

# TEACHER'S GUIDE

# Go Get Maths 2



A perfect fusion of Thai Syllabus and Singapore Maths approach



## Textbook Prathomsuksa 2

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

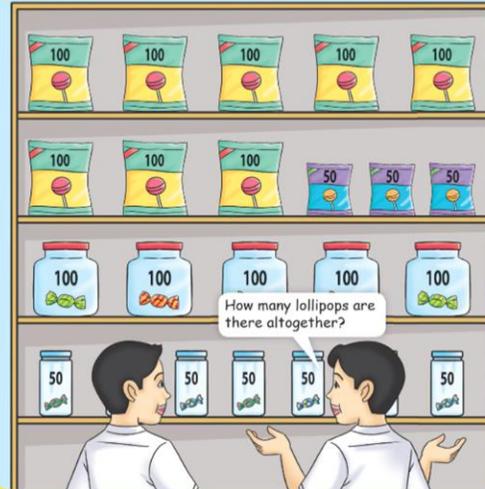
## Chapter 1 Numbers to 1,000

### The big idea

1. Ask the students to look at the picture carefully.
2. Ask them these questions to start a discussion:
  - How many types of candies are there on the shelf?
  - How are they packed?
  - How do you count to get the total number of lollipops?
  - How do you count to get the total number of sweets?

## Chapter 1

## Numbers to 1,000



Lesson 1 Counting to 1,000

Lesson 2 Comparing and ordering numbers

Lesson 3 Number patterns

Lesson 4 Even and odd numbers



### Strand 1: Numbers and algebra

#### Standard M.1.1 Numbers

##### Indicators:

**M 1.1 Gr2/1** Tell the numbers of objects, show quantities of objects of given cardinal numbers. Read and write Hindu- Arabic and Thai numerals showing cardinal numbers not exceeding 1,000 and 0.

**M 1.1 Gr2/2** Compare cardinal numbers not exceeding 1,000 and 0 by using comparison symbols: =  $\neq$  > <.

**M 1.1 Gr2/3** Arrange sequence of cardinal numbers not exceeding 1,000 and 0 from 3 to 5 numbers from different situations.

#### Standard M.1.2 Patterns

(Teaching the lessons in the classroom without evaluation.)

## Lesson 1 Counting to 1,000

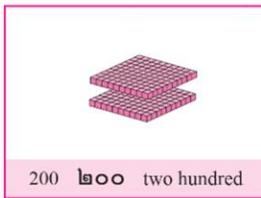
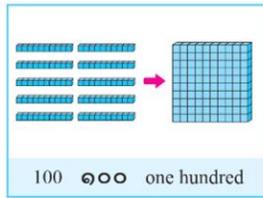
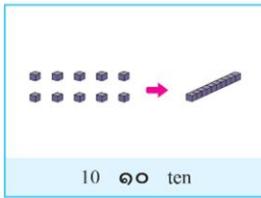
### Starting point

There are many candies.

How do we count when the items are more than 100? Should we count in tens?



### Learning to know Counting to 1,000



## Lesson 1 Counting to 1,000

### Lesson objectives

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

1. Count in 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 hundred to one thousand, hundreds

### Materials needed

Linking cubes

### 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 count aloud in ones from 1 to 10.
2. Then, ask them to count aloud in tens from 10 to 100.
3. Tell them that they can count in hundreds too. Guide them to count, pointing to the numerals in the book.

### Teaching ideas

4. Ask the students if they realize that counting in hundreds is easy.
5. Guide them to spell aloud hundred and thousand.

400 400 four hundred

500 500 five hundred

600 600 six hundred

700 700 seven hundred

800 800 eight hundred

900 900 nine hundred

1,000 1,000 one thousand

Chapter 1 | 3

### Activity for Reinforcement

**Materials required:** Linking cubes

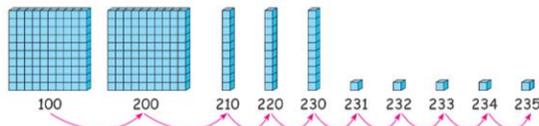
**Objective of the activity:** Counting in multiples of 10

1. Give the students some linking cubes.
2. Ask them to use the cubes to answer these questions:
  - How many tens do 10 ones make?
  - How many hundreds do 10 tens make?
  - How many thousands do 10 hundreds make?

How many building blocks are there?



We can count them in hundreds, tens and ones.



There are 235 building blocks.

How many candies are there?



There are 343 candies.



There are 726 candies.

### Teaching ideas

6. Tell the students that they can count in hundreds, tens and ones.
7. Guide them to count the counters in the examples.
8. Write the numbers in numerals and words. Guide the students to read the numbers.
9. Write a 3-digit number on the board. Get a student to read it and write it in words. Repeat a few times with other numbers and students.



or visit  
<http://tiny.cc/n8dpuz>

### Activity for Reinforcement

**Materials required:** Linking cubes

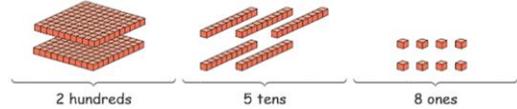
**Objective of the activity:** Counting in hundreds, tens and ones

1. Give each group of students a bowl of linking cubes.
2. Ask them to think of a way to find the number of cubes in the bowl.
3. Ask them to try their method and discuss if their method is the best.

### Teaching ideas

- Using the examples, guide the students to understand the value of each digit in the number.
- Write 451 on the board. Ask the students:
  - How many digits are there in this number?
  - How do you read this number?Then, draw a place-value chart besides the number. Get a student to write the value of each digit of 451. Invite another to write the number in its expanded form. Repeat a few times with other numbers and students.
- Guide the students to refer to **Starting Point** on page 2. Ask them to answer the questions. Have a discussion to conclude the lesson.

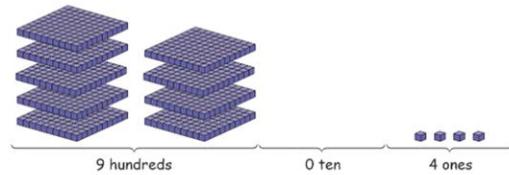
#### Learning to know Place values



$$258 = 2 \text{ hundreds } 5 \text{ tens } 8 \text{ ones}$$
$$258 = 200 + 50 + 8$$

Hundreds	Tens	Ones
2	5	8

The digit 2 in 258 is in the hundreds place. Its value is 200.  
The digit 5 in 258 is in the tens place. Its value is 50.  
The digit 8 in 258 is in the ones place. Its value is 8.



$$904 = 9 \text{ hundreds } 4 \text{ ones}$$
$$904 = 900 + 4$$

Hundreds	Tens	Ones
9	0	4

The digit 9 in 904 is in the hundreds place. Its value is 900.  
The digit 0 in 904 is in the tens place. Its value is 0.  
The digit 4 in 904 is in the ones place. Its value is 4.

#### Extra notes

Place value describes the value of every digit in a number. This value depends on the position of the digit in the number. The order of the place value of digits in a number from right to left is given as ones, tens, hundreds and thousands (at this stage).

**TRY THIS!**

1. Count. Write in numerals and words.

Items	Thai numerals	Hindu-Arabic numerals	Words
			
			
			

2. Fill in the blanks.

(a)  hundreds  tens  one = 590

(b)  hundreds  tens  ones = 427

3. Fill in the blanks.



(a) The digit 3 in 346 is in the  place. Its value is .

(b) The digit 4 in 346 is in the  place. Its value is .

(c) The digit 6 in 346 is in the  place. Its value is .

**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 1 to 7 in Go Get Maths Workbook P2.

## Lesson 2 Comparing and ordering numbers

### Lesson objectives

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

1. Compare numbers within 1,000.
2. Order numbers within 1,000.

### Suggested teaching time

5 periods (5 x 50 minutes)

### Vocabulary

-

### Materials needed

Paper/card

### 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. 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 hundreds first.
4. Write 367 and 830 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

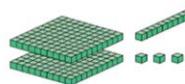
There are 2 bowls of paper clips.

Which has more paper clips? Which has fewer paper clips? How do you know?

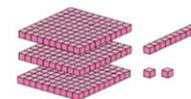


### Learning to know Comparing numbers with different hundreds

Which number is greater, 213 or 312?



Hundreds	Tens	Ones
2	1	3



Hundreds	Tens	Ones
3	1	2

Compare the hundreds.

3 is greater than 2.

So, 312 is greater than 213.

Compare 734 and 862.

Hundreds	Tens	Ones
7	3	4

Hundreds	Tens	Ones
8	6	2

Compare the hundreds.

7 is smaller than 8.

So, 734 is smaller than 862.

$734 < 862$

or

8 is greater than 7.

or

So, 862 is greater than 734.

or

$862 > 734$

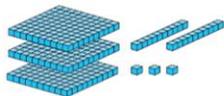


or visit  
<http://tiny.cc/v7dpuz>

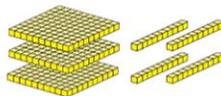
**Learning to know**

**Comparing numbers with equal hundreds and different tens**

Which number is smaller, 323 or 340?



Hundreds	Tens	Ones
3	2	3



Hundreds	Tens	Ones
3	4	0

Compare the hundreds.  
They are the same.  
Compare the tens.  
2 is smaller than 4.  
So, 323 is smaller than 340.

Compare 963 and 937.

Hundreds	Tens	Ones
9	6	3

Hundreds	Tens	Ones
9	3	7

Compare the hundreds.  
They are the same.  
Compare the tens.  
6 is greater than 3.                    or    3 is smaller than 6.  
So, 963 is greater than 937.        or    So, 937 is smaller than 963.  
963 > 937                                or    937 < 963

If the numbers have the equal hundreds and tens, what should we do?



**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. Highlight to them that they must always compare the hundreds first.
3. Ask them what they should do next if the hundreds are the same. Highlight to them to compare the tens if the hundreds are the same.
4. Go through the examples with them.
5. Write 578 and 587 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.

### Teaching ideas

1. Ask them what they should next if the hundreds and the tens of the numbers they are comparing are the same. Highlight to them to compare the ones if the hundreds and tens are the same.
2. Go through the examples with them.
3. Write 820 and 823 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.

### Try This!

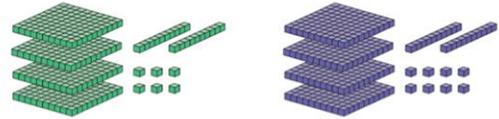
Get 3 students to answer it. Ask the rest to verify the answers.

### Further practices

Get the students to complete the practices on pages 8 to 11 in Go Get Maths Workbook P2.

#### Learning to know Comparing numbers with equal hundreds and tens

Which number is greater, 426 or 428?



Hundreds	Tens	Ones
4	2	6

Hundreds	Tens	Ones
4	2	8

Compare the hundreds. They are the same.  
Compare the tens. They are the same.  
Compare the ones.  
8 is greater than 6.  
So, 428 is greater than 426.

Compare 682 and 689.

Hundreds	Tens	Ones
6	8	2

Hundreds	Tens	Ones
6	8	9

Compare the hundreds. They are the same.  
Compare the tens. They are the same.  
Compare the ones.  
2 is smaller than 9.                      or    9 is greater than 2.  
So, 682 is smaller than 689.        or    So, 689 is greater than 682.  
682 < 689                                or    689 > 682

#### TRY THIS! Fill in the blanks with < or >.

1. 544  572      2. 735  733      3. 287  283

### Learning to know Ordering 3 numbers

Arrange 643, 356 and 365 starting with the smallest number.

643	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>6</td><td>4</td><td>3</td></tr></tbody></table>	Hundreds	Tens	Ones	6	4	3
Hundreds	Tens	Ones						
6	4	3						
356	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>3</td><td>5</td><td>6</td></tr></tbody></table>	Hundreds	Tens	Ones	3	5	6
Hundreds	Tens	Ones						
3	5	6						
365	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>3</td><td>6</td><td>5</td></tr></tbody></table>	Hundreds	Tens	Ones	3	6	5
Hundreds	Tens	Ones						
3	6	5						

Compare the hundreds.  
6 is greater than 3.  
So, 643 is the greatest number.

Compare the hundreds of 356 and 365.  
They are the same.

Compare the tens of 356 and 365.  
5 is smaller than 6.  
So, 356 is the smallest number.

356,                  365,                  643  
smallest                  →                  greatest

### Thinking corner!

When comparing numbers, why must we compare the hundreds first? Can we compare the ones first? Can you explain?

### Teaching ideas

1. Tell the students that comparing 3 numbers is similar to comparing 2 numbers by using the place-value charts.
2. Write 3 3-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.
3. Advise the students to be cautious when ordering numbers, not to order wrongly.
4. Use the example to explain further.

### Thinking Corner!

Use this as a discussion for the students' better understanding:

- Write 412 and 289 on the board.
- Ask a student to compare the ones.
- 9 ones is greater than 2 ones. Does this statement conclude that 289 is greater than 412? Why?

## Teaching ideas

1. Tell the students that comparing 4 numbers is similar to comparing 3 numbers by using the place-value charts.
2. Write 4 3-digit numbers on the board with their empty place-value charts.
  - Invite 4 students to fill up the charts.
  - Invite another 4 students to compare. 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 4 numbers.
  - Guide them to arrange the numbers from the smallest to the greatest and also from the greatest to the smallest.
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 4 numbers

Arrange 436, 820, 885 and 439 starting with the greatest number.

436	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>4</td><td>3</td><td>6</td></tr></tbody></table>	Hundreds	Tens	Ones	4	3	6
Hundreds	Tens	Ones						
4	3	6						
820	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>8</td><td>2</td><td>0</td></tr></tbody></table>	Hundreds	Tens	Ones	8	2	0
Hundreds	Tens	Ones						
8	2	0						
885	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>8</td><td>8</td><td>5</td></tr></tbody></table>	Hundreds	Tens	Ones	8	8	5
Hundreds	Tens	Ones						
8	8	5						
439	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>4</td><td>3</td><td>9</td></tr></tbody></table>	Hundreds	Tens	Ones	4	3	9
Hundreds	Tens	Ones						
4	3	9						

Compare the hundreds.

8 is greater than 4.

820 and 885 are greater than 436 and 439.

Compare the tens of 820 and 885.

8 is greater than 2.

So, 885 is the greatest number.

Compare the tens of 436 and 439.

They are the same.

Compare the ones of 436 and 439.

6 is smaller than 9.

So, 436 is the smallest number.

885, 820, 439, 436  
greatest → smallest

**Learning to know** Ordering 5 numbers

Arrange 578, 567, 316, 217 and 558 starting with the greatest number.

578	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>5</td><td>7</td><td>8</td></tr></tbody></table>	Hundreds	Tens	Ones	5	7	8
Hundreds	Tens	Ones						
5	7	8						
567	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>5</td><td>6</td><td>7</td></tr></tbody></table>	Hundreds	Tens	Ones	5	6	7
Hundreds	Tens	Ones						
5	6	7						
316	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>3</td><td>1</td><td>6</td></tr></tbody></table>	Hundreds	Tens	Ones	3	1	6
Hundreds	Tens	Ones						
3	1	6						
217	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>2</td><td>1</td><td>7</td></tr></tbody></table>	Hundreds	Tens	Ones	2	1	7
Hundreds	Tens	Ones						
2	1	7						
558	→	<table border="1"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>5</td><td>5</td><td>8</td></tr></tbody></table>	Hundreds	Tens	Ones	5	5	8
Hundreds	Tens	Ones						
5	5	8						

Compare the hundreds.

2 is the smallest.

So, 217 is the smallest number.

5 is greater than 3.

So, 578, 567 and 558 are greater than 316.

Compare the tens of 578, 567 and 558.

7 is the greatest.

So, 578 is the greatest number.

5 is the smallest.

So, 558 is the smallest among the 3 numbers.

578, 567, 558, 316, 217  
greatest → smallest

**Teaching ideas**

1. Tell the students that comparing 5 numbers is similar to comparing 4 numbers by using the place-value charts.
2. Write 5 3-digit numbers on the board with their empty place-value charts.
  - Invite 5 students to fill up the charts.
  - Invite another 5 students to compare. 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 5 numbers.
  - Guide them to arrange the numbers from the smallest to the greatest and also from the greatest to the smallest.
3. Advise the students to be cautious when ordering numbers, not to order wrongly.
4. Use the example to explain further.
5. Guide the students to refer to **Starting Point** on page 7. Ask them to answer the questions. Have a discussion to conclude the lesson.

### Fun with Maths!

**Materials required:** Paper/card

**Objective of the activity:** Ordering 5 numbers

Discuss with the students using these questions:

- How did you arrange the numbers fast?
- Did each of you hold a number?
- Did you work as a team?
- What did each of you do?

### 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 page 12 in Go Get Maths Workbook P2.

### Fun with Maths!

1. Write a 3-digit number on a piece of paper and place it in a box.
2. Get into groups of 5.
3. Each member gets a number from the box randomly.
4. The leader of each group flips a coin. If he gets a head, then the members will arrange the numbers starting with the greatest number. If he gets a tail, they will arrange starting with the smallest number.
5. The fastest team who arranged the numbers correctly wins a point.
6. Repeat for 5 rounds.



### TRY THIS!

1. Fill in the blanks with  $>$  or  $<$ .

(a)         (b)

2. Arrange these numbers.

(a)

Starting with the smallest number:

(b)

Starting with the greatest number:

(c)

Starting with the smallest number:

## Lesson 3 Number patterns

### Starting point

Look at the numbers below.



What is the next number? How do you know?

### Learning to know Making number patterns

These numbers are arranged in a pattern. Each number is **2 more** than the number before it.



In the number pattern below, each number is **2 less** than the number before it.



In the number pattern below, each number is **5 more** than the number before it.



## Lesson 3 Number patterns

### Lesson objectives

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

1. Recognize number patterns that increase or decrease by 2s, 5s and 10s.
2. Complete number patterns that increase or decrease by 2s, 5s and 10s.

### Suggested teaching time

3 periods (3 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.

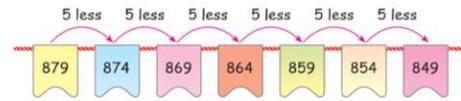
### Teaching ideas

1. Ask the students to analyze the number patterns. 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?

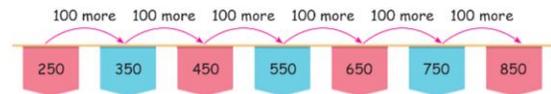
### Teaching ideas

- Tell the students that number patterns can be of 2 more, 5 more, 10 more, 2 less, 5 less or 10 less.
- Guide the students to make number patterns that increase by 2. Write 368 on the board and tell them that they are going to build a number pattern of 2 more starting with 368. Ask them these questions to start the discussion:
  - What does a number pattern of 2 more mean?
  - How do we find the 2nd number? Why should we add, not subtract? Why should we add 2?
  - How do we find the 3rd number? Why should we add, not subtract? Why should we add 2? Should we add 2 to the 1st number or the 2nd number?
- Use the example to explain further on making a number pattern that increases by 2 and 100.

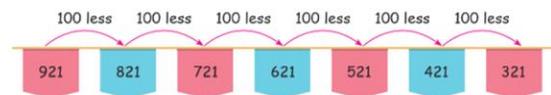
In the number pattern below, each number is **5 less** than the number before it.



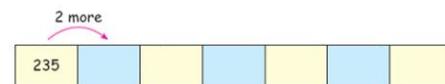
In the number pattern below, each number is **100 more** than the number before it.



In the number pattern below, each number is **100 less** than the number before it.



Make a number pattern that has numbers 2 more than the numbers before them, starting from 235.



We add 2 to the number to find the next number.

$$235 + 2 = 237$$

$$237 + 2 = 239$$

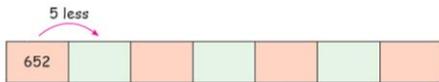
239 + 2 = 241 and so on.



### Activity for Reinforcement

Show more examples to reinforce the students' understanding of number patterns of 2 more, 5 more, 100 more, 2 less, 5 less and 100 less. Ask the students to identify the patterns.

Make a number pattern that has numbers 5 less than the numbers before them, starting from 652.



We subtract 5 from the number to find the next number.

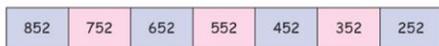
$652 - 5 = 647$   
 $647 - 5 = 642$   
 $642 - 5 = 637$  and so on.



Make a number pattern that has numbers 100 less than the numbers before them, starting from 852.



$852 - 100 = 752$   
 $752 - 100 = 652$   
 $652 - 100 = 552$  and so on.



### Teaching ideas

- Guide the students to make number patterns that decrease by 5. Write 710 on the board and tell them that they are going to build a number pattern of 5 less starting with 710. Ask them these questions to start the discussion:
  - What does a number pattern of 5 less mean?
  - How do we find the 2nd number? Why should we subtract, not add? Why should we subtract 5 from the first number?
  - How do we find the 3rd number? Why should we subtract, not add? Should we subtract 5 from the 1st number or the 2nd number?
- Use the example to explain further on making a number patterns that decrease by 5 and 100.

### Activity for Reinforcement

Give more exercises to the students to make number patterns that increase or decrease by 2, 5 and 10.

