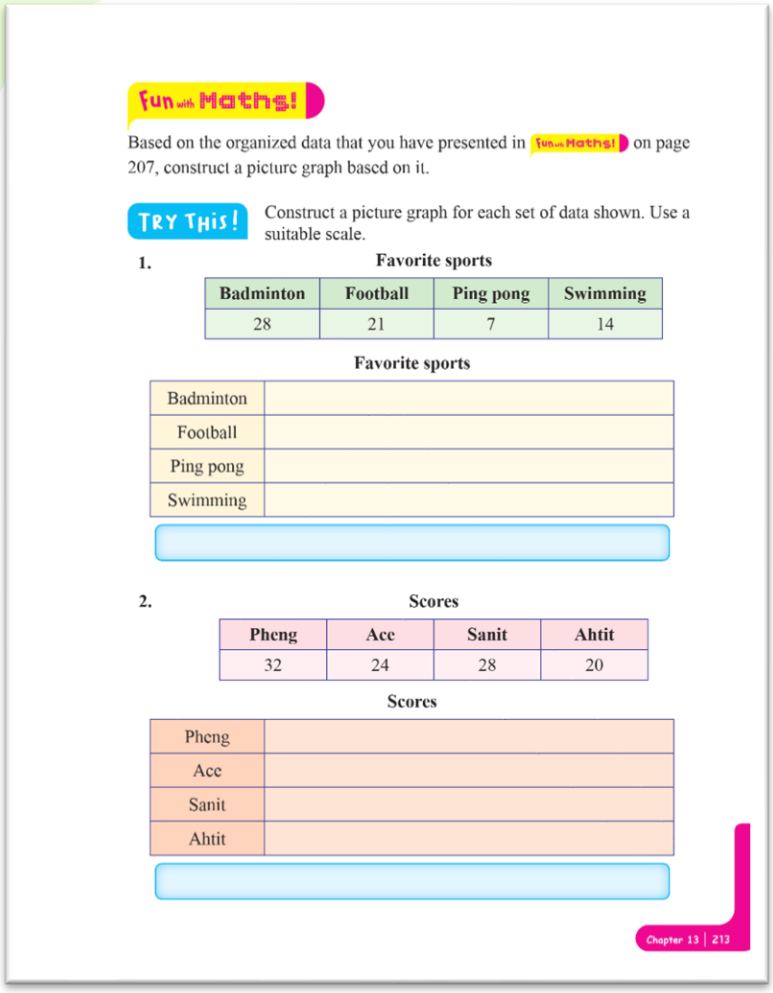
Ask the students if that the number of items presented by the symbol is the greatest.

Try This!

Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on page 202 in Go Get Maths Workbook P3.



Fun with Maths!

Based on the organized data that you have presented in Fun with Maths! on page 207, construct a picture graph based on it.

TRY THIS! Construct a picture graph for each set of data shown. Use a suitable scale.