## Teaching ideas

1. Tell the students that they need to find the missing numbers in a number pattern. For this task, they need to identify the type of the number pattern first.
2. Write 345, 343, 341, , 337, 335, 333 on the board. Ask them these questions to start the discussion:
  - Are the numbers arranged from the smallest to the greatest or from the greatest to the smallest? How do you know?
  - What is the difference between the 1<sup>st</sup> number and the 2<sup>nd</sup> number, and between the 2<sup>nd</sup> number and the 3<sup>rd</sup> number?
  - Is this a number pattern of 2 more, 5 more, 100 more, 2 less, 5 less or 100 less?
  - What should be added to the 3<sup>rd</sup> number or subtract from the 3<sup>rd</sup> number in order to find the missing number?
  - How do you check the answer?Repeat with 762, , 772, 777, 782, 787, 792.
3. Use the examples to explain further.

### Learning to know Finding missing numbers in number patterns

What is the missing number in the number pattern below?



Firstly, we need to study the number pattern.

Find the difference between two consecutive numbers.

$$267 - 167 = 100$$

$$367 - 267 = 100$$

So, each number is 100 more than the number before it.

$$? = 467 + 100$$

$$? = 567$$

Check the answer.  
 $667 - 567 = 100$   
So, the answer is correct.



What are the missing numbers in the number pattern below?



$$602 - 597 = 5$$

$$587 - 582 = 5$$

So, each number is 5 less than the number before it.

$$A = 597 - 5$$

$$= 592$$

$$B = 582 - 5$$

$$= 577$$

Always check your answers.



What are the missing numbers in the number pattern below?



$$133 - 131 = 2$$

$$141 - 139 = 2$$

So, each number is 2 more than the number before it.

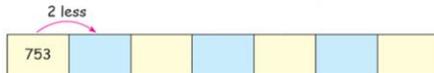
$$\begin{aligned} P &= 133 + 2 \\ &= 135 \end{aligned}$$

$$\begin{aligned} Q &= P + 2 \\ &= 135 + 2 \\ &= 137 \end{aligned}$$

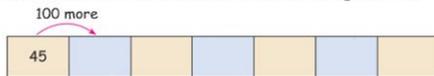
### TRY THIS!

1. Make a number pattern that has numbers...

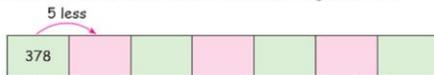
(a) 2 less than the numbers before them, starting from 753.



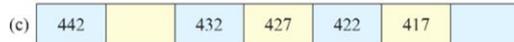
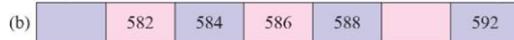
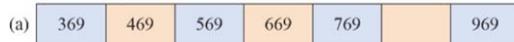
(b) 100 more than the numbers before them, starting from 45.



(c) 5 less than the numbers before them, starting from 378.



2. Complete the number patterns.



or visit  
<http://tiny.cc/y8dpuz>

### Teaching ideas

4. Tell the students that the method to find 2 missing numbers in a number pattern is the same as finding 1 missing number in a number pattern.
5. Tell the students to always analyze the number pattern to know
  - if the numbers are increasing or decreasing,
  - the difference between any 2 consecutive numbers,
  - if to add or subtract from a number to find the next number.
6. Use the examples to explain further.
7. Guide the students to refer to **Starting Point** on page 14. 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 13 and 14 in Go Get Maths Workbook P2.

## Lesson 4 Even and odd numbers

### Lesson objectives

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

1. Define even and odd numbers.
2. Classify and identify even and odd numbers.

### Suggested teaching time

2 periods (2 x 50 minutes)

### Vocabulary

Even number, odd number

### Materials needed

Counters

### Starting point

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

### Teaching ideas

1. Inform the students that we can classify numbers into even numbers and odd numbers.
2. Explain using the examples.

### Fun with Maths!

**Materials required:** -

**Objective of the activity:** Identifying even and odd numbers

An even number can be grouped into groups of 2. An odd number cannot be grouped into groups of 2.

## Lesson 4 Even and odd numbers

### Starting point

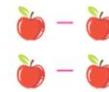
Look at the information below.

1 is an odd number.	2 is an even number.	3 is an odd number.	4 is an even number.	5 is an odd number.	6 is an even number.	7 is an odd number.	8 is an even number.
---------------------	----------------------	---------------------	----------------------	---------------------	----------------------	---------------------	----------------------

What do you notice? What are odd numbers? What are even numbers?

### Learning to know

### Identifying even and odd numbers



There are 4 apples. We can pair them up evenly.  
4 is an **even number**.



There are 5 apples. We cannot pair them up evenly. There is one left.  
5 is an **odd number**.

### Fun with Maths!

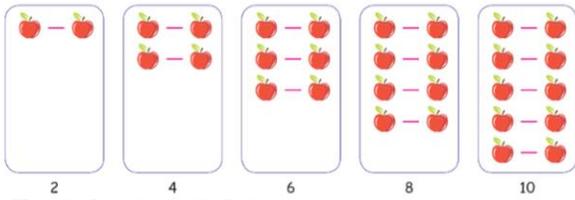
1. Count the number of students in the class.
2. Line up in pairs.
3. Is there anyone left without a partner? Is the number of students an odd or an even number?

### Activity for Reinforcement

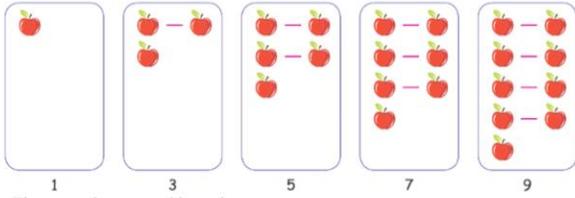
**Materials required:** Counters

**Objective of the activity:** Identifying even and odd numbers

1. Give the students 7 counters.
2. Ask them these questions to start the discussion:
  - How many counters are there?
  - Is this number an odd number or an even number?
  - Why do you say so? Show your reasons.
3. Repeat with other number of counters.



These numbers are even numbers.

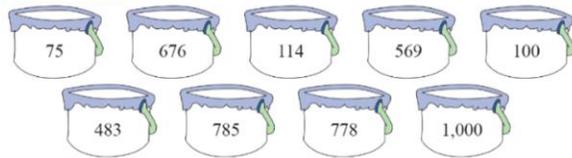


These numbers are odd numbers.

60	288	760
312	104	906
Even numbers end with 0, 2, 4, 6 or 8.		

511	967	29
823	185	431
Odd numbers end with 1, 3, 5, 7 or 9.		

**TRY THIS!** Color the odd numbers.



### Teaching ideas

- Ask the students to identify the odd and even numbers among numbers 1 to 20. Ask them if they realize the similarity among the even numbers and among the odd numbers.
- Use the example to explain further.
- Guide the students to refer to **Starting Point** on page 19. Ask them to answer the questions. 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 15 and 16 in Go Get Maths Workbook P2.

## Chapter 2

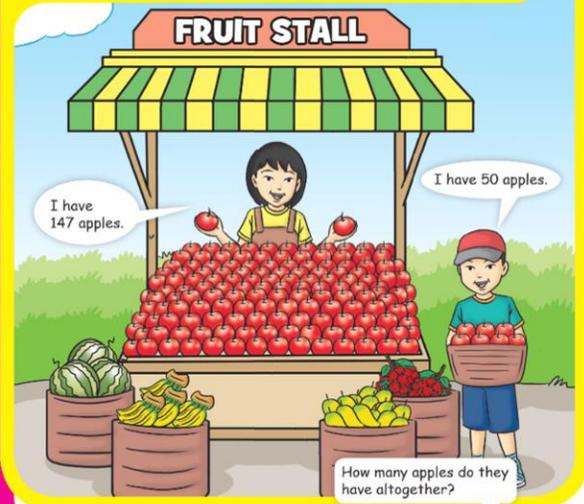
### Addition and subtraction within 1,000

#### The big idea

1. Help the students to recall how to add and subtract. Here is an example:
  - Write ' $64 + 3 =$ ' on the board.
  - Invite a volunteer to give the answer and explain how he gets the answer.
  - 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:
  - How many apples does the girl have?
  - How many apples does the boy have?
  - How do you find the total number of apples both of them have?
  - Is the method the same as adding within 100?

Chapter 2

## Addition and subtraction within 1,000



FRUIT STALL

I have 147 apples.

I have 50 apples.

How many apples do they have altogether?

- Lesson 1 Adding two numbers without regrouping
- Lesson 2 Adding two numbers with regrouping
- Lesson 3 Adding three numbers
- Lesson 4 Subtracting without regrouping
- Lesson 5 Subtracting with regrouping
- Lesson 6 Finding the unknowns
- Lesson 7 Word problems



### Strand 1: Numbers and Algebra

#### Standard M.1.1 Numbers

##### Indicators:

**M 1.1 Gr2/4** Find the value of unknown in addition and subtraction number sentence of cardinal numbers not exceeding 1,000, and 0.

## Lesson 1

# Adding two numbers without regrouping

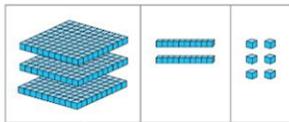
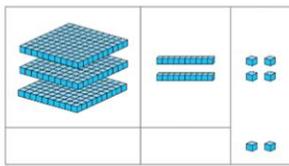
### Starting point

There are 112 apples in the wooden box. In the basket, there are 12 apples. How do I know how many apples are there altogether?



### Learning to know Adding a 1-digit number and a 3-digit number

$$324 + 2 = ?$$



So,  $324 + 2 = 326$

Step 1: Add the ones.

H	T	O
(Hundreds)	(Tens)	(Ones)
3	2	4
		2
<hr/>		
		6

4 ones + 2 ones = 6 ones

Step 2: Add the tens.

H	T	O
(Hundreds)	(Tens)	(Ones)
3	2	4
	2	2
<hr/>		
	4	6

2 tens + 0 ten = 2 tens

Step 3: Add the hundreds.

H	T	O
(Hundreds)	(Tens)	(Ones)
3	2	4
		2
<hr/>		
3	2	6

3 hundreds + 0 hundred = 3 hundreds

## Lesson 1 Adding two numbers without regrouping

### Lesson objectives

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

1. Add two numbers without regrouping within 1,000.

### Suggested teaching time

3 periods (3 x 50 minutes)

### Vocabulary

Regrouping

### Materials needed

Base-10 blocks

### 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. Make the students feel comfortable by using base-10 blocks as the concrete materials to illustrate the addition.
2. Guide them to relate the process of addition using the base-10 blocks with the method of vertical addition.
3. Start with addition of a 3-digit number and a 1-digit number.
4. Guide them to write the numbers vertically.
5. Reiterate that the alignment of the numbers based on the place value of each digit is important.

### 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.

$$274 + 4 = \square$$

$$7 + 810 = \square$$

$$572 + 1 = \square$$

$$3 + 623 = \square$$

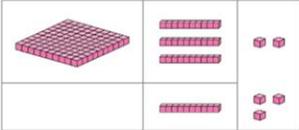
## Teaching ideas

1. For addition of a 2-digit number and a 3-digit number, introduce using the base-10 blocks too. Guide them to add starting with the ones, then the tens and lastly the hundreds.
2. Guide them to relate this method with the vertical addition.
3. Use a few examples to reinforce the understanding of the students using the base-10 blocks.
4. Guide them to write the numbers vertically.
5. Reiterate that the alignment of the numbers based on the place value of each digit is important.
6. Tell them to always add the ones first before adding the tens and then lastly the hundreds.
7. Use the examples to explain further.
8. Then, let them add without using the blocks.

**Learning to know**

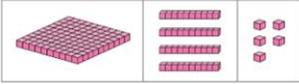
Adding a 2-digit number and a 3-digit number

$132 + 13 = ?$



$$\begin{array}{r} 132 \\ + 13 \\ \hline \end{array}$$

↓



$$\begin{array}{r} 132 \\ + 13 \\ \hline 145 \end{array}$$

So,  $132 + 13 = 145$

$64 + 801 = ?$

Step 1: Add the ones.

$$\begin{array}{r} 64 \\ + 801 \\ \hline 5 \end{array}$$

→

Step 2: Add the tens.

$$\begin{array}{r} 64 \\ + 801 \\ \hline 65 \end{array}$$

→

Step 3: Add the hundreds.

$$\begin{array}{r} 64 \\ + 801 \\ \hline 865 \end{array}$$

So,  $64 + 801 = 865$

Chapter 2 | 23

### 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.

$127 + 21 = \boxed{\phantom{000}}$

$33 + 341 = \boxed{\phantom{000}}$

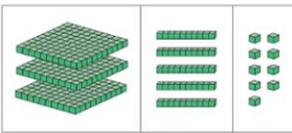
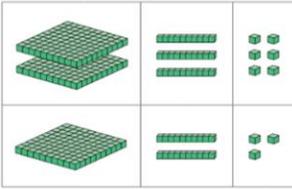
$971 + 17 = \boxed{\phantom{000}}$

$82 + 506 = \boxed{\phantom{000}}$

23 | Go Get Maths Teacher's Guide P2

**Learning to know** Adding two 3-digit numbers

$236 + 123 = ?$



So,  $236 + 123 = 359$

**Step 1:** Add the ones.

H	T	O
2	3	6
1	2	3
		9

6 ones + 3 ones = 9 ones

**Step 2:** Add the tens.

H	T	O
2	3	6
1	2	3
		9
		5

3 tens + 2 tens = 5 tens

**Step 3:** Add the hundreds.

2	3	6
1	2	3
		9
		5
		3

2 hundreds + 1 hundred = 3 hundreds

$447 + 350 = ?$

<p><b>Step 1:</b> Add the ones.</p> <table style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">4</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">5</td> <td style="text-align: center;">0</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center; border-top: 1px solid black;">7</td> </tr> </tbody> </table>	4	4	7	3	5	0			7		<p><b>Step 2:</b> Add the tens.</p> <table style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">4</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">5</td> <td style="text-align: center;">0</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center; border-top: 1px solid black;">7</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center; border-top: 1px solid black;">9</td> </tr> </tbody> </table>	4	4	7	3	5	0			7			9
4	4	7																					
3	5	0																					
		7																					
4	4	7																					
3	5	0																					
		7																					
		9																					
		<p><b>Step 3:</b> Add the hundreds.</p> <table style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">4</td> <td style="text-align: center;">7</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">5</td> <td style="text-align: center;">0</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center; border-top: 1px solid black;">7</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center; border-top: 1px solid black;">9</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center; border-top: 1px solid black;">7</td> </tr> </tbody> </table>	4	4	7	3	5	0			7			9			7						
4	4	7																					
3	5	0																					
		7																					
		9																					
		7																					

So,  $447 + 350 = 797$

**Teaching ideas**

7. For addition of a 3-digit number and a 3-digit number, introduce using the base-10 blocks too.
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 add the ones first before adding the tens and then lastly the hundreds.
11. Use the examples to explain further.
12. Then, let them add without using the blocks.

**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.

$203 + 421 = \square$

$680 + 114 = \square$

$735 + 141 = \square$

$218 + 550 = \square$

### Teaching ideas

13. Tell the students that there are some additions that can be done easily using number bonds.
14. Use the examples to explain.
15. Tell them that they can add mentally, without using pens or paper or calculator. They need a lot of practices. Practice makes perfect.
16. Guide the students to refer to **Starting Point** on page 22. 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 17 to 20 in Go Get Maths Workbook P2.



or visit  
<http://tiny.cc/89dpuz>

There are some additions which we can add using number bonds.

$782 + 3 = ?$

$2 + 3 = 5$  (add ones)  
 $780 + 5 = 785$

So,  $782 + 3 = 785$

Do you still remember number bonds?

$634 + 50 = ?$

$30 + 50 = 80$  (add tens)  
 $604 + 80 = 684$

So,  $634 + 50 = 684$

$385 + 400 = ?$

$300 + 400 = 700$  (add hundreds)  
 $85 + 700 = 785$

So,  $385 + 400 = 785$

**TRY THIS!**

1. 
$$\begin{array}{r} 375 \\ + 3 \\ \hline \end{array}$$
2. 
$$\begin{array}{r} 844 \\ + 2 \\ \hline \end{array}$$
3. 
$$\begin{array}{r} 123 \\ + 54 \\ \hline \end{array}$$
4. 
$$\begin{array}{r} 56 \\ + 730 \\ \hline \end{array}$$
5. 
$$\begin{array}{r} 561 \\ + 333 \\ \hline \end{array}$$
6. 
$$\begin{array}{r} 141 \\ + 824 \\ \hline \end{array}$$
7.  $258 + 20 =$
8.  $651 + 100 =$

Chapter 2 | 25

### Extra notes

Mental maths is a group of skills that allow people to do calculations in their head without using pencils, paper or calculators. It is very useful in our everyday life. Regular practice will help to improve our mental math skills.

## Lesson 2 Adding two numbers with regrouping

### Starting point

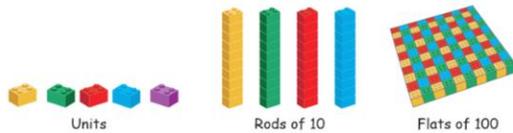
There are 12 oranges and 9 apples.  
We can add them by counting on.

Can we add them up vertically?



### Fun with Maths!

1. Get some unit blocks.
2. Build some rods of 10 with them.
3. You may have been left with some unit blocks.
4. Combine them with your friends'. Build rods of 10 with them.



5. Place 10 rods together to make a flat of 100.
6. If you do not have enough rods of 10, combine with your friends'.
7. At the end, how many unit blocks do all of you have altogether?



Regrouping is the process of making groups of 10.  
10 ones = 1 ten  
10 tens = 1 hundred

## Lesson 2 Adding two numbers with regrouping

### Lesson objectives

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

1. Add with regrouping within 1,000.

### Suggested teaching time

4 periods (4 x 50 minutes)

### Vocabulary

Regrouping

### Materials needed

Base-10 blocks

### 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:** Base-10 blocks

**Objective of the activity:** Counting number of blocks by making hundreds, tens and ones

Guide the students to understand that 10 ones make 1 ten and 10 tens make 1 hundred.

### Activity for Reinforcement

**Materials required:** Base-10 blocks

**Objective of the activity:** Understand regrouping

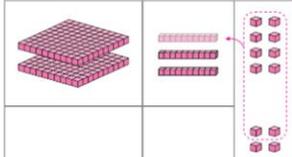
1. Give a student 18 blocks and another student 15 blocks.
2. Ask them to make rods of 10 blocks.
3. Start the discussion with these questions:
  - How many rods do you get?
  - How many remaining loose blocks are there?
  - How many blocks are there altogether?
  - Is it easier to find the number of blocks by making rods of 10?
4. Repeat with more blocks.
5. Inform the students that the process of making groups of 10 when we add or subtract is known as regrouping.

### Teaching ideas

1. Tell the students that they are going to learn the addition of 1-digit number and a 3-digit number with regrouping.
2. Use the base-10 blocks to show how to add with regrouping.
3. Ask the students to add the ones. They are more than 10 and should be regrouped to make a group of 10.
4. Guide them to realize how many ones are left and that the number of tens has increased after regrouping.
5. Guide them to write the numbers vertically.
6. Reiterate that the alignment of the numbers based on the place value of each digit is important.
7. Tell them to always add the ones first before adding the tens and hundreds.
8. Use the example in the books to explain further.
9. Then, let them add without using the blocks.

**Learning to know** Adding a 1-digit number and a 3-digit number

$228 + 4 = ?$



**Step 1:** Add the ones.  

H	T	O
2	2	8
		4
		2

  
 8 ones + 4 ones = 12 ones  
 Regroup the ones.  
 12 ones = 1 ten 2 ones

**Step 2:** Add the tens.  

H	T	O
2	2	8
	1	4
3		2

  
 1 ten + 2 tens = 3 tens

**Step 3:** Add the hundreds.  

H	T	O
2	2	8
	1	4
2	3	2

  
 2 hundreds + 0 hundred = 2 hundreds

So,  $228 + 4 = 232$

$9 + 617 = ?$

**Step 1:** Add the ones.  

	T	O
6	1	7
		9
		6

**Step 2:** Add the tens.  

	T	O
6	1	7
		9
	2	6

**Step 3:** Add the hundreds.  

	T	O
6	1	7
		9
6	2	6

So,  $617 + 9 = 626$

Chapter 2 | 27

### Activity for Reinforcement

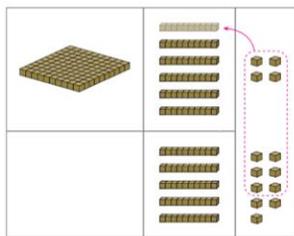
The students need to practice more in order to add correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

$723 + 9 = \square$

$5 + 238 = \square$

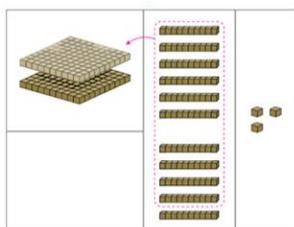
$498 + 2 = \square$

$5 + 917 = \square$

**Learning to know****Adding a 2-digit number and a 3-digit number**So,  $154 + 59 = ?$ **Step 1:** Add the ones.

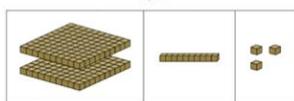
H	T	O	
	1		
1	5	4	+
	5	9	
		3	

4 ones + 9 ones = 13 ones  
Regroup the ones.  
13 ones = 1 ten 3 ones

**Step 2:** Add the tens.

H	T	O	
	1		
1	5	4	+
	5	9	
	1	3	

1 ten + 5 tens + 5 tens = 11 tens  
Regroup the tens.  
11 tens = 1 hundred 1 ten

**Step 3:** Add the hundreds.

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

1 hundred + 1 hundred  
= 2 hundreds

So,  $154 + 59 = 213$ **Teaching ideas**

1. Tell the students that they are going to learn the addition of a 2-digit number and a 3-digit number with regrouping.
2. Use the base-10 blocks to show how to add with regrouping.
3. Ask them these questions when they are adding with the blocks:
  - How many ones are there in total?
  - Are there more than 10 ones?
  - What should you do?
  - How many ones are left?
  - How many tens are there now in total?
  - Are there more than 10 tens?
  - What should you do?
  - How many tens are left?
  - How many hundreds are there altogether?
  - How many blocks are there altogether?
4. Guide them to write the numbers vertically.
5. Reiterate that the alignment of the numbers based on the place value of each digit is important.
6. Tell them to always add the ones first before adding the tens and hundreds.

**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.

$34 + 177 = \square$

$256 + 76 = \square$

$888 + 29 = \square$

$96 + 125 = \square$

### Teaching ideas

- Use the example in the books to explain further.
- Then, let them add without using the blocks.

### Teaching ideas

- Tell the students that they are going to learn the addition of a 3-digit number and a 3-digit number with regrouping.
- Use the base-10 blocks to show how to add with regrouping.
- Ask them these questions when they are adding with the blocks:
  - How many ones are there in total?
  - Are there more than 10 ones?
  - What should you do?
  - How many ones are left?
  - How tens are there now in total?
  - Are there more than 10 tens?
  - What should you do?
  - How many tens are left?
  - How many hundreds are there altogether?
  - How many blocks are there altogether?
- Guide them to write the numbers vertically.
- Reiterate that the alignment of the numbers based on the place value of each digit is important.
- Tell them to always add the ones first, then follow by the tens and lastly the hundreds.

$$56 + 279 = ?$$

Step 1: Add the ones.

$$\begin{array}{r} 56 \\ + 279 \\ \hline 5 \end{array}$$

Step 2: Add the tens.

$$\begin{array}{r} 56 \\ + 279 \\ \hline 35 \end{array}$$

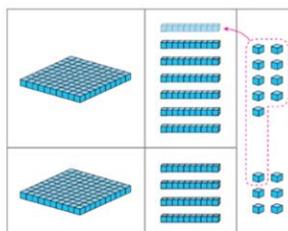
Step 3: Add the hundreds.

$$\begin{array}{r} 56 \\ + 279 \\ \hline 335 \end{array}$$

So,  $56 + 279 = 335$

### Learning to know Adding two 3-digit numbers

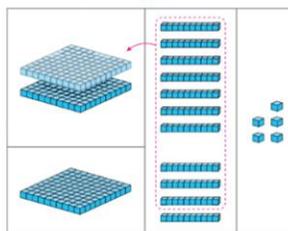
$$169 + 146 = ?$$



Step 1: Add the ones.

H	T	O
	1	9
1	6	9
1	4	6
		5

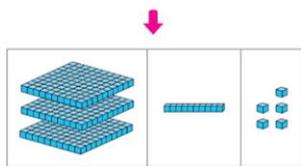
9 ones + 6 ones = 15 ones  
Regroup the ones.  
15 ones = 1 ten 5 ones



Step 2: Add the tens.

H	T	O
	1	9
1	6	9
1	4	6
	1	5

1 ten + 6 tens + 4 tens = 11 tens  
Regroup the tens.  
11 tens = 1 hundred 1 ten



Step 3: Add the hundreds.

H	T	O	
1	1		
1	6	9	+
1	4	6	
3	1	5	

1 hundred + 1 hundred  
+ 1 hundred = 3 hundreds

So,  $169 + 146 = 315$

$489 + 298 = ?$

Step 1: Add the ones.

4	8	9	+
2	9	8	
	7		

Step 2: Add the tens.

4	8	9	+
2	9	8	
8	7		

Step 3: Add the hundreds.

4	8	9	+
2	9	8	
7	8	7	

So,  $489 + 298 = 787$

### TRY THIS!

1. 
$$\begin{array}{r} 454 \\ + 9 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 585 \\ + 7 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 446 \\ + 72 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 873 \\ + 49 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 149 \\ + 687 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 273 \\ + 585 \\ \hline \end{array}$$

7.  $685 + 247 = \boxed{\phantom{000}}$

8.  $418 + 177 = \boxed{\phantom{000}}$

### Teaching ideas

- Use the example in the books to explain further.
- Then, let them add without using the blocks.
- Guide the students to refer to **Starting Point** on page 26. 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 21 to 23 in Go Get Maths Workbook P2.

### 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.

$245 + 489 = \boxed{\phantom{000}}$

$107 + 398 = \boxed{\phantom{000}}$

$555 + 246 = \boxed{\phantom{000}}$

$336 + 484 = \boxed{\phantom{000}}$

## 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

1 period (1 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.

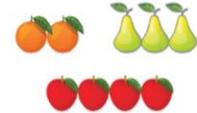
### Teaching ideas

1. Write  $2 + 3 + 4 = ?$  on the board. Let the students discuss on how to get the answer.
2. Tell them they can use the number ladder to count on if the numbers are small.
3. They can also add the first 2 numbers and then add the sum to the third number.

## Lesson 3 Adding three numbers

### Starting point

There are 2 oranges, 3 pears and 4 apples.



How do I add them up?

### Learning to know Adding three numbers

$$2 + 3 + 4 = ?$$

We can add by counting on.



$$\text{So, } 2 + 3 + 4 = 9$$

We can also add the first two numbers first.

Then, add the third number to the sum.

<b>Step 1:</b>	<b>Step 2:</b>
$\begin{array}{r} 2 \\ + 3 \\ \hline 5 \end{array}$	$\begin{array}{r} 5 \\ + 4 \\ \hline 9 \end{array}$

Arrange the numbers vertically. Line up the digits by their place values.

$$23 + 4 + 87 = ?$$

<b>Step 1:</b>	<b>Step 2:</b>
$\begin{array}{r} 23 \\ + 4 \\ \hline 27 \end{array}$	$\begin{array}{r} 11 \\ 27 \\ + 87 \\ \hline 114 \end{array}$

$$\text{So, } 23 + 4 + 87 = 114$$



Chapter 2 | 31

### 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.

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

<p><b>Step 1: Add the ones.</b></p> $\begin{array}{r} 1 \\ 23 \\ 4 + \\ \hline 87 \\ \hline 4 \end{array}$	→	<p><b>Step 2: Add the tens.</b></p> $\begin{array}{r} 1 \\ 23 \\ 4 + \\ \hline 87 \\ \hline 114 \end{array}$
--	---	--

$287 + 172 + 387 = ?$

<p><b>Step 1:</b></p> $\begin{array}{r} 1 \\ 287 \\ 172 + \\ \hline 459 \end{array}$	→	<p><b>Step 2:</b></p> $\begin{array}{r} 11 \\ 459 \\ 387 + \\ \hline 846 \end{array}$	or	$\begin{array}{r} 21 \\ 287 \\ 172 + \\ \hline 387 \\ \hline 846 \end{array}$
--	---	---	----	---

So,  $287 + 172 + 387 = 846$

**TRY THIS!**

1. 
$$\begin{array}{r} 66 \\ 8 + \\ \hline 9 \end{array}$$

2. 
$$\begin{array}{r} 75 \\ 48 + \\ \hline 27 \end{array}$$

3. 
$$\begin{array}{r} 20 \\ 14 + \\ \hline 32 \end{array}$$

4. 
$$\begin{array}{r} 21 \\ 208 + \\ \hline 199 \end{array}$$

5. 
$$\begin{array}{r} 461 \\ 237 + \\ \hline 198 \end{array}$$

6. 
$$\begin{array}{r} 641 \\ 286 + \\ \hline 59 \end{array}$$

7.  $12 + 48 + 457 =$

8.  $125 + 420 + 247 =$



or visit <http://tiny.cc/b9dpuz>

**Teaching ideas**

- Tell the students that they can add all the 3 numbers at the same time. They will need to write the numbers vertically with the correct alignment of the digits based on the place value of each digit.
- Use the example to explain further.
- 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 8 students to answer it. Ask the rest to verify the answers.

**Further practices**

Get the students to complete the practices on pages 24 to 26 in Go Get Maths Workbook P2.

## Lesson 4 Subtracting without regrouping

### Lesson objectives

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

1. Subtract without regrouping within 1,000.

### Suggested teaching time

3 periods (3 x 50 minutes)

### Vocabulary

-

### Materials needed

Base-10 blocks

### 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 use the base-10 blocks to subtract.
2. Help the students to recall how to subtract with blocks. We take away blocks when subtracting.
3. Lead the students to write the numbers vertically with the correct alignment of the digits based on the place value of each digit. Guide them to subtract.
4. Give them more practices to subtract without using the blocks.

## Lesson 4 Subtracting without regrouping

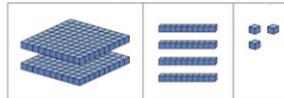
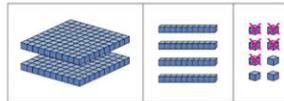
### Starting point

John has 178 ice creams.  
He sells 54 ice creams.  
How do I know how many ice creams he is left with?



### Learning to know Subtracting a 1-digit number from a 3-digit number

$$248 - 5 = ?$$



$$\text{So, } 248 - 5 = 243$$

Step 1: Subtract the ones.

H	T	O	-
2	4	8	
		5	-
		3	

8 ones - 5 ones = 3 ones

Step 2: Subtract the tens.

H	T	O	-
2	4	8	
	5	3	-
	4	3	

4 tens - 0 ten = 4 tens

Step 3: Subtract the hundreds.

H	T	O	-
2	4	8	
		5	-
2	4	3	

2 hundreds - 0 hundred = 2 hundreds

### 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.

$$283 - 2 = \square$$

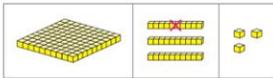
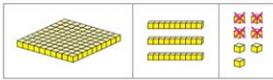
$$485 - 5 = \square$$

$$778 - 6 = \square$$

$$949 - 3 = \square$$

**Learning to know** Subtracting a 2-digit number from a 3-digit number

$137 - 14 = ?$



**Step 1:** Subtract the ones.

H	T	O	
1	3	7	-
		4	-
		3	

7 ones - 4 ones = 3 ones

**Step 2:** Subtract the tens.

H	T	O	
1	3	7	-
	1	4	-
	2	3	

3 tens - 1 ten = 2 tens

**Step 3:** Subtract the hundreds.

H	T	O	
1	3	7	-
	1	4	-
1	2	3	

1 hundred - 0 hundred = 1 hundred

So,  $137 - 14 = 123$

$476 - 73 = ?$

**Step 1:** Subtract the ones.

4	7	6	-
	7	3	-
		3	

**Step 2:** Subtract the tens.

4	7	6	-
	7	3	-
	0	3	

**Step 3:** Subtract the hundreds.

4	7	6	-
	7	3	-
4	0	3	

So,  $476 - 73 = 403$

**Teaching ideas**

1. Guide them to use the base-10 blocks to subtract a 2-digit number from a 3-digit number.
2. Reiterate that they should subtract the ones first, then follows by the tens and lastly the hundreds.
3. Lead the students to write the numbers vertically with the correct alignment of the digits based on the place value of each digit. Guide them to subtract.
4. Use the example to explain further.
5. Give them more practices to subtract without using the blocks.

**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.

$777 - 23 = \square$

$978 - 56 = \square$

$236 - 14 = \square$

$599 - 87 = \square$

### Teaching ideas

1. Guide them to use the base-10 blocks to subtract a 3-digit number from a 3-digit number.
2. Reiterate that they should subtract the ones first, then follow by the tens and lastly the hundreds.
3. Lead the students to write the numbers vertically with the correct alignment of the digits based on the place value of each digit. Guide them to subtract.
4. Use the example to explain further.
5. Give them more practices to subtract without using the blocks.

**Learning to know** Subtracting a 3-digit number from a 3-digit number

$249 - 122 = ?$

↓

↓

So,  $249 - 122 = 127$

$873 - 250 = ?$

**Step 1:** Subtract the ones.

8	7	3	
2	5	0	-
			3

**Step 2:** Subtract the tens.

8	7	3	
2	5	0	-
		2	3

**Step 3:** Subtract the hundreds.

8	7	3	
2	5	0	-
6	2	3	

So,  $873 - 250 = 623$

**Step 1:** Subtract the ones.

H	T	O	
2	4	9	-
1	2	2	
			7

9 ones - 2 ones = 7 ones

**Step 2:** Subtract the tens.

H	T	O	
2	4	9	-
1	2	2	
		2	7

4 tens - 2 tens = 2 tens

**Step 3:** Subtract the hundreds.

H	T	O	
2	4	9	-
1	2	2	
1	2	7	

2 hundreds - 1 hundred = 1 hundred

### 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.

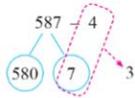
$438 - 126 = \boxed{\phantom{000}}$

$397 - 134 = \boxed{\phantom{000}}$

$961 - 240 = \boxed{\phantom{000}}$

$775 - 372 = \boxed{\phantom{000}}$

There are some subtractions which we can subtract using number bonds.  
 $587 - 4 = ?$

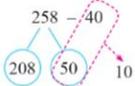


$$7 - 4 = 3 \text{ (subtract ones)}$$

$$580 + 3 = 583$$

So,  $587 - 4 = 583$

$258 - 40 = ?$

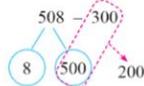


$$50 - 40 = 10 \text{ (subtract tens)}$$

$$208 + 10 = 218$$

So,  $258 - 40 = 218$

$508 - 300 = ?$



$$500 - 300 = 200 \text{ (subtract hundreds)}$$

$$8 + 200 = 208$$

So,  $508 - 300 = 208$

**TRY THIS!**

1. 
$$\begin{array}{r} 589 \\ - 5 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 347 \\ - 7 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 356 \\ - 34 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 795 \\ - 50 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 687 \\ - 543 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 926 \\ - 824 \\ \hline \end{array}$$

7.  $346 - 5 =$

8.  $783 - 200 =$

**Teaching ideas**

6. Tell the students that there are some additions can be done easily using the number bonds.
7. Use the examples to explain.
8. Tell them that they can do the subtraction in their mind. They need a lot of practices. Practice makes perfect.
9. Guide the students to refer to **Starting Point** on page 33. 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 27 to 30 in Go Get Maths Workbook P2.

## Lesson 5 Subtracting with regrouping

### Lesson objectives

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

1. Subtract with regrouping within 1,000.

### Suggested teaching time

4 periods (4 x 50 minutes)

### Vocabulary

-

### Materials needed

Base-10 blocks

### 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. Use the base-10 blocks to show how to subtract with regrouping.
2. Ask the students if the ones are enough to be taken away (subtract). If no, ask them what they should do.
3. Guide them to regroup 1 ten into 10 ones and ask them how many ones they have now and if they are enough to be taken away (subtract).
4. Ask them how many ones are left.
5. Ask them how many tens are left.

## Lesson 5 Subtracting with regrouping

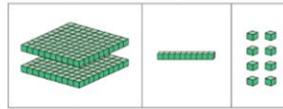
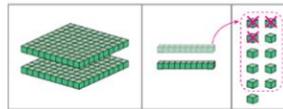
### Starting point

John needs to subtract 16 from 43.  
3 ones are smaller than 6 ones.  
How does he subtract the ones?  
Is regrouping needed here?

T	O
4	3
1	6
—	

### Learning to know Subtracting a 1-digit number from a 3-digit number

$$221 - 3 = ?$$



Step 1: Subtract the ones.

H	T	O	
	1	11	
2	<del>2</del>	<del>1</del>	—
		3	
<hr style="width: 100%;"/>			
		8	

We cannot subtract 3 ones from 1 one.  
Regroup 1 ten into 10 ones.  
2 tens = 1 ten 10 ones  
10 ones + 1 one = 11 ones  
11 ones - 3 ones = 8 ones

Step 2: Subtract the tens.

H	T	O	
	1	11	
2	<del>2</del>	<del>1</del>	—
		3	
<hr style="width: 100%;"/>			
	1	8	

1 ten - 0 ten = 1 ten

So,  $221 - 3 = 218$

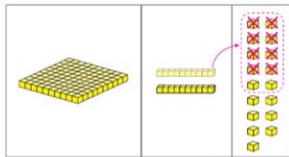
**Step 3:** Subtract the hundreds.

H	T	O	-
2	<del>2</del>	<del>1</del>	
2	1	8	

2 hundreds - 0 hundred = 2 hundreds

**Learning to know** Subtracting a 2-digit number from a 3-digit number

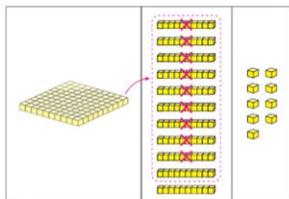
$127 - 98 = ?$



**Step 1:** Subtract the ones.

H	T	O	-
1	<del>2</del>	<del>7</del>	
1	9	8	
1	9	9	

We cannot subtract 8 ones from 7 ones.  
Regroup 1 ten into 10 ones.  
2 tens = 1 ten 10 ones  
10 ones + 7 ones = 17 ones  
17 ones - 8 ones = 9 ones



**Step 2:** Subtract the tens.

H	T	O	-
<del>1</del>	<del>11</del>	<del>17</del>	
0	<del>2</del>	<del>7</del>	
1	9	8	
1	9	9	

We cannot subtract 9 tens from 1 ten.  
Regroup 1 hundred into 10 tens.  
1 hundred = 10 tens  
10 tens + 1 ten = 11 tens  
11 tens - 9 tens = 2 tens



**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.

$934 - 7 = \square$

$380 - 3 = \square$

$777 - 9 = \square$

$621 - 5 = \square$

**Teaching ideas**

6. Ask them how many hundreds are left.
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 the tens and lastly the hundreds.
10. Use the example to explain further.
11. Then, let them subtract without using the blocks.

**Teaching ideas**

1. Use the same method to guide them to subtract a 2-digit number from a 3-digit number using the base-10 blocks.
2. Remind them to always subtract from the ones first, then the tens and lastly the hundreds.
3. Always regroup when the digit you are subtracting are greater than the digit you are subtracting from.

### Teaching ideas

- Use the example to explain further.
- Give them more practices to subtract without using the blocks.

### Teaching ideas

- Use the same method to guide them to subtract a 3-digit number from a 3-digit number using the base-10 blocks.
- Remind them to always subtract from the ones first, then the ten and lastly the hundreds.
- Always regroup when the digit you are subtracting are greater than the digit you are subtracting from.
  - Are the ones enough to be subtracted?
  - If not enough, what should you do?
  - How many ones are left?
  - How tens are there now in total?
  - Are the tens enough to be subtracted?
  - What should you do?
  - How many tens are left?
  - How many hundreds are left after subtracting the hundreds?
  - How many blocks are left at the end?

So,  $127 - 98 = 29$

$531 - 88 = ?$

**Step 1:** Subtract the ones.

2	11	
5	<del>3</del>	-
8	8	-
4	3	-

**Step 2:** Subtract the tens.

4	<del>11</del>	
8	<del>8</del>	-
4	3	-

**Step 3:** Subtract the hundreds.

4	<del>11</del>	
8	<del>8</del>	-
4	3	-

So,  $531 - 88 = 443$

**Step 3: Subtract the hundreds.**

H	T	O	
0	11	17	
<del>9</del>	<del>8</del>	<del>8</del>	-
2	9	8	-

**Learning to know** Subtracting a 3-digit number from a 3-digit number

$313 - 172 = ?$

**Step 1: Subtract the ones.**

H	T	O	
3	1	3	
1	7	2	-
2	4	1	-

**Step 2: Subtract the tens.**

H	T	O	
2	11	3	
<del>1</del>	<del>7</del>	2	-
1	4	1	-

Regroup 1 hundred into 10 tens.  
 3 hundreds = 2 hundreds 10 tens  
 10 tens + 1 ten = 11 tens  
 11 tens - 7 tens = 4 tens

### Activity for Reinforcement

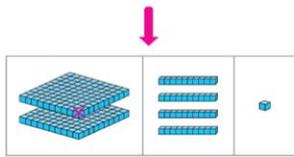
The students need to practice more in order to subtract correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

$634 - 28 = \square$

$207 - 67 = \square$

$823 - 89 = \square$

$500 - 32 = \square$



Step 3: Subtract the hundreds.