1. Favorite sports

Badminton	Football	Ping pong	Swimming
28	21	7	14

Favorite sports

Badminton	
Football	
Ping pong	
Swimming	

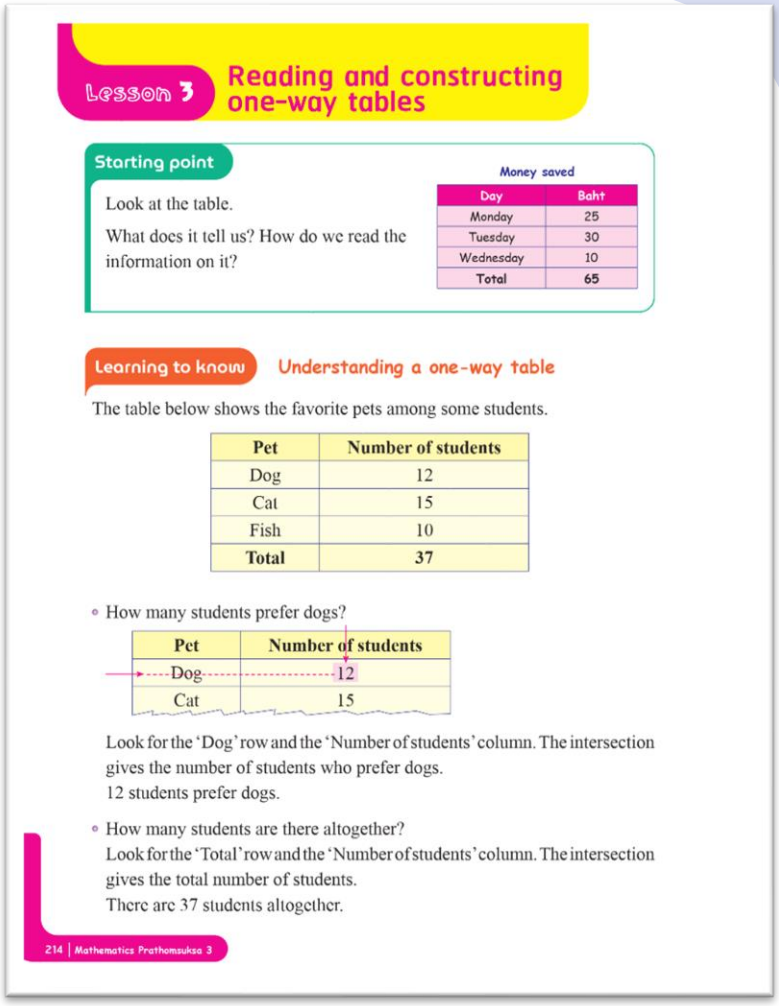
2. Scores

Pheng	Ace	Sanit	Ahtit
32	24	28	20

Scores

Pheng	
Ace	
Sanit	
Ahtit	

Chapter 13 | 213



Lesson 3 Reading and constructing one-way tables

Starting point

Look at the table.

What does it tell us? How do we read the information on it?

Money saved

Day	Baht
Monday	25
Tuesday	30
Wednesday	10
Total	65

Learning to know Understanding a one-way table

The table below shows the favorite pets among some students.

Pet	Number of students
Dog	12
Cat	15
Fish	10
Total	**37**

- How many students prefer dogs?

Pet	Number of students
Dog	12
Cat	15

Look for the 'Dog' row and the 'Number of students' column. The intersection gives the number of students who prefer dogs.
12 students prefer dogs.

- How many students are there altogether?
Look for the 'Total' row and the 'Number of students' column. The intersection gives the total number of students.
There are 37 students altogether.

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Lesson 3
Reading and constructing one-way tables

Lesson objectives

By the end of the lesson, the students should be able to:

1. Understand one-way tables.
2. Construct one-way tables.

Suggested teaching time

3 periods (3 x 50 minutes)

Vocabulary

One-way table

Materials needed

-

Starting point

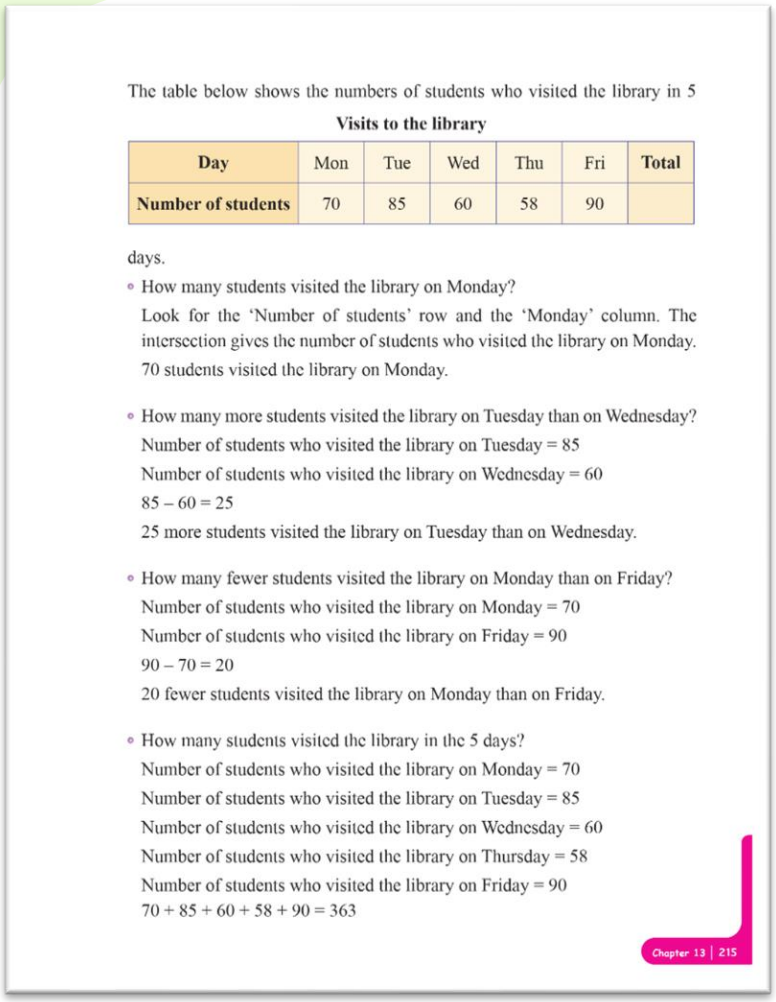
Help the students to understand the questions. Ask them if they know the answers and what they will learn today.