H	T	O
<del>2</del>	11	3
<del>1</del>	7	2
1	4	1

So,  $313 - 172 = 141$

$600 - 436 = ?$

Step 1: Subtract the ones.

$$\begin{array}{r} 9 \\ 5 \cancel{0} 10 \\ \cancel{6} \cancel{0} \cancel{0} \\ 436 \\ \underline{\quad} \\ 4 \end{array}$$

Step 2: Subtract the tens.

$$\begin{array}{r} 9 \\ 5 \cancel{0} 10 \\ \cancel{6} \cancel{0} \cancel{0} \\ 436 \\ \underline{\quad} \\ 64 \end{array}$$

Step 3: Subtract the hundreds.

$$\begin{array}{r} 9 \\ 5 \cancel{0} 10 \\ \cancel{6} \cancel{0} \cancel{0} \\ 436 \\ \underline{\quad} \\ 164 \end{array}$$

So,  $600 - 436 = 164$

### TRY THIS!

1.  $\begin{array}{r} 534 \\ 9 \\ \hline \end{array}$

2.  $\begin{array}{r} 664 \\ 6 \\ \hline \end{array}$

3.  $\begin{array}{r} 720 \\ 35 \\ \hline \end{array}$

4.  $\begin{array}{r} 243 \\ 58 \\ \hline \end{array}$

5.  $\begin{array}{r} 555 \\ 478 \\ \hline \end{array}$

6.  $\begin{array}{r} 353 \\ 127 \\ \hline \end{array}$

7.  $763 - 5 = \square$

8.  $530 - 38 = \square$

9.  $658 - 139 = \square$

10.  $724 - 589 = \square$

### Teaching ideas

- Use the example to explain further.
- Give them more practices to subtract without using the blocks.
- Guide the students to refer to **Starting Point** on page 37. Ask them to answer the questions. Have a discussion to conclude the lesson.

### 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 31 to 33 in Go Get Maths Workbook P2.

### 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.

$216 - 119 = \square$

$383 - 195 = \square$

$750 - 331 = \square$

$900 - 584 = \square$

## Lesson 6 Finding the unknowns

### 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

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 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

### Starting point

There are 258 grapes in the basket.  
120 grapes are green. The rest are purple grapes.

How do I find the number of purple grapes in the basket?



### Learning to know Finding the unknowns in addition

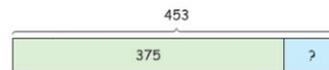
There are 258 grapes. 120 of them are green. 138 of them are purple.  
We can use a bar model to represent the situation.



Based on this bar model,

$$\begin{aligned} 120 + 138 &= 258 \\ 138 + 120 &= 258 \\ 258 - 120 &= 138 \\ 258 - 138 &= 120 \end{aligned}$$

$$375 + ? = 453$$



$$\begin{aligned} 453 - 375 &= ? \\ ? &= 78 \end{aligned}$$

Do you still remember the relationships of the fact family?



$$\begin{array}{r} 14 \\ 3 \cancel{7} 13 \\ A B X \\ \underline{375} \\ 78 \end{array}$$

### Activity for Reinforcement

The students need to practice more in finding the unknowns in addition. Get a few students to write these questions on the board, draw the suitable bar models and find the unknowns. Get others to verify the answers.

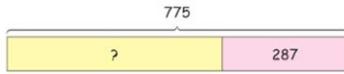
$$432 + \square = 730$$

$$\square + 95 = 462$$

$$712 + \square = 923$$

$$\square + 9 = 906$$

$$? + 287 = 775$$



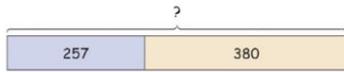
$$775 - 287 = ?$$

$$? = 488$$

$$\begin{array}{r} 16 \\ 6 \cancel{8} 15 \\ 775 \\ - 287 \\ \hline 488 \end{array}$$

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

$$? - 257 = 380$$

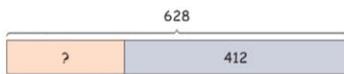


$$257 + 380 = ?$$

$$? = 637$$

$$\begin{array}{r} 1 \\ 257 \\ + 380 \\ \hline 637 \end{array}$$

$$628 - ? = 412$$



$$628 - 412 = ?$$

$$? = 216$$

$$\begin{array}{r} 628 \\ - 412 \\ \hline 216 \end{array}$$

### 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 41. Ask them to answer the question. Have a discussion to conclude the lesson.

### Activity for Reinforcement

The students need to practice more in finding the unknowns in subtraction. Get a few students to write these questions on the board, draw the suitable bar models and find the unknowns. Get others to verify the answers.

$$547 - \square = 528$$

$$\square - 58 = 305$$

$$900 - \square = 434$$

$$\square - 102 = 56$$

### Thinking Corner!

1. Ask the students if we can use the number bonds to find the unknowns in addition and subtraction.
2. Use the example to explain.
3. Get 4 students to draw the number bonds for each of the equations and another 4 students to find the unknowns.
  - $546 + ? = 773$
  - $? + 48 = 135$
  - $? - 653 = 206$
  - $687 - ? = 609$

### Try This!

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

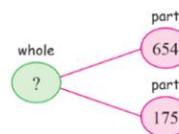
### Further practices

Get the students to complete the practices on page 34 in Go Get Maths Workbook P2.

### Thinking corner!

We can also use the number bond to find the missing number in this equation.

$$? - 654 = 175$$

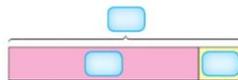


What is the missing number?

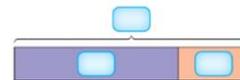
### TRY THIS!

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

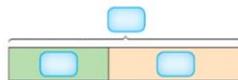
1.  $636 + \square = 782$



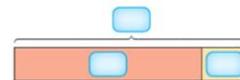
2.  $\square + 85 = 278$



3.  $650 - \square = 373$



4.  $\square - 620 = 132$



or visit  
<http://tiny.cc/f9dpuz>

## Lesson 7 Word problems

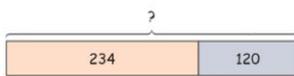
### Starting point

In January, the baker baked 324 cupcakes. In February, he baked 188 more cupcakes than in January. How do we know the number of cupcakes baked by the baker in February?



### Learning to know Solving word problems involving addition

On a farm, there are 234 chickens and 120 ducks. How many chickens and ducks are there altogether?



$$\begin{array}{r} 234 \\ + 120 \\ \hline 354 \end{array}$$

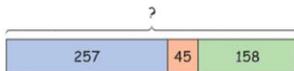


$$234 + 120 = 354$$

There are 354 chickens and ducks altogether.

**Check!**  
 $354 - 234 = 120$  or  
 $354 - 120 = 234$   
The answer is correct.

Mimi has 257 stamps. John has 45 stamps. Mike has 158 stamps. How many stamps do the children have altogether?



$$\begin{array}{r} 12 \\ 257 \\ + 45 \\ \hline 158 \\ \hline 460 \end{array}$$



$$257 + 45 + 158 = 460$$

The children have 460 stamps altogether.

**Check!**  
 $460 - 257 = 203$   
 $203 - 45 = 158$   
The answer is correct.

## Lesson 7 Word problems

### Lesson objectives

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

1. Solve 2-step word problems within 1,000.
2. Create addition and subtraction word problems within 1,000.

### Suggested teaching time

5 periods (5 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?

## Teaching ideas

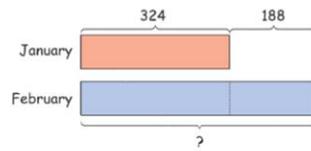
### Step 2: Plan and execute

- 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.

In January, the baker baked 324 cupcakes. In February, he baked 188 more cupcakes than in January. How many cupcakes did the baker bake in February?



$$\begin{array}{r} 11 \\ 324 \\ + 188 \\ \hline 512 \end{array}$$

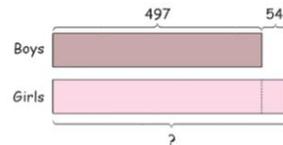


$$324 + 188 = 512$$

In February, the baker baked 512 cupcakes.

**Check!**  
 $512 - 324 = 188$  or  
 $512 - 188 = 324$   
The answer is correct.

There are 497 boys in the school. There are 54 more girls than boys. How many girls are there?



$$\begin{array}{r} 11 \\ 497 \\ + 54 \\ \hline 551 \end{array}$$



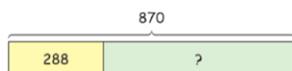
$$497 + 54 = 551$$

There are 551 girls in the school.

**Check!**  
 $551 - 54 = 497$  or  
 $551 - 497 = 54$   
The answer is correct.

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

The bookshop has 870 books. It sells 288 books this week. How many books does it have left?



$$\begin{array}{r} 16 \\ 7 \cancel{0} 10 \\ 8 \cancel{7} \cancel{0} \\ \underline{288} \\ 582 \end{array}$$

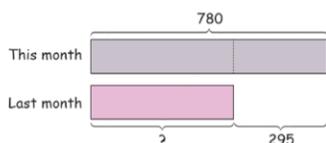


**Check!**  
 $582 + 288 = 870$  or  
 $870 - 582 = 288$   
 The answer is correct.

$$870 - 288 = 582$$

It has 582 books left.

780 people visited the zoo this month. 295 fewer people visited the zoo last month than this month. How many people visited the zoo last month?



$$\begin{array}{r} 17 \\ 6 \cancel{0} 10 \\ 7 \cancel{8} \cancel{0} \\ \underline{295} \\ 485 \end{array}$$



**Check!**  
 $780 - 485 = 295$  or  
 $295 + 485 = 780$   
 The answer is correct.

$$780 - 295 = 485$$

485 people visited the zoo last month.

**Thinking corner!**

There were 645 cars in the stadium. Later, 378 cars left the stadium. How many cars were left there?

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

**Teaching ideas**

1. Repeat the same method for guiding the students to solve word problems involving subtraction.

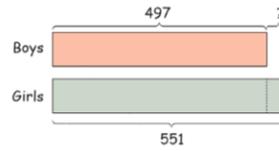
**Thinking Corner!**

1. Ask the students to read silently the question. Then, read them together with the students. Explain further the number story and the question if the students do not understand.
2. Discuss the problem by asking these questions:
  - Does this question involve comparing 2 items?
  - How do you know?
  - Is addition or subtraction involved?
  - What keyword tell you this?
  - Which type of bar model will you use - part-whole bar model or comparison bar model?

**Try This!**

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

There are 497 boys and 551 girls in the school. How many fewer boys than girls are there in the school?



$$\begin{array}{r} 14 \\ 4 \cancel{9} 11 \\ 5 \cancel{5} \cancel{1} \\ \hline 497 \\ - \\ \hline 54 \end{array}$$

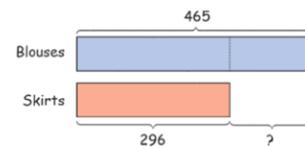


**(Check!)**  
 $551 - 54 = 497$  or  
 $497 + 54 = 551$   
The answer is correct.

$551 - 497 = 54$   
There are 54 fewer boys than girls in the school.

**TRY THIS!** Complete the bar model for each problem. Then, solve it.

1. The shop has 465 blouses and 296 skirts. How many more blouses than skirts does the shop have?



=

The shop has  more blouses than skirts.

Always check your answers.



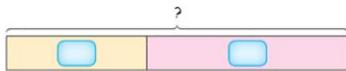
2. The seller has 879 apples and oranges. 387 are apples. How many oranges does the seller have?



$$\boxed{\phantom{000}} + \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

The seller has  oranges.

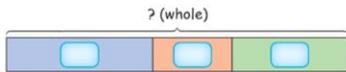
3. The lorry carries some eggs. It is involved in a road accident. 287 eggs are broken. 413 eggs are in good condition. How many eggs did the lorry carry?



$$\boxed{\phantom{000}} + \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

The lorry carried  eggs.

4. The fruit stall has 157 apples, 87 pears and 120 oranges. How many fruits does the stall have altogether?



$$\boxed{\phantom{000}} + \boxed{\phantom{000}} + \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

The stall has  fruits altogether.

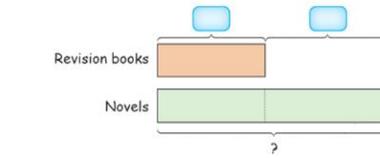
### Further practices

Get the students to complete the practices on pages 35 to 39 in Go Get Maths Workbook P2.

### Teaching ideas

1. Write '445 + 239 = 684' 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.

5. The shop sells 125 revision books. It sells 142 more novels than revision books. How many novels does the shop sell?



+  =

The shop sells  novels.

#### Learning to know **Creating word problems**

Create an addition word problem based on the equation below.

$$134 + 242 = 376$$

- ☞ Understand the equation.
  - ☞ There are 134 things and another 242 things.
- ☞ Write the name of a thing to tell the amount the number represents.
  - ☞ 134 pies, 242 buns
- ☞ Lastly, write an addition question for the two things.
  - ☞ How many pies and buns are there altogether?



#### Answer

There are 134 pies. There are 242 buns. How many pies and buns are there altogether?

Create a subtraction word problem based on the equation below.

$$428 - 258 = 170$$

Understand the equation.

There are 428 things. 258 of the things are given away or used up.

Write the name of a thing to tell the amount the number represents.

428 fruits, 258 fruits

Create a story to tell that the 258 things left the group.

258 fruits are sold.

Lastly, write a subtraction question for the two things.

How many fruits are left?

How do we write a subtraction word problem?



**Answer**

There are 428 fruits. 258 of the fruits are sold. How many fruits are left?

### TRY THIS!

1. Create an addition word problem based on each of the addition equations below.

(a)  $357 + 174 = 531$

(b)  $127 + 250 = 377$

2. Create a subtraction word problem based on each of the subtraction equations below.

(a)  $500 - 358 = 142$

(b)  $470 - 35 = 435$

### Teaching ideas

- Repeat the same for the subtraction equation.
- Guide the students to refer to **Starting Point** on page 44. 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 40 and 41 in Go Get Maths Workbook P2.

## Chapter 3 Length

### The big idea

1. Help the students to recall how long 1 m and 1 cm are. Ask them to give examples of things of 1 m and 1 cm long or tall.
2. Ask them how to measure things that are more than 1 m but less than 2 m long. Ask them if they know how to read the measurement.
3. Ask the students to look at the picture carefully. Ask them these questions to start a discussion:
  - Have you measured your height before?
  - Are you taller than 1 m?
  - Are you taller than 2 m?
  - How do you read your height in m?

**Chapter 3**  
**Length**

Sanit is 135 cm tall. Is he taller than 1 m?

Lesson 1	Measuring length
Lesson 2	Units of length
Lesson 3	Comparing and ordering lengths
Lesson 4	Word problems

### Strand 2: Measurement and Geometry

#### Standard M.2.1

##### Indicators:

**M 2.1 Gr2/2** Measure and compare length in metres and centimetres.

**M 2.1 Gr2/3** Show mathematical operations in addition and subtraction word problems involving length in metres and centimetres.

## Lesson 1 Measuring length

### Starting point

The table is longer than the ruler.

How is Pheng going to measure the length of the table with the ruler? What are other measuring tools that he can use?



### Learning to know Measuring length in m and cm

We can measure length using the measuring tools shown below.



Meter rule



Ruler



Linen measuring tape



Metal measuring tape

### Fun with Maths!

1. Get in groups of 4.
2. Look carefully at the measuring tools given such as a meter rule, a ruler and measuring tapes.
3. Brainstorm the things whose lengths can be easily measured by each of the measuring tools.
4. Present your suggestions together with your reasons.

### Fun with Maths!

**Materials required:** Meter rule, ruler, linen measuring tape, metal measuring tape

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

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

## Lesson 1 Measuring length

### Lesson objectives

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

1. Measure length in m and cm.
2. Estimate length in m.

### Suggested teaching time

4 periods (4 x 50 minutes)

### Vocabulary

-

### Materials needed

Meter rule, ruler, linen measuring tape, metal measuring tape

### 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 a meter rule, a ruler, a linen measuring tape and a metal measuring tape. 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?

### Teaching ideas

2. Show the students how to measure the lengths of some objects in the classroom by using a meter rule in cm and m.
3. Repeat with a metal measuring tape in cm.

### Try This!

Get the students to carry out the measurement at home using a meter rule and a metal measuring tape.

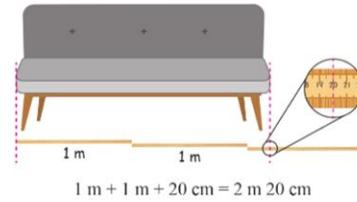
### Further practices

Get the students to complete the practices on pages 42 and 43 in Go Get Maths Workbook P2.



or visit  
<http://tiny.cc/i9dpuz>

A meter rule is used to measure the length of this sofa.



The length of the sofa is 2 m 20 cm.



The advertisement board is 310 cm wide.  
The height of the advertisement board is 152 cm.

### TRY This!

Measure the lengths of these items at home in m and cm.

Item	Measurement
Length of the family car	
Height of the wall	
Length of the bed	
Height of the refrigerator	

### Activity for Reinforcement

**Materials required:** Meter rule, metal measuring tape

**Objective of the activity:** Measuring friend's height and waistline

1. Get the students in groups of 3.
2. Ask each of them to measure his or her member's height with first using the meter ruler and then the metal measuring tape.
3. Repeat to measure his or her waistline.
4. Ask them which tool is easier to be used.

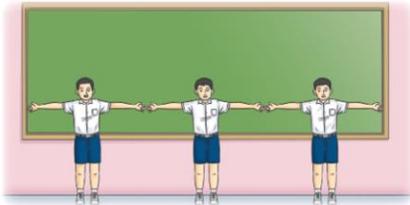
**Learning to know** Estimating length in m



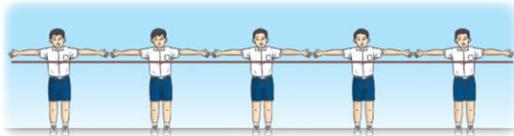
Spread out your arms. Is your arm span about 1 m long?



We can estimate the lengths of things around us in meters. We can estimate with our arm span.



The blackboard is about 3 m long.  
However, when it is measured with a measuring tool, it is 3 m 50 cm long.



The rope is 5 times as long as the arm span.  
We can say that the rope is about 5 m long.  
However, when it is measured with a meter rule, it is 4 m 80 cm long.

**Teaching ideas**

1. Help the students to recall what arm span is.
2. Ask them to pair up and measure each other arm span in cm. Start the discussion with these questions:
  - Which measuring tool is the best to measure the arm span? Give your reason.
  - How long is your arm span?
  - Is your arm span the same as your partner's? Can you explain?
  - Is your arm span about 1 m?
3. Use the examples to explain how to estimate lengths of things using your arm span.
4. Remind the students to start to measure at one end of the object and keep the arm spans side by side with no gaps in order to get as accurate a measurement as possible.
5. Guide the students to refer to **Starting Point** on page 52. Ask them to answer the questions. Have a discussion to conclude the lesson.

### Fun with Maths!

**Materials required:** Measuring tools

**Objective of the activity:** Estimating lengths of things in the classroom

Tell the students that estimating skills are important 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 page 44 in Go Get Maths Workbook P2.

### Fun with Maths!

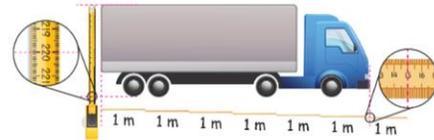
Work in pairs.

1. Estimate the length of each item in the table below in m.
2. Then, measure it with a measuring tape or a meter rule.

Item	Estimation	Actual measurement
Length of the board		
Height of the door		
Length of the window		
Length of the classroom		

### TRY THIS!

1. Fill in the blanks.



- (a) The length of the truck is  m  cm.
- (b) The truck is  cm tall.

2. The boy is about 1 m tall. Estimate the height of the giraffe. Tick your estimation.

- 2 m
- 3 m
- 5 m



## Lesson 2 Units of length

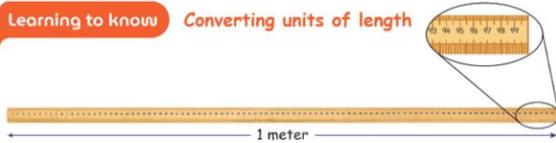
### Starting point

When I use a meter rule to measure the length of the rope, it gives me 2 m 10 cm. However, when I use a measuring tape to measure the same rope, it gives me 210 cm.

Are they the same?



### Learning to know Converting units of length



There are 100 cm in a meter.

$$100 \text{ cm} = 1 \text{ m}$$



The length of the broom is 140 cm.

$$140 \text{ cm} = 100 \text{ cm} + 40 \text{ cm} \\ = 1 \text{ m } 40 \text{ cm}$$

The broom is 1 m 40 cm long.

The girl is 115 cm tall.

$$115 \text{ cm} = 100 \text{ cm} + 15 \text{ cm} \\ = 1 \text{ m } 15 \text{ cm}$$

The height of the girl is 1 m 15 cm.



## Lesson 2 Units of length

### Lesson objectives

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

1. Convert units of length between cm and m.

### Suggested teaching time

2 periods (2 x 50 minutes)

### Vocabulary

-

### Materials needed

Meter rule

### 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 meter rule. Ask them these questions:
  - Do you notice the indicator for 1 cm?
  - How many cm are there on the meter rule?
  - How long is the meter rule in cm?
  - Is 1 m equal to 100 cm?
2. Guide the students to understand that 100 cm is equal to 1 m.
3. Use the examples to show how to convert cm into m and cm.

### Activity for Reinforcement

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

$$100 \text{ cm} = \boxed{\phantom{00}} \text{ m } \boxed{\phantom{00}} \text{ cm}$$

$$120 \text{ cm} = \boxed{\phantom{00}} \text{ m } \boxed{\phantom{00}} \text{ cm}$$

$$250 \text{ cm} = \boxed{\phantom{00}} \text{ m } \boxed{\phantom{00}} \text{ cm}$$

$$308 \text{ cm} = \boxed{\phantom{00}} \text{ m } \boxed{\phantom{00}} \text{ cm}$$

### Teaching ideas

4. Guide the students to understand that 1 m equals to 100 cm too.
5. Use the examples to show how to convert m and cm into cm.
6. Guide the students to refer to **Starting Point** on page 56. 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

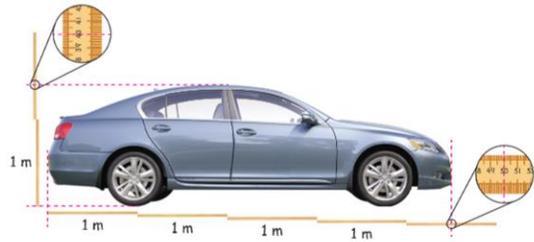
Get the students to complete the practices on pages 45 and 46 in Go Get Maths Workbook P2.

### Thinking Corner!

1. Ask the students these questions to start the discussion:
  - Which is a smaller unit, cm or m?
  - If an object is less than 1 m long, is it better to use cm when stating its length? Explain.
  - If an object is more than 1 m long, is it better to use cm or m and cm when stating its length? Explain.
2. It always makes sense to use cm to measure short objects, and use m and cm to measure long objects.



or visit  
<http://tiny.cc/m9dpuz>



The height of the car is 1 m 40 cm.

$$1 \text{ m } 40 \text{ cm} = 100 \text{ cm} + 40 \text{ cm} \\ = 140 \text{ cm}$$

The height of the car is 140 cm.

The length of the car is 4 m 50 cm.

$$4 \text{ m } 50 \text{ cm} = 400 \text{ cm} + 50 \text{ cm} \\ = 450 \text{ cm}$$

The length of the car is 450 cm.

**TRY THIS!** Fill in the blanks.

1. 4 m =  cm

2. 300 cm =  m

3. 5 m 5 cm =  cm

4. 8 m 10 cm =  cm

5. 285 cm =  m  cm

6. 708 cm =  m  cm

### Thinking corner!

When should we use *meter* or *centimeter* when measuring lengths?

Chapter 3 | 57

### Activity for Reinforcement

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

$$1 \text{ m} = \boxed{\phantom{00}} \text{ cm}$$

$$2 \text{ m } 45 \text{ cm} = \boxed{\phantom{00}} \text{ cm}$$

$$4 \text{ m } 88 \text{ cm} = \boxed{\phantom{00}} \text{ cm}$$

$$3 \text{ m } 5 \text{ cm} = \boxed{\phantom{00}} \text{ cm}$$

### Lesson 3 Comparing and ordering lengths

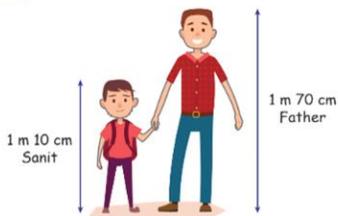
#### Starting point

One rope is 1 m 50 cm long. The other is 105 cm long.

How do I know which rope is longer?



#### Learning to know Comparing lengths



Sanit is 1 m 10 cm tall.  
His father is 1 m 70 cm tall.

$$1 \text{ m } 10 \text{ cm} = 100 \text{ cm} + 10 \text{ cm} \\ = 110 \text{ cm}$$

$$1 \text{ m } 70 \text{ cm} = 100 \text{ cm} + 70 \text{ cm} \\ = 170 \text{ cm}$$

$$170 - 110 = 60$$

Sanit is 60 cm shorter than his father.  
Sanit's father is 60 cm taller than him.

We can also find the difference between the two measurements directly.

How tall are you?



m	cm
1	70
1	10
<hr/>	
	60

#### Extra notes

When we subtract lengths in m and cm directly, take note if regrouping is needed because 2 units are involved.

Remember that 100 cm = 1 m.

For example, 3 m 30 cm – 1 m 65 cm = ?

m	cm
2	130
<del>3</del>	<del>30</del>
1	75
<hr/>	
1	55

We cannot subtract 75 cm from 30 cm.

So, we regroup 1 m into 100 cm.

$$100 \text{ cm} + 30 \text{ cm} = 130 \text{ cm}$$

## Lesson 3 Comparing and ordering lengths

### Lesson objectives

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

1. Compare lengths in m and cm.
2. Order lengths in m and cm.

### Suggested teaching time

3 periods (3 x 50 minutes)

### Vocabulary

-

### Materials needed

-

### Starting point

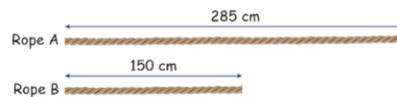
Help the students to understand the question. Ask them if they know the answer and what they will learn today.

### Teaching ideas

1. Based on the example, tell the students that we can find the difference in height by subtracting one from the other.
2. Here we can convert the unit into cm first before subtracting, or subtract directly. This is because both units are the same which are m and cm.
3. Guide them to make statements regarding the difference in height between the Sanit and his father. Remind them to use the comparative adjectives.

### Teaching ideas

- Based on the first example, we can subtract directly when comparing the lengths of the ropes. This is because both units are the same which are in cm.
- In the second example, the units are different. One is in m and cm, and the other is in cm.
- Tell the students that we need to convert them into the same unit, either into cm or m and cm.
- Guide them to convert the units into m and cm, and make statements regarding the difference in distance between A and B, and B and C. Remind them to use the comparative adjectives.
- Remind the students to always take note of the units when comparing. When they are different, we need to convert them into similar unit.



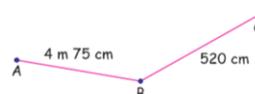
Rope A is 285 cm long.

Rope B is 150 cm long.

$$285 - 150 = 135$$

Rope A is 135 cm longer than rope B.

Rope B is 135 cm shorter than rope A.



The distance between A and B is 4 m 75 cm.

The distance between B and C is 520 cm.

$$4 \text{ m } 75 \text{ cm} = 400 \text{ cm} + 75 \text{ cm}$$

$$= 475 \text{ cm}$$

$$520 - 475 = 45$$

The distance between A and B is 45 cm shorter than the distance between B and C.

The distance between B and C is 45 cm longer than the distance between A and B.

When comparing lengths, always compare them in the same unit.



**Learning to know** Ordering lengths



$$2 \text{ m } 80 \text{ cm} = 200 \text{ cm} + 80 \text{ cm} \\ = 280 \text{ cm}$$

The lamp post is 280 cm tall.

The fence is 210 cm tall.

The tree is 250 cm tall.

$$280 - 210 = 70$$

The lamp post is 70 cm taller than the fence.

$$280 - 250 = 30$$

The lamp post is 30 cm taller than the tree.

The lamp post is the tallest.

$$250 - 210 = 40$$

The fence is 40 cm shorter than the tree.

The fence is the shortest.

We can arrange them starting with the tallest item.

Lamp post,      tree,      fence  
tallest      →      shortest

We can arrange them starting with the shortest item.

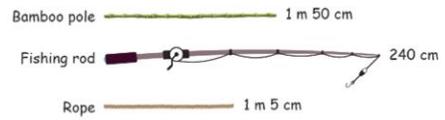
Fence,      tree,      lamp post  
shortest      →      tallest

### Teaching ideas

1. Guide the students to compare the heights of the objects in the book by asking them these questions:
  - Are all the units the same?
  - Do you need to convert them into the same unit?
  - Which is taller, the lamp post or the fence?
  - Which is taller, the lamp post or the tree?
  - Which is shorter, the fence or the tree?
  - Which is the tallest?
  - Which is the shortest?
2. Guide the students to arrange the objects. Tell them that we can arrange them starting with the shortest or the tallest one. Always fill in the shortest and the longest first and then only fill in the last one in between them.

### Teaching ideas

- Repeat the same for this example to compare the lengths of the objects.
- Guide the students to refer to **Starting Point** on page 58. Ask them to answer the question. Have a discussion to conclude the lesson.



$$\begin{aligned} 1 \text{ m } 50 \text{ cm} &= 100 \text{ cm} + 50 \text{ cm} \\ &= 150 \text{ cm} \\ 1 \text{ m } 5 \text{ cm} &= 100 \text{ cm} + 5 \text{ cm} \\ &= 105 \text{ cm} \end{aligned}$$

The length of the bamboo pole is 150 cm.

The length of the fishing rod is 240 cm.

The length of the rope is 105 cm.

$$150 - 105 = 45$$

The rope is 45 cm shorter than the bamboo pole.

$$240 - 105 = 135$$

The rope is 135 cm shorter than the fishing rod.

The rope is the shortest.

$$240 - 150 = 90$$

The fishing rod is 90 cm longer than the bamboo pole.

The fishing rod is the longest.

We can arrange them starting with the longest item.

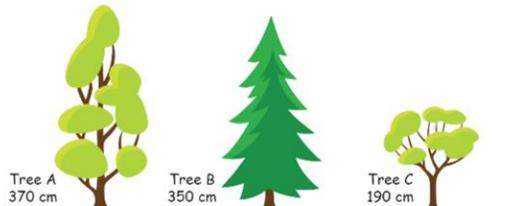
Fishing rod, bamboo pole, rope  
longest → shortest

We can arrange them starting with the shortest item.

Rope, bamboo pole, fishing rod  
shortest → longest

**TRY THIS!**

1. Fill in the blanks.



- (a) Tree A is  cm taller than tree C.
- (b) Tree B is  cm taller than tree C.
- (c) Tree B is  cm shorter than tree A.
- (d) Tree C is  cm shorter than tree B.
- (e) Tree A is the .
- (f) Tree C is the .

2. Arrange the ribbons.



- (a) Starting with the longest one:  
 ,  ,
- (b) Starting with the shortest one:  
 ,  ,

**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 47 and 48 in Go Get Maths Workbook P2.

## Lesson 4 Word problems

### Lesson objectives

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

1. Solve addition and subtraction word problems involving conversion of units of length.

### 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?

## Lesson 4 Word problems

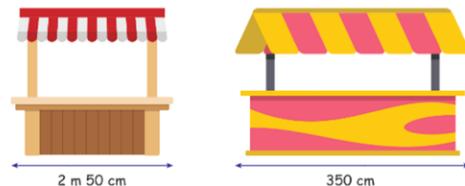
### Starting point

I have a ribbon that is 3 m 45 cm long.  
I use 70 cm of it to wrap a present.  
How do I know the length of the ribbon that is left?



### Learning to know Solving word problems

The length of a stall is 2 m 50 cm. The length of the other stall is 350 cm. What is the total length of the two stalls in m?



$$\begin{aligned}2 \text{ m } 50 \text{ cm} &= 200 \text{ cm} + 50 \text{ cm} \\ &= 250 \text{ cm}\end{aligned}$$

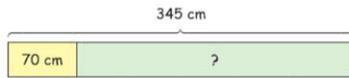


$$\begin{aligned}250 + 350 &= 600 \\ 600 \text{ cm} &= 6 \text{ m}\end{aligned}$$

The total length of the two stalls is 6 m.

I have a ribbon that is 3 m 45 cm long. I use 70 cm of it to wrap a present. How long is the ribbon that is left in m and cm?

$$3 \text{ m } 45 \text{ cm} = 300 \text{ cm} + 45 \text{ cm} \\ = 345 \text{ cm}$$

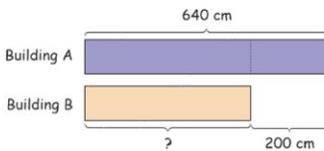


$$345 - 70 = 275 \\ 275 \text{ cm} = 200 \text{ cm} + 75 \text{ cm} \\ = 2 \text{ m } 75 \text{ cm}$$

The ribbon that is left is 2 m 75 cm long.

Building A is 6 m 40 cm tall. Building B is 2 m shorter than building A. How tall is building B in cm?

$$6 \text{ m } 40 \text{ cm} = 600 \text{ cm} + 40 \text{ cm} \\ = 640 \text{ cm} \\ 2 \text{ m} = 200 \text{ cm}$$



How do we find the difference in height?



$$640 - 200 = 440 \\ \text{Building B is } 440 \text{ cm tall.}$$

## 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

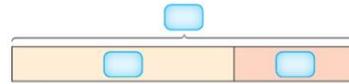
- Always ask the students to check their answer. They need to check if the answer makes sense and is reasonable.
3. Remind the students to always take note of the units.
  4. Work with them the 3 steps in solving the word problems.

**Try This!**

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

**TRY THIS!**

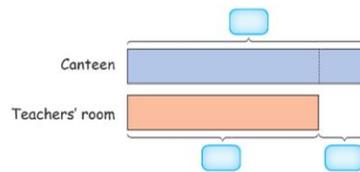
1. The snail crawled 3 m 35 cm at night to reach the garden. Then, it crawled another 190 cm in the morning to reach the pond. How far did the snail crawl altogether in m and cm?



$$\boxed{\phantom{00}} \text{ m } \boxed{\phantom{00}} \text{ cm} = \boxed{\phantom{00}} \text{ m } \boxed{\phantom{00}} \text{ cm}$$

The snail crawled  $\boxed{\phantom{00}}$  m  $\boxed{\phantom{00}}$  cm altogether.

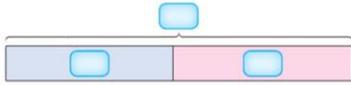
2. The canteen is 9 m 50 cm away from the classroom. The teachers' room is 2 m nearer than the canteen from the classroom. How far is the teachers' room from the classroom in cm?



$$\boxed{\phantom{00}} \text{ m } \boxed{\phantom{00}} \text{ cm} = \boxed{\phantom{00}} \text{ cm}$$

The teachers' room is  $\boxed{\phantom{00}}$  cm from the classroom.

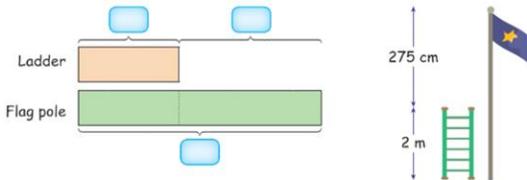
3. Mother has 890 cm of cloth. She uses 4 m 25 cm of it to make some skirts. How much cloth does Mother have left in cm?



$$\square \ominus \square = \square$$

Mother has  cm of cloth left.

4. The ladder is 2 m tall. The flag pole is 275 cm taller than the ladder. How tall is the flag pole in m and cm?



$$\square \oplus \square = \square$$

The flag pole is  m  cm tall.

### Further practices

Get the students to complete the practices on pages 49 to 52 in Go Get Maths Workbook P2.

## Chapter 4 Mass

### The big idea

1. Ask the students to look at the picture carefully.
2. Ask them these questions to start a discussion:
  - Does your mother bake any cakes?
  - If yes, do you help her in baking?
  - Is it important to follow the masses of ingredients stated in a recipe?
  - What happens if we do not follow straightly the masses of ingredients stated in a recipe?
  - Gram is another unit of mass. How many g are there in 1 kheed?

Chapter 4  
Mass

Lesson 1 Measuring mass

Lesson 2 Units of mass

Lesson 3 Comparing and ordering masses

Lesson 4 Word problems

How much is 200 g in kheed?

### Strand 2: measurement and Geometry

#### Standard M.2.1

##### Indicators:

**M 2.1 Gr2/4** Measure and compare weight in kilogrammes and grammes/ kilogrammes and kheeds (hectogrammes).

**M 2.1 Gr2/5** Show mathematical operations in addition and subtraction word problems involving weight in kilogrammes and grammes/ kilogramms and kheeds (hectogrammes).

## Lesson 1 Measuring mass

### Starting point

Some mangoes are being weighed. The pointer is between 1 kg and 2 kg.

How do you read the measurement?



### Learning to know Measuring mass in kg and kheed, and kg and g

We can measure the masses of objects using these measuring tools.



Kitchen scale



Dial spring scale



Hanging scale



Computing scale



Bathroom scale

There are basically two types of scales – analog scales and digital scales.



Analog scale



Digital scale

### Extra notes

The analog scale is a traditional model that uses a spring to calculate and reflect the force applied. No electricity is used here.

The digital scale is a battery-powered or electric model that uses electric energy to function.

## Lesson 1 Measuring mass

### Lesson objectives

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

1. Measure mass in kg and kheed, and kg and g.
2. Estimate mass in kg.

### Suggested teaching time

3 periods (3 x 50 minutes)

### Vocabulary

Gram

### Materials needed

Kitchen scale, dial spring scale, hanging scale, computing scale, bathroom 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 kitchen scale, dial spring scale, hanging scale, computing scale and bathroom scale.
2. Discuss how these scales are used.
3. Tell the students that the scales are divided into 2 groups – analog scales and digital scales.

### Teaching ideas

4. Demonstrate how to measure mass using kg and kheed with a weighing scale. Guide them to read the scale while pointing to the reading.
5. Inform the students that kheed is generally used in Thailand. In other countries, gram (g) is more commonly used.
6. Introduce gram as a unit of mass to the students by explaining that 1 kheed is equal to 100 g.
7. Demonstrate how to measure mass using kg and g with a weighing scale. Guide them to read the scale while pointing to the reading.

The mangoes weigh between 1 kg and 2 kg.  
The pointer points at 5 kheed, between 1 kg and 2 kg.  
So, the mass of mangoes is 1 kg 5 kheed.



The bunch of bananas has a mass of 2 kg 7 kheed.



The mass of the vegetable is 3 kheed.



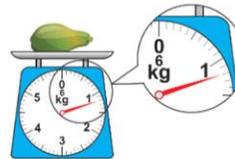
We can use **grams** instead of kheids. This unit is often used in digital scales.



The milk weighs 900 g.



The empty kettle has a mass of 500 g.



The papaya has a mass of 1 kg 2 kheed or 1 kg 200 g.



Every small marking represents 1 kheed. It also represents 100 g.



The durians have a mass of 5 kg 400 g.



The bag weighs 3 kg 700 g.



The mass of the chicken is 1 kg 800 g.



The potatoes have a mass of 4 kg 100 g.

**Learning to know** Estimating mass in kg

**Fun with Maths!**

1. Get in groups of four.
2. Each group is given a weighing scale, a bag of 1-kg sand, some books, a bag, a watermelon and a bottle of water.
3. Hold the bag of 1-kg sand in your hand. Feel how heavy it is.
4. Then, estimate the masses of the other items in kg.
5. Record your estimations in the table below. Then, weigh and record their actual measurements.

Item	Estimation	Actual measurement
Books		
Bag		
Watermelon		
Bottle of water		

6. Are your estimations near to the actual measurements?

**Teaching ideas**

8. Use the examples to explain further.

**Fun with Maths!**

**Materials required:** Weighing scales

**Objective of the activity:** Estimating and measuring mass

The students should try to estimate the masses of the items by comparing them with the 1-kg of sand. Estimation skill is an important skill.

**Activity for Reinforcement**

**Materials required:** Weighing scale, flour, bags

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

1. Ask the students to work in pairs.
2. Ask them to make 3 bags of flour.
3. Get one of them measure the masses of the 3 bags in kg and kheed, and kg and g and the other verify the masses.

### Teaching ideas

1. Tell the students that they can estimate the mass of an object by comparing with a known mass.
2. Guide the students to refer to **Starting Point** on page 68. 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 53 to 55 in Go Get Maths Workbook P2.

I estimate the mass of the bag of flour to be about 2 kg.



Mimi estimates the mass of the bag of flour as 2 kg. When it is measured with a scale, its mass is 1 kg 800 g.

### TRY THIS!

1. State the mass of each item.

(a)



kg  kheed

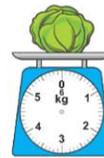
(b)



kg  g

2. Draw the pointers to show the readings.

(a)



The mass of the cabbage is 1 kg 200 g.

(b)



The mass of the tomatoes is 5 kg 5 kheed.

## Lesson 2 Units of mass

### Starting point

The mass of the corn is 5 kg 6 kheed.  
How do you convert this mass into kg and g?



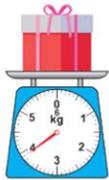
### Learning to know Converting units of mass



The corn weighs 5 kg 6 kheed.  
This is equivalent to 5 kg 600 g.

Each small marking on the scale represents  
1 kheed or 100 g.

$$1 \text{ kheed} = 100 \text{ g}$$



The mass of the present is  
3 kg 900 g or 3 kg 9 kheed.



The coconut has a mass of  
1 kg 1 kheed or 1 kg 100 g.

### TRY THIS! Fill in the blanks.

- 3 kg 5 kheed =  kg  g
- 8 kg 400 g =  kg  kheed
- 15 kg 8 kheed =  kg  g
- 20 kg 200 g =  kg  kheed

### Activity for Reinforcement

Select a few students to answer these questions verbally:

- 100 g =  kheed
- 300 g =  kheed
- 600 g =  kheed
- 1 kheed =  g
- 4 kheed =  g
- 9 kheed =  g



or visit  
<http://tiny.cc/s9dpuz>

## Lesson 2 Units of mass

### Lesson objectives

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

1. Convert units of mass between kheed and g.

### Suggested teaching time

2 periods (2 x 50 minutes)

### Vocabulary

-

### Materials needed

Weighing scales

### 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 that 1 kheed is equal to 100 g.
2. Get some students to work in pairs. Put an item on the weighing scale and get one of the students read the mass in kg and kheed and another in kg and g.
3. Guide the students to refer to **Starting Point** on page 72. 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 56 and 57 in Go Get Maths Workbook P2.

## Lesson 3 Comparing and ordering masses

### Lesson objectives

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

1. Compare masses in kg and kheed and kg and g.
2. Order masses in kg and kheed and kg and g.

### 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. Based on the example, tell the students that we can find the difference in mass by subtracting one from the other.
2. Ask the students to analyze the units used. Discuss with these questions:
  - Are the units the same?
  - What should you do?
3. Guide them to convert kg and g into kg and kheed, and make statements regarding the difference in mass between the 2 piles of books. Remind them to use the comparative adjectives.