Teaching ideas

1. Ask the students to analyze the one-way table shown in the book. Ask them these questions to start a discussion:
   - What is this table about?
   - What is in the first row?
   - What data is listed in the first column?
   - What data is listed in the second column?
   - What is in the last row?
2. Guide them to read the data in each row.

Teaching ideas

3. Similar to a picture graph, a one-way table can be arranged vertically or horizontally.
4. Use the example to further guide the students to get the information from the one-way table.



The table below shows the numbers of students who visited the library in 5 days.

Visits to the library

Day	Mon	Tue	Wed	Thu	Fri	Total
Number of students	70	85	60	58	90	

- How many students visited the library on Monday?

  Look for the 'Number of students' row and the 'Monday' column. The intersection gives the number of students who visited the library on Monday.

  70 students visited the library on Monday.

- How many more students visited the library on Tuesday than on Wednesday?

  Number of students who visited the library on Tuesday = 85

  Number of students who visited the library on Wednesday = 60

  85 – 60 = 25

  25 more students visited the library on Tuesday than on Wednesday.

- How many fewer students visited the library on Monday than on Friday?

  Number of students who visited the library on Monday = 70

  Number of students who visited the library on Friday = 90

  90 – 70 = 20

  20 fewer students visited the library on Monday than on Friday.

- How many students visited the library in the 5 days?

  Number of students who visited the library on Monday = 70

  Number of students who visited the library on Tuesday = 85

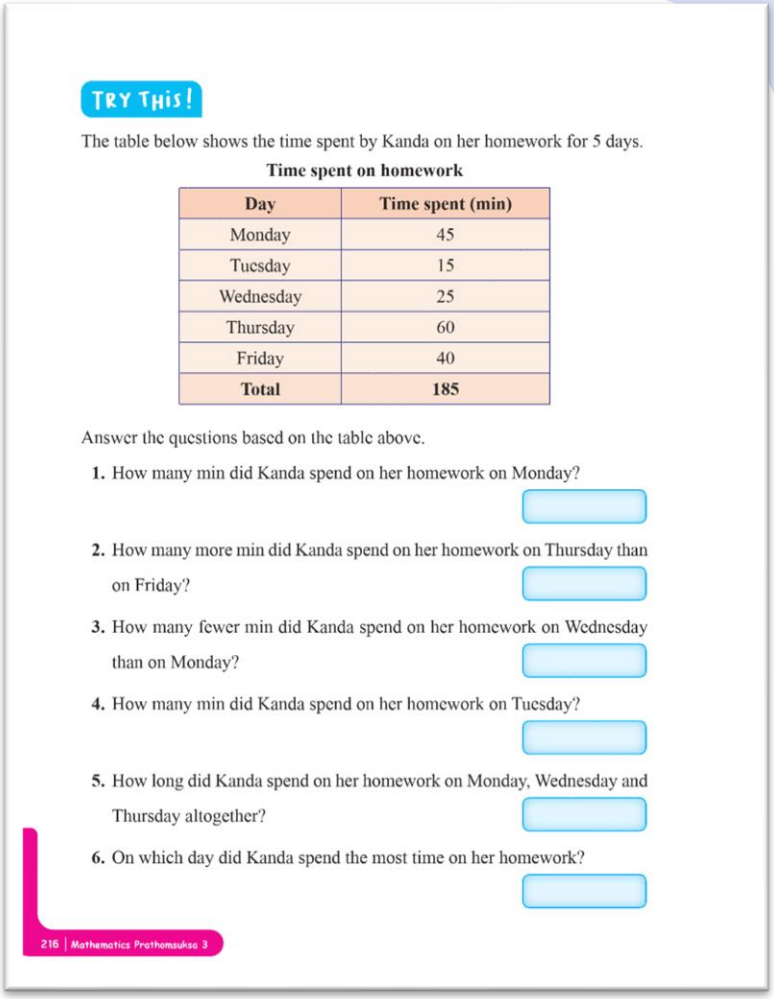
  Number of students who visited the library on Wednesday = 60