## Lesson 3 Comparing and ordering masses

### Starting point

One pile of books weighs 1 kg 5 kheed.  
The other pile of books weighs 1 kg 800 g.  
How do you know which pile of books is heavier?



### Learning to know Comparing masses



Pile A weighs 1 kg 5 kheed.

$$800 \text{ g} = 8 \text{ kheed}$$

Pile B weighs 1 kg 8 kheed.

Compare the kg. They are the same.

Compare the kheed.

$$8 - 5 = 3$$

Pile A is 3 kheed lighter than pile B.

Pile B is 3 kheed heavier than pile A.

kg	kheed
1	8
1	5
	3

When comparing masses, always compare them in the same unit. We can also compare masses in kg and g.



5 kheed = 500 g  
 Pile A weighs 1 kg 500 g.  
 Pile B weighs 1 kg 800 g.  
 Compare the kg. They are the same.  
 Compare the g.  
 $800 - 500 = 300$   
 Pile A is 300 g lighter than pile B.  
 Pile B is 300 g heavier than pile A.

kg	g	
1	800	-
1	500	
	300	



The mass of Mike is 23 kg 2 kheed.

$$300 \text{ g} = 3 \text{ kheed}$$

The mass of Pheng is 50 kg 3 kheed.

$$50 \text{ kg } 3 \text{ kheed} - 23 \text{ kg } 2 \text{ kheed} = 27 \text{ kg } 1 \text{ kheed}$$

Pheng is 27 kg 1 kheed heavier than Mike.

Mike is 27 kg 1 kheed lighter than Pheng.

kg	kheed	
50	3	-
23	2	
27	1	

$$2 \text{ kheed} = 200 \text{ g}$$

The mass of Mike is 23 kg 200 g.

The mass of Pheng is 50 kg 300 g.

$$50 \text{ kg } 300 \text{ g} - 23 \text{ kg } 200 \text{ g} = 27 \text{ kg } 100 \text{ g}$$

Pheng is 27 kg 100 g heavier than Mike.

Mike is 27 kg 100 g lighter than Pheng.

kg	g	
50	300	-
23	200	
27	100	

### Teaching ideas

- Tell the students that we can change kg and kheed into kg and g.
- Guide them to convert kg and kheed into kg and g, and make statements regarding the difference in mass between the 2 piles of books. Remind them to use the comparative adjectives.
- Use the following example to explain further.

## Teaching ideas

1. Guide the students to compare the masses of the bags by asking them these questions:
  - Are all the units the same?
  - Do you need to convert them into the same unit?
  - Which is lighter, the brown bag or the green bag?
  - Which is lighter, the pink bag or the green bag?
  - Which is the heaviest?
  - Which is the lightest?
2. Guide the students to arrange the objects. Tell them that we can arrange them starting with the heaviest one or the lightest one. Always fill in the lightest and heaviest first and then only fill in the last one in between them.

**Learning to know**

**Ordering masses**

  
1 kg 300 g

  
1 kg 9 kheed

  
1 kg 5 kheed

$300\text{ g} = 3\text{ kheed}$   
The pink bag has a mass of 1 kg 3 kheed.  
The brown bag has a mass of 1 kg 9 kheed.  
The green bag has a mass of 1 kg 5 kheed.

The green bag is lighter than the brown bag.  
 $1\text{ kg }9\text{ kheed} - 1\text{ kg }5\text{ kheed} = 4\text{ kheed}$   
It is 4 kheed lighter.

The pink bag is lighter than the green bag.  
 $1\text{ kg }5\text{ kheed} - 1\text{ kg }3\text{ kheed} = 2\text{ kheed}$   
It is 2 kheed lighter.

The brown bag is the heaviest.  
The pink bag is the lightest.

We can arrange them starting with the heaviest bag.

Brown bag, heaviest	green bag,	pink bag lightest
		

We can arrange them starting with the lightest bag.

Pink bag, lightest	green bag,	brown bag heaviest
		

Make sure the units are the same. Then, only compare.







The mass of plant P is 3 kg 300 g.  
The mass of plant Q is 6 kg 400 g.

5 kheed = 500 g  
The mass of plant R is 6 kg 500 g.

Compare the kg.  
3 is smaller than 6.  
So, plant P is the lightest.

Compare 6 kg 400 g and 6 kg 500 g.  
500 is greater than 400.  
So, plant R is the heaviest.

We can arrange them starting with the heaviest plant.



We can arrange them starting with the lightest plant.



### Thinking corner!

If we compare and arrange the plants above in kg and kheed, will the answers be the same? Why? Can you explain?

### Teaching ideas

3. Guide the students to compare the masses of the plants by repeating the same method.
4. Guide the students to arrange the objects. Tell them that we can arrange them starting with the heaviest one or the lightest one. Always fill in the lightest and heaviest first and then only fill in the last one in between them.
5. Guide the students to refer to **Starting Point** on page 73. Ask them to answer the question. Have a discussion to conclude the lesson.

### Thinking Corner!

Ask the students to compare the plants in kg and kheed. Then, arrange the plants starting with the heaviest and also with the lightest. Discuss with them:

- Are the arrangements the same?
- Why are they the same?
- Can we compare masses in different units such as kg and g and kg and kheed? Why?

### 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 58 to 60 in Go Get Maths Workbook P2.

### TRY THIS!

1. Fill in the blanks.



Bag of flour  
2 kg 5 kheed



Bottle of water  
1 kg 200 g



Laptop  
2 kg 3 kheed

- (a) The bag of flour is  kg  g heavier than the bottle of water.
- (b) The laptop is  kg  g lighter than the bag of flour.
- (c) The bottle of water is  kg  kheed lighter than the laptop.
- (d) The bottle of water is  kg  kheed lighter than the bag of flour.
- (e) The bag of flour is the .
- (f) The bottle of water is the .

2. Arrange the items.



Present  
1 kg 9 kheed



Tomatoes  
3 kg 3 kheed



Pot  
1 kg 100 g

- (a) Starting with the lightest item:  
, ,
- (b) Starting with the heaviest item:  
, ,

## Lesson 4 Word problems

### Starting point

The mass of the rice cooker together with the rice in it is 3 kg 5 kheed. The rice cooker weighs 1 kg 100 g when it is empty.



How do I find the mass of the rice in the rice cooker?

### Learning to know Solving word problems

The trolley and the things in it weigh 26 kg 600 g. If the trolley alone weighs 16 kg 3 kheed, what is the mass of the things in it in kg and g?

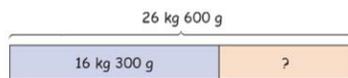


26 kg 600 g



16 kg 3 kheed

16 kg 3 kheed = 16 kg 300 g



kg	g
26	600
16	300
10	300

$26 \text{ kg } 600 \text{ g} - 16 \text{ kg } 300 \text{ g} = 10 \text{ kg } 300 \text{ g}$

The mass of the things in the trolley is 10 kg 300 g.

## Lesson 4 Word problems

### Lesson objectives

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

1. Solve word problems involving the conversion of the units of mass.

### 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 (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.

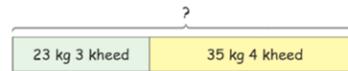
### Step 3: Check the answer

- Always ask the students to check their answer. They need to check if the answer makes sense and is reasonable.
2. 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 78. Ask them to answer the question. Have a discussion to conclude the lesson.

Annie weighs 23 kg 300 g. Joshua weighs 35 kg 4 kheed. What is the mass of the two children altogether in kg and kheed?



$$23 \text{ kg } 300 \text{ g} = 23 \text{ kg } 3 \text{ kheed}$$



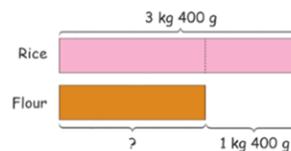
kg	kheed
23	3
35	4
+	
58	7

$$23 \text{ kg } 3 \text{ kheed} + 35 \text{ kg } 4 \text{ kheed} = 58 \text{ kg } 7 \text{ kheed}$$

The mass of the two children is 58 kg 7 kheed altogether.

The mass of a sack of rice is 3 kg 4 kheed. A sack of flour weighs 1 kg 400 g lighter than the sack of rice. How heavy is the sack of flour in kg and g?

$$3 \text{ kg } 4 \text{ kheed} = 3 \text{ kg } 400 \text{ g}$$



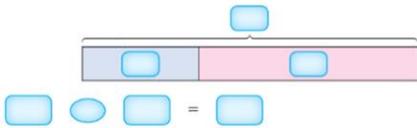
kg	g
3	400
1	400
-	
2	000

$$3 \text{ kg } 400 \text{ g} - 1 \text{ kg } 400 \text{ g} = 2 \text{ kg}$$

The sack of flour weighs 2 kg.

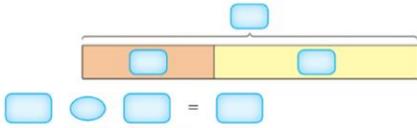
**TRY THIS!**

1. The sofa has a mass of 24 kg 3 kheed. Danny weighs 45 kg 600 g. What is the mass of the sofa with Danny sitting on it in kg and g?



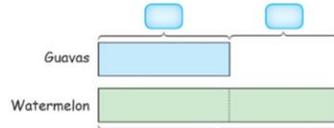
The mass of the sofa with Danny sitting on it is  kg  g.

2. There is 13 kg 700 g of rice in the big container. Mother uses 5 kg 400 g of rice. How much rice is left in the container?



There is  kg  g of rice left in the container.

3. The guavas have a mass of 3 kg 200 g. The guavas are 2 kg 5 kheed lighter than the watermelon. What is the mass of the watermelon in kg and kheed?



The mass of the watermelon is  kg  kheed.

**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 61 to 64 in Go Get Maths Workbook P2.

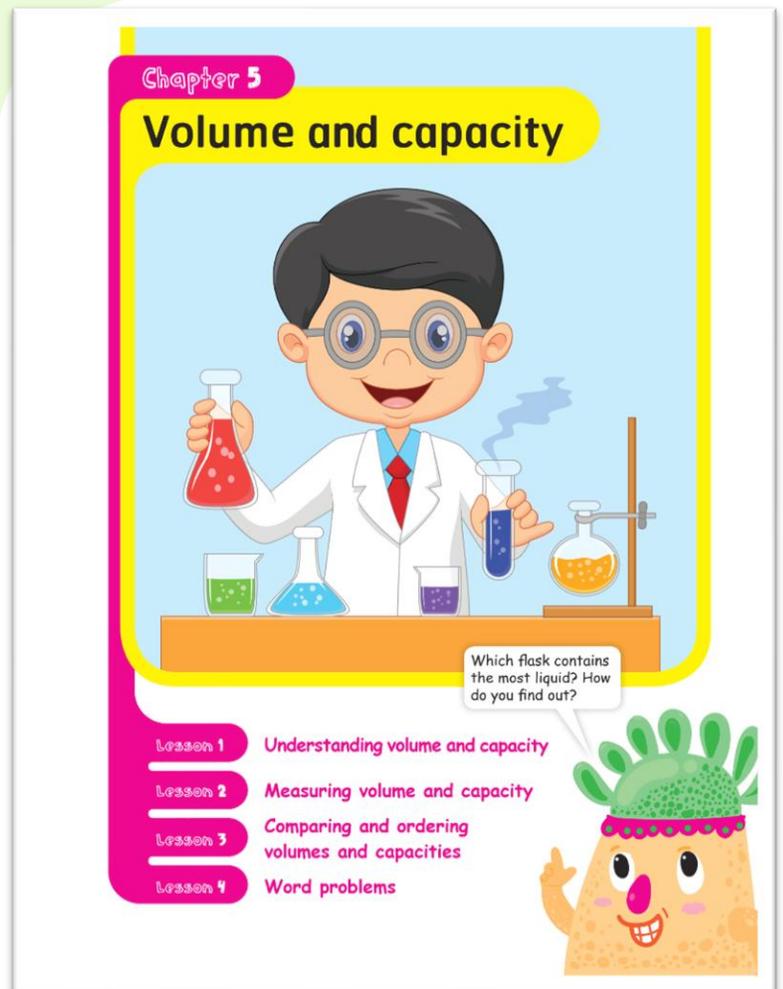


or visit  
<http://tiny.cc/z9dpuz>

## Chapter 5 Volume and capacity

### The big idea

1. Show a bottle full of water with its labelling indicating its capacity to the students. Ask them these questions for discussion:
  - How much water do you drink every day?
  - Do you bring drinking water to school every day?
  - Do you know how much water is in your water bottle?
  - Do you always fill your bottle full with water?
  - How much water can your water bottle hold?
  - What word do we use to describe the amount of water in the bottle?
2. Ask the students to analyze the picture in the book. Discuss with these questions:
  - How do you know which flask contains the most liquid?
  - Are there any measuring tools to use such as a ruler to measure length or a weighing scale to measure mass?
  - Are there any units to use?



### Strand 2: measurement and Geometry

#### Standard M.2.1

#### Indicators:

**M 2.1 Gr2/6** Measure and compare volume and capacity in litres.

## Lesson 1

# Understanding volume and capacity

### Starting point

The flask has some water in it. It is not full.  
What is this amount of liquid known as?



### Learning to know Understanding volume

The flasks contain some liquids.



This flask is half full.



This flask is more than half full.



This flask is less than half full.

**Volume** is the measurement of how much space an object takes up.  
The volume of liquid in a container changes when liquid is added or reduced.



Half full



More than half full



Half full



Less than half full

## Lesson 1 Understanding volume and capacity

### Lesson objectives

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

1. Describe volume and capacity.
2. Differentiate volume and capacity.

### Suggested teaching time

2 periods (2 x 50 minutes)

### Vocabulary

Volume, capacity

### Materials needed

Flask, box, pencil case

### 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 describe the amount of water in the 3 flasks shown.
2. Introduce the term volume to the students. Tell them it can be used for anything, not just water. For example, we can use it to describe the space taken up a book, some milk and even air.
3. Lead the students to understand that volume of a liquid can be changed easily.

## Teaching ideas

1. Introduce the term capacity to the students. Tell them that it describes the maximum amount a container can hold.
2. Use them examples to differentiate these 2 terms.
3. Show a few containers such as flask, a box and a pencil case. Ask the students if these objects have capacities.
4. 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 4 students to answer it. Ask the rest to verify the answers.

## Further practices

Get the students to complete the practices on page 65 in Go Get Maths Workbook P2.

## Thinking Corner!

Discuss with these questions:

- What does 'capacity' of a bottle mean?
- Which do you think will be able to hold more milk, the bottle or the glass? Why do you say so?
- How do you find out?

### Learning to know Understanding capacity

Capacity is the maximum amount of liquid a container can hold.



The fishbowl is full of water. It is filled to its capacity.

### TRY This!

1. Match.



Half full

More than half full

Less than half full

2. Circle the glass that is at its full capacity.



### Thinking corner!

Which has a greater capacity, the bottle or the glass?  
How do you know?



Chapter 5 | 83



or visit  
<http://tiny.cc/1adpuz>

## Lesson 2 Measuring volume and capacity

### Starting point

There is some orange juice in the jug.  
How do you know how much orange juice there is?



### Learning to know Measuring volume and capacity with non-standard units



The juice in the glass can fill up 4 teaspoons.  
The volume of juice in the glass is 4 teaspoons.

We can measure volume using teaspoons, tablespoons and cups.



The juice in the glass can fill up 8 tablespoons.  
The volume of juice in the glass is 8 tablespoons.



The juice in the jug can fill up 4 cups.  
The volume of juice in the jug is 4 cups.

84 | Mathematics Prathamika 2

### Activity for Reinforcement

**Materials required:** Bottles, water, teaspoons, tablespoons, cups

**Objective of the activity:** Measuring volume with different non-standard units

1. Group the students into groups of 4.
2. Give each group a bottle with some water and either a teaspoon, a tablespoon or a cup.
3. Ask them to find the volume of water in the bottle using the tool.
4. Discuss with these questions:
  - Is it easy to measure the volume of water with the tool? Why?
  - What should you do to improve the accuracy of the measurement?

## Lesson 2 Measuring volume and capacity

### Lesson objectives

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

1. Measure volume and capacity using non-standard units.
2. Measure volume and capacity in litres.

### Suggested teaching time

3 periods (3 x 50 minutes)

### Vocabulary

Volume, capacity

### Materials needed

Teaspoons, tablespoons, cups, measuring cylinders, measuring cups, bottles, water

### Starting point

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

### Teaching ideas

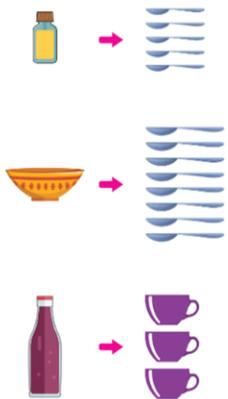
1. Tell the students that similar to height and mass, we can use non-standard units to measure volume and capacity too.
2. Using the examples, explain how the volume of water is measured with a teaspoon, a tablespoon and a cup.
3. It is better to carry out a physical activity in order for the students to gain experience.

### Teaching ideas

- Using the examples, explain how the capacities of the 3 containers are measured with a teaspoon, a tablespoon and a cup.
- Remind them that the containers must be filled up with water to their brim as we are measuring their capacities.
- It is better to carry out a physical activity in order for the students to gain experience.

### Teaching ideas

- Introduce the term liter and its abbreviation, l to the students. Inform them that this is a unit of volume and capacity.
- Show them a 1-l measuring cylinder and a 1-l measuring cup.
- Fill up a 1-l measuring cylinder with water and show it to the student how much 1 l is.
- Ask the students to look for boxes with capacity of 1 l as stated on them.



The bottle is full of oil.  
The oil in the bottle can fill up 5 teaspoons.  
The capacity of the bottle is 5 teaspoons.

The bowl is full of water.  
The water in the bowl can fill up 8 tablespoons.  
The capacity of the bowl is 8 tablespoons.

The bottle is full of juice.  
The juice in the bottle can fill up 3 cups.  
The capacity of the bottle is 3 cups.

**Learning to know** Measuring volume and capacity with standard units



The volume of milk in the carton is 1 liter.  
The **liter** is a unit of volume.  
We write l for liter.

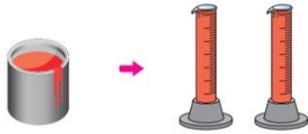
Chapter 5 | 85

### Activity for Reinforcement

**Materials required:** Bottles, water, teaspoons, tablespoons, cups

**Objective of the activity:** Measuring capacity with different non-standard units

- Group the students into groups of 4.
- Give each group a bottle, water and either a teaspoon, a tablespoon or a cup.
- Ask them to find the capacity of the bottle using the tool.
- Discuss with these questions:
  - Should you fill up the bottle with water to its brim? Why?
  - Is it easy to measure the capacity of the bottle with the tool? Why?
  - What should you do to improve the accuracy of the measurement?



The paint in the can can fill up 2 one-liter measuring cylinders.  
The volume of paint in the can is 2 l.

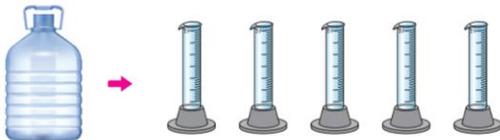


The water in the pail can fill up 3 one-liter measuring cups.  
The volume of water in the pail is 3 l.

We can measure volume with a measuring cylinder or a measuring cup.



The bottle is full of detergent.  
The detergent in the bottle can fill up 2 one-liter measuring cups.  
The capacity of the bottle is 2 l.



The bottle is full of water.  
The water in the bottle can fill up 5 one-liter measuring cylinders.  
The capacity of the bottle is 5 l.

### Teaching ideas

- Use the examples to explain how the volume of a liquid and the capacities of containers are measured using the measuring cylinder and measuring cup.
- Ask the students to take note of boxes with capacity of 1 l as stated on them at home. Help them to realize that liter is used a lot on packaging to inform us how much the box contains.
- Guide the students to refer to **Starting Point** on page 84. Ask them to answer the question. Have a discussion to conclude the lesson.

### Activity for Reinforcement

**Materials required:** Bottles, water, 1-l measuring cylinders, 1-l measuring cups

**Objective of the activity:** Measuring capacity with different standard units

- Group the students into groups of 4.
- Give each group a bottle filled with some water and either a measuring cylinder or a measuring cup.
- Ask them to find the volume of water in the bottle and also the capacity of the bottle using the tool.
- Discuss with these questions:
  - Is the capacity of the bottle greater or smaller than the volume of water in the bottle? Can you explain?
  - Can the capacity of the bottle be smaller than the volume of water in it? Why?

**Try This!**

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

**Further practices**

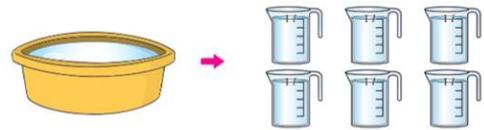
Get the students to complete the practices on pages 66 to 69 in Go Get Maths Workbook P2.

**TRY THIS!**

State the volumes of liquids in the containers or the capacities of the containers.



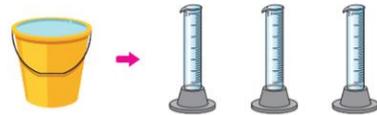
1. The volume of liquid in the bottle is  teaspoons.



2. The volume of water in the basin is  l.



3. The capacity of the jug is  cups.



4. The capacity of the pail is  l.

### Lesson 3

## Comparing and ordering volumes and capacities

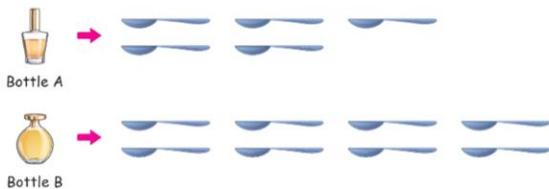
#### Starting point

There is some orange juice in the jug and in the glass.  
How do you know which contains a greater volume of juice?



#### Learning to know

Comparing volumes and capacities with non-standard units



The volume of liquid in bottle A is 5 tablespoons.  
The volume of liquid in bottle B is 8 tablespoons.

$$8 - 5 = 3$$

The difference in volume of liquid in the bottles is 3 tablespoons.



The volume of liquid in bottle A is 3 tablespoons less than that of bottle B.  
The volume of liquid in bottle B is 3 tablespoons more than that of bottle A.

## Lesson 3

### 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 with non-standard units.
2. Compare volumes and capacities with standard units.
3. Order volumes and capacities.

#### 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. Based on the example, tell the students that we can find the difference in volume or capacity by subtracting one from the other.
2. Ask the students to take note of the units. Here the units are the same.
3. Guide them to make statements regarding the difference in volume or capacity. Remind them to use the comparative adjectives.

### Teaching ideas

4. Use the examples to explain further.



Jug P



Jug Q

The volume of water in jug P is 6 cups  
The volume of water in jug Q is 4 cups.

$$6 - 4 = 2$$

The volume of water in jug P is 2 cups more than that of jug Q.  
The volume of water in jug Q is 2 cups less than that of jug P.



Bottle H



Bottle G

The capacity of bottle H is 5 teaspoons.  
The capacity of bottle G is 10 teaspoons.

$$10 - 5 = 5$$

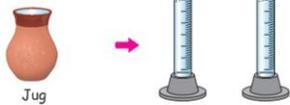
The capacity of bottle H is 5 teaspoons less than that of bottle G.  
The capacity of bottle G is 5 teaspoons more than that of bottle H.

**Learning to know**

**Comparing volumes and capacities with standard units**



Watering can



Jug

The volume of water in the watering can is 3 l.

The volume of water in the jug is 2 l.

$$3 - 2 = 1$$

The volume of water in the watering can is 1 l more than that of the jug.

The volume of water in the jug is 1 l less than that of the watering can.



Big bottle

Small bottle

The capacity of the big bottle is 5 l.

The capacity of the small bottle is 1 l.

$$5 - 1 = 4$$

The capacity of the big bottle is 4 l more than that of the small bottle.

The capacity of the small bottle is 4 l less than that of the big bottle.

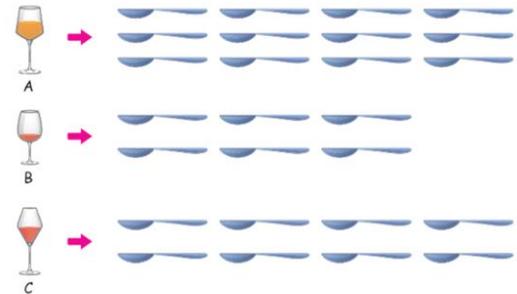
**Teaching ideas**

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. Ask the students to take note of the units. Here the units are the same.
3. Guide them to make statements regarding the difference in volume or capacity. Remind them to use the comparative adjectives.

## Teaching ideas

1. Guide the students to compare the volumes of the juice by asking them these questions:
  - Are all the units the same?
  - Which volume of juice is lesser, glass B or C?
  - Which volume of juice is lesser, glass a or C?
  - Which volume of juice is the greatest?
  - Which volume of juice is the smallest?
2. Guide the students to arrange the glasses. Tell them that we can arrange them starting with one with the greatest volume of juice or the one with the smallest volume of juice.

### Learning to know Ordering volumes and capacities



The volume of juice in glass A is 12 tablespoons.

The volume of juice in glass B is 6 tablespoons.

The volume of juice in glass C is 8 tablespoons.

The volume of juice in glass B is less than that of glass C.

$$8 - 6 = 2$$

It is 2 tablespoons lesser.

The volume of juice in glass C is less than that of glass A.

$$12 - 8 = 4$$

It is 4 tablespoons lesser.

The volume of juice in glass A is the greatest.

The volume of juice in glass B is the smallest.

We can arrange them

starting with the greatest volume: Glass A, glass C, glass B

starting with the smallest volume: Glass B, glass C, glass A



Wooden barrel  
120 l



Oil barrel  
160 l



Bathtub  
180 l

The capacity of the wooden barrel is 120 l.  
The capacity of the oil barrel is 160 l.  
The capacity of the bathtub is 180 l.

The capacity of the oil barrel is greater than that of the wooden barrel.  
 $160 - 120 = 40$   
It is 40 l greater.

The capacity of the bathtub is greater than that of the oil barrel.  
 $180 - 160 = 20$   
It is 20 l greater.

The capacity of the wooden barrel is the smallest.  
The capacity of the bathtub is the greatest.

We can arrange them  
starting with the greatest capacity: Bathtub, oil barrel, wooden barrel  
starting with the smallest capacity: Wooden barrel, oil barrel, bathtub

### Thinking corner!

The volume of detergent in bottle A is 2 l.  
The volume of detergent in bottle B is 4 cups.

Can you find out which bottle has a greater volume of detergent? Why?



A

B

### Teaching ideas

- Guide the students to compare the capacities of the objects by asking them these questions:
  - Are all the units the same?
  - Which object has a greater capacity, the oil barrel or the wooden barrel?
  - Which object has a greater capacity, the bathtub or the oil barrel?
  - Which object has the greatest capacity?
  - Which object has the smallest capacity?
- Guide the students to arrange the objects. Tell them that we can arrange them starting with one with the greatest capacity or the one with the smallest capacity.
- Guide the students to refer to **Starting Point** on page 88. Ask them to answer the question. Have a discussion to conclude the lesson.

### Thinking Corner!

Use this as a discussion for the students' better understanding:

- Are the units the same?
- Can we convert them to the same unit? Why?
- Can we compare them if the units are not the same? Why?

### 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 70 to 73 in Go Get Maths Workbook P2.

**More Tasks**



or visit  
<http://tiny.cc/2adpuz>

### TRY THIS!

1. Fill in the blanks.



Volume of liquid A:  
4 l



Volume of liquid B:  
2 l



Volume of liquid C:  
5 l

- (a) The volume of liquid A is  l greater than that of liquid B.  
(b) The volume of liquid B is  l less than that of liquid C.  
(c) The volume of liquid C is  l greater than that of liquid A.  
(d) The volume of liquid C is  l greater than that of liquid B.  
(e) The volume of liquid B is the .  
(f) The volume of liquid C is the .

2. Arrange the fish tanks.



Capacity of fish tank R:  
120 cups



Capacity of fish tank S:  
70 cups



Capacity of fish tank T:  
100 cups

- (a) Starting with the fish tank with the greatest capacity:  
 ,  ,
- (b) Starting with the fish tank with the smallest capacity:  
 ,  ,

## Lesson 4 Word problems

### Starting point

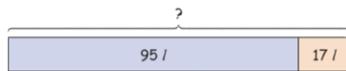
A cup contains 40 teaspoons of coffee. Father accidentally spills 27 teaspoons of coffee from the cup.

How do I find the volume of coffee left in the cup?



### Learning to know Solving word problems

The bathtub has 95 l of cold water. Mimi adds 17 l of hot water into the bathtub. How much water is there in the bathtub now?



$$95 + 17 = 112$$

There is 112 l of water in the bathtub now.

There are 25 teaspoons of soy sauce in the bowl. Mother uses 16 teaspoons of soy sauce for cooking. How many teaspoons of soy sauce are there in the bowl now?



$$25 - 16 = 9$$

There are 9 teaspoons of soy sauce in the bowl now.

## Lesson 4 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

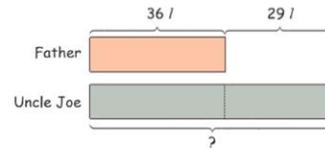
### Step 2: Plan and execute

- Ask the students to draw the suitable bar model (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. 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 94. Ask them to answer the question. Have a discussion to conclude the lesson.

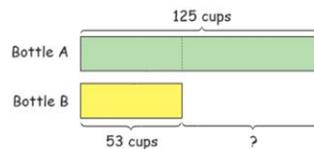
Father buys 36 liters of paint. Uncle Joe buys 29 liters more paint than Father. How many liters of paint does Uncle Joe buy?



$$36 + 29 = 65$$

Uncle Joe buys 65 l of paint.

There are 125 cups of oil in bottle A. There are 53 cups of oil in bottle B. How much more oil does bottle A have than bottle B?

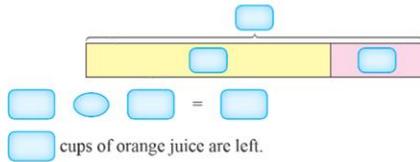


$$125 - 53 = 72$$

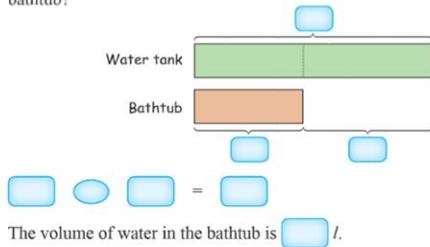
Bottle A has 72 cups more oil than bottle B.

**TRY THIS!**

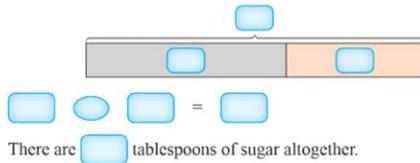
1. Mother makes 120 cups of orange juice for a party. The guests drink 88 cups of orange juice. How many cups of orange juice are left?



2. The water tank has 358 l of water. The volume of water in the water tank is 196 l more than that of the bathtub. What is the volume of water in the bathtub?



3. There are 258 tablespoons of sugar in the bag. There are 179 tablespoons of sugar in the jar. How many tablespoons of sugar are there altogether?



**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 74 to 77 in Go Get Maths Workbook P2.

## Chapter 6 Multiplication

### The big idea

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

- How many oranges are there in each bag?
- How many bags of oranges are there?
- How many oranges are there altogether? Did you get the answer by counting on? Is there any other method?
- The boy wants to buy 2 bags of oranges. How many oranges will he get? Did you get the answer by counting on? Is there any other method?

### Chapter 6 Multiplication

#### Oranges for Sale 5 in 1 pack



The boy buys 2 packets of oranges. How many oranges will he get?

- Lesson 1 Meaning of multiplication
- Lesson 2 Multiplication of a 1-digit number by a 1-digit number
- Lesson 3 Multiplication of a 1-digit number by a 2-digit number
- Lesson 4 Word problems



### Strand 1: Numbers and Algebra

#### Standard M.1.1 Numbers

##### Indicators:

**M 1.1 Gr2/5** Find the value of unknown in multiplication equations of 1-digit number by not more than 2-digit numbers.

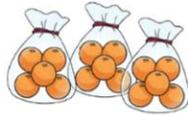
**M 1.1 Gr2/8** Show mathematical methods to solve 2-step word problems of cardinal numbers not exceeding 1,000 and 0.

## Lesson 1 Meaning of multiplication

### Starting point

There are 3 packets of oranges.  
Each packet has 5 oranges.

How do you find the total number of oranges?



### Learning to know Repeated addition



There are 3 groups of ducks.  
Each group has 2 ducks.  
 $2 + 2 + 2 = 6$   
3 twos = 6  
3 groups of 2 = 6  
There are 6 ducks altogether.



There are 4 groups of eggs.  
Each group has 3 eggs.  
 $3 + 3 + 3 + 3 = 12$   
4 threes = 12  
4 groups of 3 = 12  
There are 12 eggs altogether.

## Lesson 1 Meaning of multiplication

### Lesson objectives

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

1. Understand what multiplication is.

### Suggested teaching time

2 periods (2 x 50 minutes)

### Vocabulary

-

### Materials needed

Counters, paper plates

### 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 how the ducks are grouped and if the number of ducks in each group is the same. These are known as equal groups.
2. Guide them to find the number of ducks through repeated addition. Describe it as 3 twos or 3 groups of 2. Guide them to understand that there are 3 groups of ducks and each group has 2 ducks.
3. Repeat with 4 threes or 4 groups of 3 for the 4 groups of eggs. Guide them to find the number of eggs through repeated addition.

### Teaching ideas

- Repeat with 3 fives or 3 groups of 5 for the 3 groups of pencils. Guide them to find the number of pencils through repeated addition.
- Use this example to link the repeated addition to multiplication. Tell them that  $5 + 5 + 5$  is equal to  $3 \times 5$ . Introduce 3 and 5 as factors and 15 as the product.
- Guide them on how to read  $3 \times 5 = 15$  too.
- Use the examples in the previous page to write the multiplication equations.



There are 3 groups of pencils.

Each group has 5 pencils.

$$5 + 5 + 5 = 15$$

$$3 \text{ fives} = 15$$

$$3 \text{ groups of } 5 = 15$$

There are 15 pencils altogether.

We can use multiplication to rewrite  $5 + 5 + 5 = 15$ .



We write it as:

$$3 \times 5 = 15$$

We read it as:

three times five equals fifteen

$3 \times 5 = 15$  is a multiplication equation.

We read  $\times$  as times. It means to multiply or put all equal groups together.

$$\begin{array}{ccc} \text{Factor} & & \text{Product} \\ 3 \times 5 = 15 \\ \text{Factor} & & \end{array}$$



### Activity for Reinforcement

**Materials required:** Paper plates, counters

**Objective of the activity:** Linking repeated additions to multiplication equations

- Get the students to work in pairs.
- Give each group 6 plates and 18 counters.
- Ask them to put 3 counters on each plate.
- Get them to find the total number of counters by repeated addition.
- Then, ask them to rewrite it as a multiplication equation and read it aloud.
- Repeat with other amounts of plates and counters.

We can write the multiplication equation vertically too.

$$\begin{array}{r} 3 \\ \times 5 \\ \hline 15 \end{array}$$

$4 \times 3 = 12$  is another multiplication equation. We can write this multiplication equation as

$$\begin{array}{r} 4 \\ \times 3 \\ \hline 12 \end{array}$$

How many bottles of juice are there altogether?



$$4 + 4 + 4 + 4 + 4 = 20$$

$$5 \times 4 = 20$$

There are 20 bottles of juice altogether.

**TRY THIS!** Complete the following.



$$4 + 4 + 4 = \square$$

$$3 \times 4 = \square$$

There are  cookies altogether.



$$3 + 3 + 3 + 3 + 3 + 3 = \square$$

$$6 \times 3 = \square$$

There are  stars altogether.



or visit  
<http://tiny.cc/4adpuz>

### Teaching ideas

8. Guide them to write the multiplication equation vertically.
9. Use the example to explain further.
10. Guide the students to refer to **Starting Point** on page 98. 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 78 to 80 in Go Get Maths Workbook P2.

## Lesson 2

### Multiplication of a 1-digit number by a 1-digit number

#### Lesson objectives

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

1. Find the product of a 1-digit number by a 1-digit number.

#### Suggested teaching time

10 periods (10 x 50 minutes)

#### Vocabulary

Multiplication table

#### Materials needed

Sticky tapes, marker pens

#### 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 they are going to learn the multiplication tables 2 to 9.
2. Tell the students that a bird has 2 wings. Guide them to realize that there is 1 two or 1 group of 2, and the multiplication equation of  $1 \times 2 = 2$ . Ask them to read aloud the equation.
3. Ask them to count the number of wings of 2 birds. Guide them to realize that there are 2 twos or 2 groups of 2, and the multiplication equation of  $2 \times 2 = 4$ . Ask them to read aloud the equation.
4. Repeat with other multiplications of 2.

## Lesson 2 Multiplication of a 1-digit number by a 1-digit number

#### Starting point

There are 2 bunches of bananas. Each bunch has 3 bananas.  
How do you find the total number of bananas without adding them up?



#### Learning to know Multiplication tables of 2 to 5



Each bird has 2 wings.  
How many wings do 4 birds have? Count on by 2s.



 (Each bird has 2 wings.)	1 two	$1 \times 2 = 2$
	2 twos	$2 \times 2 = 4$
	3 twos	$3 \times 2 = 6$
	4 twos	$4 \times 2 = 8$
	5 twos	$5 \times 2 = 10$
	6 twos	$6 \times 2 = 12$
	7 twos	$7 \times 2 = 14$
	8 twos	$8 \times 2 = 16$
	9 twos	$9 \times 2 = 18$

#### Extra notes

The multiplication table of 2 is just doubling the number. It is the same as adding the number to itself.

$$2 \times 2 = 2 + 2 = 4$$

$$5 \times 2 = 5 + 5 = 10$$

$$7 \times 2 = 7 + 7 = 14$$

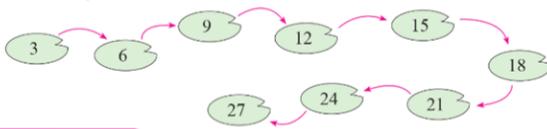


Each cup has 3 scoops of ice cream. How many scoops of ice cream are there in 6 cups?



 (Each cup has 3 scoops of ice cream.)	1 three	$1 \times 3 = 3$
	2 threes	$2 \times 3 = 6$
	3 threes	$3 \times 3 = 9$
	4 threes	$4 \times 3 = 12$
	5 threes	$5 \times 3 = 15$
	6 threes	$6 \times 3 = 18$
	7 threes	$7 \times 3 = 21$
	8 threes	$8 \times 3 = 24$
	9 threes	$9 \times 3 = 27$

Count on by 3s.



### Teaching ideas

5. Tell the students that each cup has 3 scoops of ice cream. Guide them to realize that there is 1 three or 1 group of 3, and the multiplication equation of  $1 \times 3 = 3$ . Ask them to read aloud the equation.
6. Ask them to count the number of scoops of ice cream in 2 cups. Guide them to realize that there are 2 threes or 2 groups of 3, and the multiplication equation of  $2 \times 3 = 6$ . Ask them to read aloud the equation.
7. Repeat with other multiplications of 3.
8. Guide them to count on by 3s.

### Teaching ideas

- Tell the students that each frog has 4 legs. Guide them to realize that there is 1 four or 1 group of 4, and the multiplication equation of  $1 \times 4 = 4$ . Ask them to read aloud the equation.
- Ask them to count the number of legs in 2 frogs. Guide them to realize that there are 2 fours or 2 groups of 4, and the multiplication equation of  $2 \times 4 = 8$ . Ask them to read aloud the equation.
- Repeat with other multiplications of 4.
- Guide them to count on by 4s.



Each frog has 4 legs. How many legs do 4 frogs have?



 (Each frog has 4 legs.)	1 four	$1 \times 4 = 4$
	2 fours	$2 \times 4 = 8$
	3 fours	$3 \times 4 = 12$
	4 fours	$4 \times 4 = 16$
	5 fours	$5 \times 4 = 20$
	6 fours	$6 \times 4 = 24$
	7 fours	$7 \times 4 = 28$
	8 fours	$8 \times 4 = 32$
	9 fours	$9 \times 4 = 36$

Count on by 4s.





Each hand has 5 fingers. How many fingers do 7 hands have?



(Each hand has 5 fingers.)	1 five	$1 \times 5 = 5$
	2 fives	$2 \times 5 = 10$
	3 fives	$3 \times 5 = 15$
	4 fives	$4 \times 5 = 20$
	5 fives	$5 \times 5 = 25$
	6 fives	$6 \times 5 = 30$
	7 fives	$7 \times 5 = 35$
	8 fives	$8 \times 5 = 40$
	9 fives	$9 \times 5 = 45$

Count on by 5s: 5, 10, 15, 20, 25, 30, 35, 40, 45

### TRY THIS!

Complete the following.

1.  $2 \times 3 =$

2.  $7 \times 4 =$

3.  $5 \times 5 =$

4.  $8 \times 2 =$

5.  $9 \times 3 =$

6.  $6 \times 4 =$

### Extra notes

The multiplication table of 5 has a pattern. Its products end in either 0 or 5.

$$1 \times 5 = 5$$

$$2 \times 5 = 10$$

$$3 \times 5 = 15$$

$$4 \times 5 = 20$$

### Teaching ideas

13. Tell the students that each hand has 5 fingers. Guide them to realize that there is 1 five or 1 group of 5, and the multiplication equation of  $1 \times 5 = 5$ . Ask them to read aloud the equation.
14. Ask them to count the number of fingers in 2 hands. Guide them to realize that there are 2 fives or 2 groups of 5, and the multiplication equation of  $2 \times 5 = 10$ . Ask them to read aloud the equation.
15. Repeat with other multiplications of 5.
16. Guide them to count on by 5s.

### 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 81 to 84 in Go Get Maths Workbook P2.

### Teaching ideas

1. Tell the students that each beetle has 6 legs. Guide them to realize that there is 1 six or 1 group of 6, and the multiplication equation of  $1 \times 6 = 6$ . Ask them to read aloud the equation.
2. Ask them to count the number of legs in 2 beetles. Guide them to realize that there are 2 sixes or 2 groups of 6, and the multiplication equation of  $2 \times 6 = 12$ . Ask them to read aloud the equation.
3. Repeat with other multiplications of 6.
4. Guide them to count on by 6s.
5. Use the example to explain how to use the multiplication table of 6.