  Number of students who visited the library on Thursday = 58

  Number of students who visited the library on Friday = 90

  70 + 85 + 60 + 58 + 90 = 363

Chapter 13 | 215



TRY THIS!

The table below shows the time spent by Kanda on her homework for 5 days.

Time spent on homework

Day	Time spent (min)
Monday	45
Tuesday	15
Wednesday	25
Thursday	60
Friday	40
Total	**185**

Answer the questions based on the table above.

1. How many min did Kanda spend on her homework on Monday?
2. How many more min did Kanda spend on her homework on Thursday than on Friday?
3. How many fewer min did Kanda spend on her homework on Wednesday than on Monday?
4. How many min did Kanda spend on her homework on Tuesday?
5. How long did Kanda spend on her homework on Monday, Wednesday and Thursday altogether?
6. On which day did Kanda spend the most time on her homework?

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Try This!

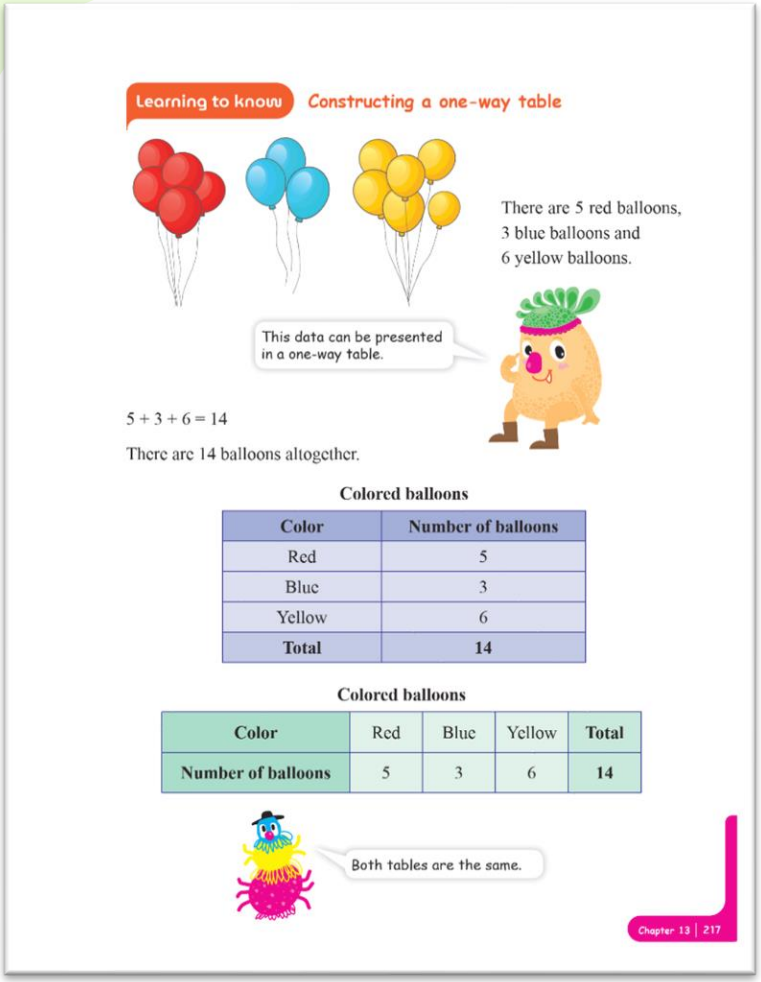
Get 6 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 203 and 204 in Go Get Maths Workbook P3.

Teaching ideas

1. Tell the students that they are going to construct one-way tables.
2. Some data can be presented in pictorial form or using tally marks.
3. Ask the students to analyze the pictures of balloons. Ask them these questions:
   - How many red balloons are there?
   - How many blue balloons are there?
   - How many yellow balloons are there?
   - How many balloons are there altogether?
4. Then, based on the above discussion, ask the student to imagine the one-way table they are going to construct. Ask them these questions:
   - What is this table about?
   - Are you going to construct a horizontal or vertical table?
   - What will be the titles of the columns or rows?
   - What will be listed in the columns and rows?
   - What will be list in the last column or row?
5. Then, use the one-way tables in the book to explain further.
6. Guide the students to refer to **Starting Point** on page 214. Ask them to answer the question. Have a discussion to conclude the lesson.



Learning to know Constructing a one-way table

There are 5 red balloons, 3 blue balloons and 6 yellow balloons.

This data can be presented in a one-way table.

$5 + 3 + 6 = 14$

There are 14 balloons altogether.

Colored balloons

Color	Number of balloons
Red	5
Blue	3
Yellow	6
Total	**14**

Colored balloons

Color	Red	Blue	Yellow	Total
Number of balloons	5	3	6	14

Both tables are the same.

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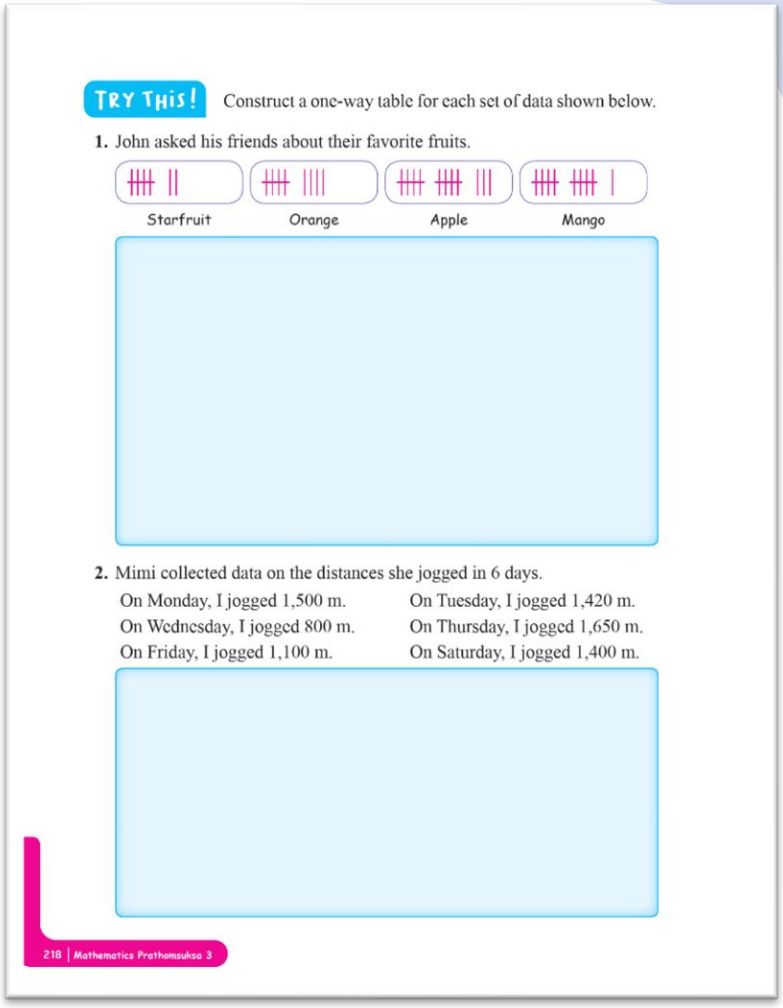

TRY THIS! Construct a one-way table for each set of data shown below.

1. John asked his friends about their favorite fruits.

Starfruit	Orange	Apple	Mango
𝍸 ||	𝍸 ||||	𝍸 𝍸 |||	𝍸 𝍸 |

2. Mimi collected data on the distances she jogged in 6 days.

On Monday, I jogged 1,500 m. On Tuesday, I jogged 1,420 m.
On Wednesday, I jogged 800 m. On Thursday, I jogged 1,650 m.
On Friday, I jogged 1,100 m. On Saturday, I jogged 1,400 m.

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Try This!

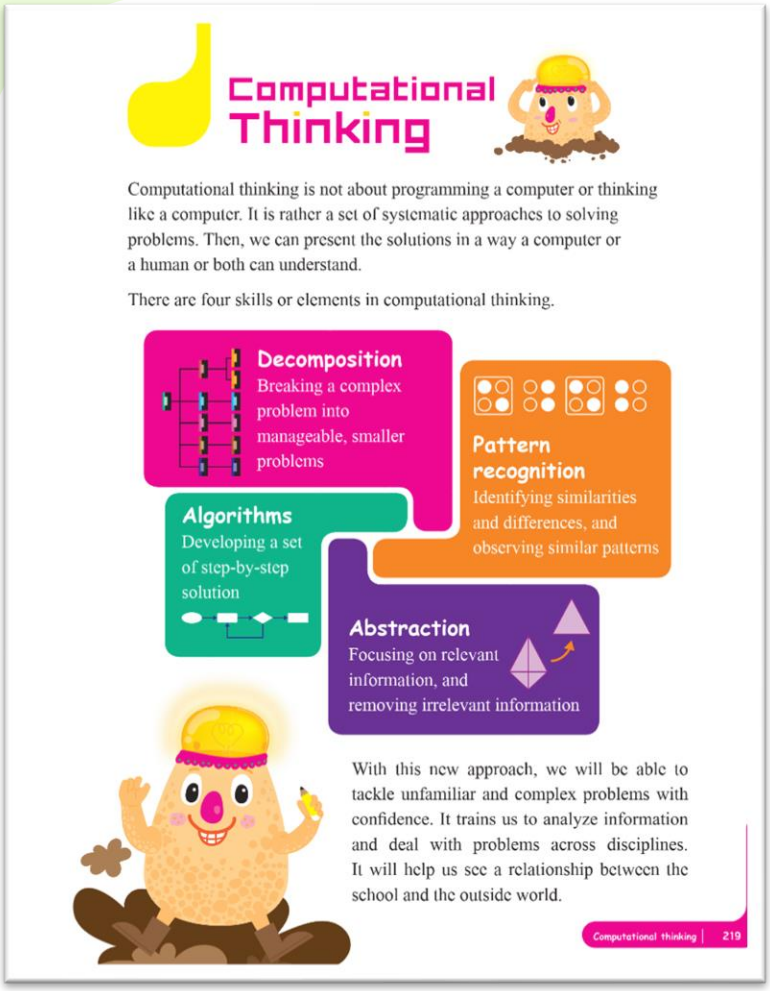
Get 4 students to answer it. Ask the rest to verify the answers.

Further practices

Get the students to complete the practices on pages 205 to 207 in Go Get Maths Workbook P3.

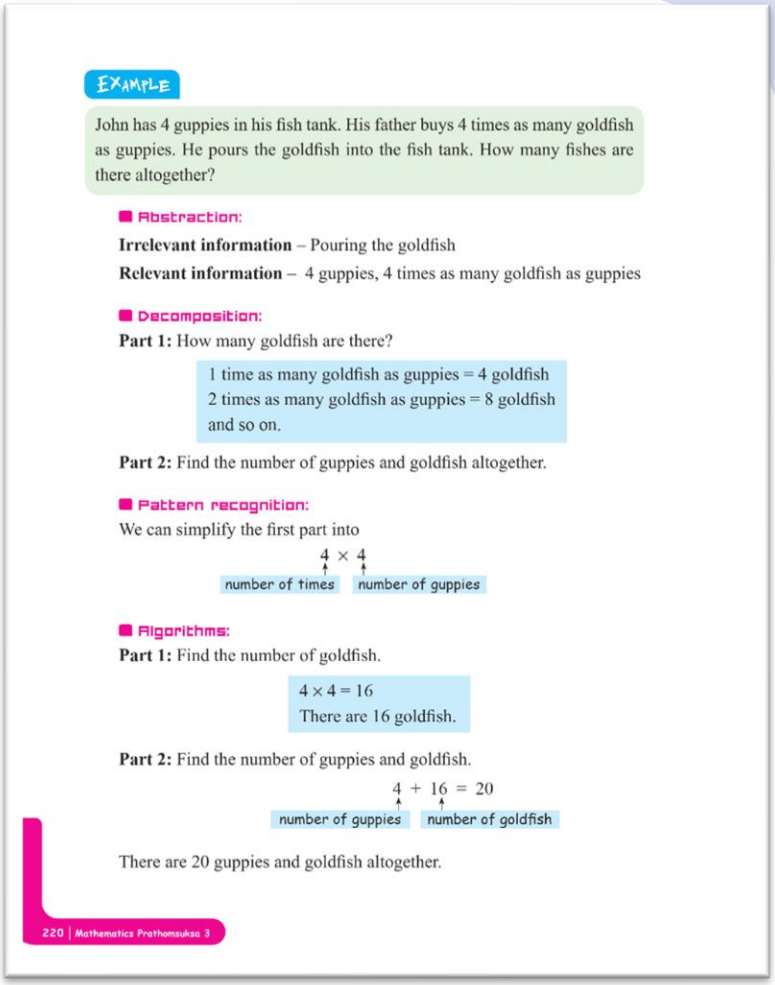
To find out if the students have mastered the first half of the year's content, ask them to complete the **Revision 2** on pages 208 to 214 in Go Get Maths Workbook P3.

Computational Thinking



The big idea

1. Tell the students that computational thinking is a way to solve a problem through a set of systematic approaches.
2. Explain briefly the 4 skills in computational thinking.
3. Give examples of how each skill is used.
   - **Decomposition:** For example, to tidy up your room, you need break this task into smaller tasks like making your bed, tidying your table, organizing your clothes, sweeping the floor and more.
   - **Pattern recognition:** For example, to tidy up your table, you may realize you need to sort out your books according their genres.
   - **Algorithms:** For example, to tidy up your room, you need to plan which task to do first and which task follows. Should you mop the floor first and then sweep the floor?
   - **Abstraction:** For example, when you are tasked to tidy up your room, you should ignore what online games your siblings are playing.



EXAMPLE

John has 4 guppies in his fish tank. His father buys 4 times as many goldfish as guppies. He pours the goldfish into the fish tank. How many fishes are there altogether?

Abstraction:

Irrelevant information – Pouring the goldfish

Relevant information – 4 guppies, 4 times as many goldfish as guppies

Decomposition:

Part 1: How many goldfish are there?

1 time as many goldfish as guppies = 4 goldfish
2 times as many goldfish as guppies = 8 goldfish
and so on.

Part 2: Find the number of guppies and goldfish altogether.

Pattern recognition:

We can simplify the first part into

$$\underset{\text{number of times}}{4} \times \underset{\text{number of guppies}}{4}$$

Algorithms:

Part 1: Find the number of goldfish.

$4 \times 4 = 16$
There are 16 goldfish.

Part 2: Find the number of guppies and goldfish.

$$\underset{\text{number of guppies}}{4} + \underset{\text{number of goldfish}}{16} = 20$$

There are 20 guppies and goldfish altogether.

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Example

1. Guide the students to read and understand the question.
2. In this example, all the 4 skills are used – abstraction, decomposition, pattern recognition and algorithms.
3. Not every problem requires all the 4 skills. Some may require 1 or 2 skills.