### Learning to know Multiplication tables of 6 to 9

 (Each beetle has 6 legs.)	1 six	$1 \times 6 = 6$
	2 sixes	$2 \times 6 = 12$
	3 sixes	$3 \times 6 = 18$
	4 sixes	$4 \times 6 = 24$
	5 sixes	$5 \times 6 = 30$
	6 sixes	$6 \times 6 = 36$
	7 sixes	$7 \times 6 = 42$
	8 sixes	$8 \times 6 = 48$
	9 sixes	$9 \times 6 = 54$

Count on by 6s: 6, 12, 18, 24, 30, 36, 42, 48, 54

The waiter places 6 glasses on each tray. There are 4 trays.



4 trays of 6 glasses

$$4 \times 6 = 24$$

There are 24 glasses altogether.



 (Each leaf has 7 leaflets.)	1 seven	$1 \times 7 = 7$
	2 sevens	$2 \times 7 = 14$
	3 sevens	$3 \times 7 = 21$
	4 sevens	$4 \times 7 = 28$
	5 sevens	$5 \times 7 = 35$
	6 sevens	$6 \times 7 = 42$
	7 sevens	$7 \times 7 = 49$
	8 sevens	$8 \times 7 = 56$
	9 sevens	$9 \times 7 = 63$

Count on by 7s: 7, 14, 21, 28, 35, 42, 49, 56, 63

7 balloons are tied in a cluster. There are 6 clusters of balloons.



6 clusters of 7 balloons

$$6 \times 7 = 42$$

There are 42 balloons altogether.

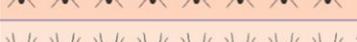


### Teaching ideas

- Tell the students that each leaf has 7 leaflets. Guide them to realize that there is 1 seven or 1 group of 7, and the multiplication equation of  $1 \times 7 = 7$ . Ask them to read aloud the equation.
- Ask them to count the number of leaflets in 2 leaves. Guide them to realize that there are 2 sevens or 2 groups of 7, and the multiplication equation of  $2 \times 7 = 14$ . Ask them to read aloud the equation.
- Repeat with other multiplications of 7.
- Guide them to count on by 7s.
- Use the example to explain how to use the multiplication table of 7.

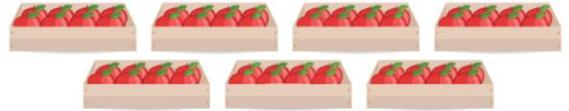
### Teaching ideas

11. Tell the students that each spider has 8 legs. Guide them to realize that there is 1 eight or 1 group of 8, and the multiplication equation of  $1 \times 8 = 8$ . Ask them to read aloud the equation.
12. Ask them to count the number of legs in 2 spiders. Guide them to realize that there are 2 eights or 2 groups of 8, and the multiplication equation of  $2 \times 8 = 16$ . Ask them to read aloud the equation.
13. Repeat with other multiplications of 8.
14. Guide them to count on by 8s.
15. Use the example to explain how to use the multiplication table of 8.

 (Each spider has 8 legs.)	1 eight	$1 \times 8 = 8$
	2 eights	$2 \times 8 = 16$
	3 eights	$3 \times 8 = 24$
	4 eights	$4 \times 8 = 32$
	5 eights	$5 \times 8 = 40$
	6 eights	$6 \times 8 = 48$
	7 eights	$7 \times 8 = 56$
	8 eights	$8 \times 8 = 64$
	9 eights	$9 \times 8 = 72$

Count on by 8s: 8, 16, 24, 32, 40, 48, 56, 64, 72

There are 8 apples in each box. There are 7 boxes.



7 boxes of 8 apples  
 $7 \times 8 = 56$

There are 56 apples altogether.



 (Each flower has 9 petals.)	1 nine	$1 \times 9 = 9$
	2 nines	$2 \times 9 = 18$
	3 nines	$3 \times 9 = 27$
	4 nines	$4 \times 9 = 36$
	5 nines	$5 \times 9 = 45$
	6 nines	$6 \times 9 = 54$
	7 nines	$7 \times 9 = 63$
	8 nines	$8 \times 9 = 72$
	9 nines	$9 \times 9 = 81$

Count on by 9s: 9, 18, 27, 36, 45, 54, 63, 72, 81

There are 9 beads in each bracelet. There are 4 bracelets.



4 bracelets of 9 beads

$$4 \times 9 = 36$$

There are 36 beads altogether.



### Teaching ideas

- Tell the students that each flower has 9 petals. Guide them to realize that there is 1 nine or 1 group of 9, and the multiplication equation of  $1 \times 9 = 9$ . Ask them to read aloud the equation.
- Ask them to count the number of petals in 2 flowers. Guide them to realize that there are 2 nines or 2 groups of 9, and the multiplication equation of  $2 \times 9 = 18$ . Ask them to read aloud the equation.
- Repeat with other multiplications of 9.
- Guide them to count on by 9s.
- Use the example to explain how to use the multiplication table of 9.



or visit  
<http://tiny.cc/8adpuz>

### Extra notes

The multiplication table of 9 has a pattern, too. Notice how the "ones" in the product goes down and at the same time, the "tens" in the product goes up as we go down the table.

$$\begin{aligned} 1 \times 9 &= 9 \\ 2 \times 9 &= 18 \\ 3 \times 9 &= 27 \\ 4 \times 9 &= 36 \\ 5 \times 9 &= 45 \\ 6 \times 9 &= 54 \end{aligned}$$

### Fun with Maths!

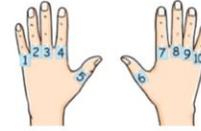
**Materials required:** Sticky tapes, marker pen

**Objective of the activity:** Using fingers to do multiplication table of 9

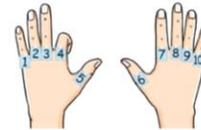
With this trick, the students will be able to master the multiplication table of 9 with ease.

### Fun with Maths!

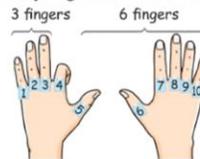
1. Get in groups of two.
2. Number your fingers with sticky tapes as shown below.



3. Say that we want to find the product of  $4 \times 9$ . Bend the finger numbered 4.



4. How many fingers are there on the right and left of the bent finger?



On the left: 3 fingers  
On the right: 6 fingers  
So,  $4 \times 9 = 36$

5. Now, try with other multiplications of any single digit by 9 such as  $1 \times 9$ ,  $2 \times 9$ ,  $3 \times 9$ , ... and so on using your fingers. Ask your partner to check your answers.

Multiplication will be a lot easier when we can simply remember the multiplication tables of 2 to 9.



or visit  
<http://tiny.cc/radpuz>

### Learning to know Properties of multiplication



Multiplication can become easier by knowing its properties.

The **commutative property** of multiplication says that changing the order of factors does not change the product. For example,

$$5 \times 3 = 3 \times 5 \quad \text{or} \quad 8 \times 2 = 2 \times 8 \quad \text{or} \quad 29 \times 11 = 11 \times 29$$

The **identity property** of multiplication says that the product of 1 and any number is that number. For example,

$$1 \times 5 = 5 \quad \text{or} \quad 3 \times 1 = 3 \quad \text{or} \quad 14 \times 1 = 14 \quad \text{or} \quad 1 \times 100 = 100$$

### Thinking corner!

Is it easier to recall the product of  $4 \times 6$  or  $6 \times 4$ ? Why?

**TRY This!** Complete the following.

- |  |   |   |
|--|---|---|
| 1. $2 \times 6 =$ <input type="text"/>             | 2. $7 \times 8 =$ <input type="text"/>                | 3. $6 \times 6 =$ <input type="text"/>  |
| 4. $3 \times 9 =$ <input type="text"/>             | 5. $9 \times 6 =$ <input type="text"/>                | 6. $9 \times 8 =$ <input type="text"/>  |
| 7. $1 \times 6 =$ <input type="text"/>             | 8. $7 \times 1 =$ <input type="text"/>                | 9. $15 \times 1 =$ <input type="text"/> |
| 10. $3 \times 9 =$ <input type="text"/> $\times 3$ | 11. $9 \times 6 = 6 \times$ <input type="text"/>      |   |
| 12. $12 \times 4 = 4 \times$ <input type="text"/>  | 13. $17 \times 23 =$ <input type="text"/> $\times 17$ |   |



or visit  
<http://tiny.cc/zadpuz>

### Teaching ideas

- Help the students to recall what commutative property is by asking these questions:
  - What is  $1 + 2$ ? What is  $2 + 1$ ?
  - Are the answers the same? Do different orders of the numbers change the sum?
  - What is this property of addition known as?
- Ask them these questions to introduce the commutative property of multiplication:
  - What is  $3 \times 2$ ? What is  $2 \times 3$ ?
  - Are the answers the same? Do different orders of the numbers change the product?
  - Is this property of multiplication similar to the commutative property of addition?
- Give a few more examples to explain the commutative property of multiplication.
- Ask them these questions to introduce the identity property of multiplication:
  - What is  $1 \times 2$ ? What is  $1 \times 6$ ?
  - What can you say about these products?
- Give a few more examples to explain the identity property of multiplication.

### Thinking Corner!

Discuss with the students. Let them explain.

### Try This!

Get 13 students to answer it. Ask the rest to verify the answers.

### Further practices

Get the students to complete the practices on pages 85 to 90 in Go Get Maths Workbook P2.

## Lesson 3 Multiplication of a 1-digit number by a 2-digit number

### Lesson objectives

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

1. Find the product of a 1-digit number by a 2-digit number.

### Suggested teaching time

6 periods (6 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. Use the example to explain multiplication by multiples of 10.
2. Guide them to realize that when you multiply a number by a multiple of 10, you can multiply the number with the digit in the tens place and add a zero to the product.

$$2 \times 4 = 8$$

$$2 \times 40 = 80$$

3. Use other examples to explain further.

### 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 page 91 in Go Get Maths Workbook P2.

## Lesson 3 Multiplication of a 1-digit number by a 2-digit number

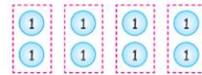
### Starting point

There are 12 bunches of bananas. Each bunch has 3 bananas.



How do we find the total number of bananas when we know the multiplication tables up to 9 only?

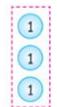
### Learning to know Multiplication without regrouping



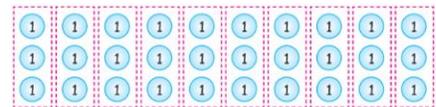
$$4 \times 2 = 8$$



$$4 \times 20 = 80$$



$$1 \times 3 = 3$$



$$10 \times 3 = 30$$



Do you see the pattern?

### TRY THIS!

Complete the following.

1.  $3 \times 6 = 18$

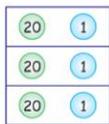
$30 \times 6 = \square$

2.  $5 \times 7 = 35$

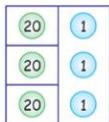
$50 \times 7 = \square$

3.  $8 \times 4 = 32$

$8 \times 40 = \square$



$21 \times 3 = ?$



**Step 1:** Multiply the ones by 3.  
1 one  $\times$  3 = 3 ones

Tens	Ones	
2	1	×
2	3	
6	3	



**Step 2:** Multiply the tens by 3.  
2 tens  $\times$  3 = 6 tens

Tens	Ones	
2	1	×
6	3	
6	3	

So,  $21 \times 3 = 63$

#### Tips

1. Always write the 2-digit number at the top and the 1-digit number at the bottom when writing the multiplication equation vertically.
2. Always align the place values correctly.

#### Thinking corner!

$4 \times 0 = 0$	$0 \times 7 = 0$	$13 \times 0 = 0$	$0 \times 20 = 0$
$4 \times 1 = 4$	$1 \times 7 = 7$	$13 \times 1 = 13$	$1 \times 20 = 20$

Can you explain the reasons for these products?

#### Teaching ideas

4. Introduce the multiplication of a 1-digit number by a 2-digit number by using number discs.
5. Guide them to relate this method with the vertical multiplication.
6. Use a few examples to reinforce the understanding of the students using the number discs.
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 multiply the ones first before multiplying the tens.

#### Thinking Corner!

Ask the students these questions to start the discussion:

- What does  $4 \times 0$  mean? Draw the groups to explain.
- What does  $4 \times 1$  mean? Draw the groups to explain.
- What does  $0 \times 7$  mean? Draw the groups to explain.
- What does  $7 \times 0$  mean? Draw the groups to explain.
- Are  $0 \times 4 = 4 \times 0$  and  $4 \times 1 = 1 \times 4$ ? What property of multiplication is involved here?
- What do we get when we multiply a number by 0?

### Teaching ideas

- Use the examples to explain further.
- Then, let them add without using the discs.

### Thinking Corner!

Ask the students to work out these:

$$\begin{array}{l} 3 \times 2 = ? \\ 2 \times 4 = ? \end{array} \quad \begin{array}{l} 30 \times 2 = ? \\ 20 \times 4 = ? \end{array}$$

Then ask the students to multiply vertically the equations in the book.

- Are the answers the same?
- Can we use this method to find the answers?

### 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 92 to 93 in Go Get Maths Workbook P2.

$32 \times 3 = ?$

**Step 1:** Multiply the ones by 3.  
2 ones  $\times$  3 = 6 ones

$$\begin{array}{r} 32 \\ \times 3 \\ \hline 6 \end{array}$$

**Step 2:** Multiply the tens by 3.  
3 tens  $\times$  3 = 9 tens

$$\begin{array}{r} 32 \\ \times 3 \\ \hline 96 \end{array}$$

So,  $32 \times 3 = 96$

$43 \times 2 = ?$

**Step 1:** Multiply the ones by 2.  
3 ones  $\times$  2 = 6 ones

$$\begin{array}{r} 43 \\ \times 2 \\ \hline 6 \end{array}$$

**Step 2:** Multiply the tens by 2.  
4 tens  $\times$  2 = 8 tens

$$\begin{array}{r} 43 \\ \times 2 \\ \hline 86 \end{array}$$

So,  $43 \times 2 = 86$

### Thinking corner!

Can we use this method to get multiples of tens?

$$\begin{array}{r} 30 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ \times 4 \\ \hline \end{array}$$

**TRY THIS!** Complete the following.

1.  $12 \times 4 =$

2.  $24 \times 2 =$

3.  $13 \times 3 =$

4.  $23 \times 2 =$

5.  $11 \times 4 =$

6.  $20 \times 3 =$

### 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.

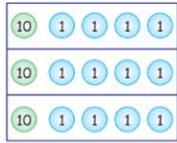
$31 \times 3 =$

$3 \times 12 =$

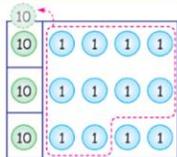
$14 \times 2 =$

$2 \times 24 =$

**Learning to know** Multiplication with regrouping

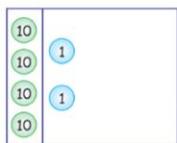


$14 \times 3 = ?$



**Step 1:** Multiply the ones by 3.  
 $4 \text{ ones} \times 3 = 12 \text{ ones}$   
 Regroup the ones.  
 $12 \text{ ones} = 1 \text{ ten } 2 \text{ ones}$

	Tens	Ones	
	1	4	×
		3	
		2	
		—	



**Step 2:** Multiply the tens by 3.  
 $1 \text{ ten} \times 3 = 3 \text{ tens}$   
 $3 \text{ tens} + 1 \text{ ten} = 4 \text{ tens}$

	Tens	Ones	
	1	4	×
	3	3	
	4	2	
		—	

So,  $14 \times 3 = 42$

$45 \times 2 = ?$

**Step 1:** Multiply the ones by 2.  
 $5 \text{ ones} \times 2 = 10 \text{ ones}$   
 Regroup the ones.  
 $10 \text{ ones} = 1 \text{ ten}$

**Step 2:** Multiply the tens by 2.  
 $4 \text{ tens} \times 2 = 8 \text{ tens}$   
 $8 \text{ tens} + 1 \text{ ten} = 9 \text{ tens}$

	Tens	Ones	
	4	5	×
		2	
		0	
		—	



	Tens	Ones	
	4	5	×
		2	
	9	0	
		—	

So,  $45 \times 2 = 90$

**Teaching ideas**

1. Help to recall what regrouping is in addition.
2. Introduce the multiplication of a 1-digit number by a 2-digit number with regrouping by using number discs.
3. Guide them to relate this method with the vertical addition.
4. Use a few examples to reinforce the understanding of the students using the number discs.
5. Guide them to write the numbers vertically.
6. Reiterate that the alignment of the numbers based on the place value of each digit is important.
7. Tell them to always multiply the ones first. Then, ask them to check if regrouping is needed. Lastly, multiply the tens.
8. Use the example to explain further.
9. Then, let them add without using the discs.

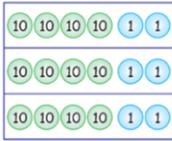
**Activity for Reinforcement**

Use these questions to help students to recall what regrouping is:

1. 10 ones =  ten  one
2. 11 ones =  ten  one
3. 24 ones =  tens  ones
4. 37 ones =  tens  ones

### Teaching ideas

10. Use the same method for these examples.



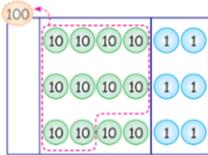
$42 \times 3 = ?$



**Step 1:** Multiply the ones by 3.  
2 ones  $\times 3 = 6$  ones

H	T	O
4	2	
	3	×
	6	





**Step 2:** Multiply the tens by 3.  
4 tens  $\times 3 = 12$  tens  
Regroup 12 tens.  
12 tens = 1 hundred 2 tens

H	T	O
4	2	
	3	×
1	2	6

So,  $42 \times 3 = 126$

$51 \times 5 = ?$

**Step 1:** Multiply the ones by 5.  
1 one  $\times 5 = 5$  ones

**Step 2:** Multiply the tens by 5.  
5 tens  $\times 5 = 25$  tens  
Regroup 25 tens.  
25 tens = 2 hundreds 5 tens

5	1	
	5	×
	5	



5	1	
	5	×
2	5	5

So,  $51 \times 5 = 255$

Chapter 6 | 115

### Activity for Reinforcement

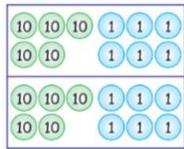
The students need to practice more in order to multiply correctly. Get a few students to write these questions on the board and answer them. Get others to verify the answers.

$16 \times 3 =$

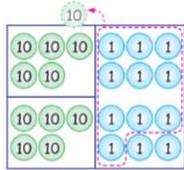
$5 \times 12 =$

$41 \times 6 =$

$8 \times 70 =$

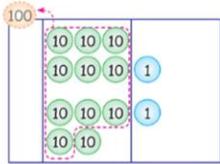


$56 \times 2 = ?$



**Step 1:** Multiply the ones by 2.  
 $6 \text{ ones} \times 2 = 12 \text{ ones}$   
 Regroup 12 ones.  
 $12 \text{ ones} = 1 \text{ ten } 2 \text{ ones}$

H	T	O
	5	6
	2	
	2	



**Step 2:** Multiply the tens by 2.  
 $5 \text{ tens} \times 2 = 10 \text{ tens}$   
 $10 \text{ tens} + 1 \text{ ten} = 11 \text{ tens}$   
 Regroup 11 tens.  
 $11 \text{ tens} = 1 \text{ hundred } 1 \text{ ten}$

H	T	O
1	5	6
	2	
1	1	2

So,  $56 \times 2 = 112$

$63 \times 7 = ?$

**Step 1:** Multiply the ones by 7.  
 $3 \text{ ones} \times 7 = 21 \text{ ones}$   
 Regroup 21 ones.  
 $21 \text{ ones} = 2 \text{ tens } 1 \text{ one}$

**Step 2:** Multiply the tens by 7.  
 $6 \text{ tens} \times 7 = 42 \text{ tens}$   
 $42 \text{ tens} + 2 \text{ tens} = 44 \text{ tens}$   
 Regroup 44 tens.  
 $44 \text{ tens} = 4 \text{ hundreds } 4 \text{ tens}$

	2	
6	3	
	7	
	1	



	2	
6	3	
	7	
4	4	1

So,  $63 \times 7 = 441$

### Teaching ideas

11. Use the same method for these examples.

### 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.

$24 \times 6 = \square$

$4 \times 48 = \square$

$86 \times 5 = \square$

$9 \times 27 = \square$

### Teaching ideas

- Use the same method for these examples.
- Guide the students to refer to **Starting Point** on page 111. Ask them to answer the question. Have a discussion to conclude the lesson.

### Fun with Maths!

**Materials required:** -

**Objective of the activity:** Improving multiplication skills

Ask the students to memorize the multiplication tables in order to multiply fast and correctly.

### 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 94 to 96 in Go Get Maths Workbook P2.

$56 \times 4 = ?$

$$\begin{array}{r} 2 \\ 56 \\ \times 4 \\ \hline 224 \end{array}$$

So,  $56 \times 4 = 224$

$78 \times 9 = ?$

$$\begin{array}{r} 7 \\ 78 \\ \times 9 \\ \hline 702 \end{array}$$

So,  $78 \times 9 = 702$

You should be able to recall any of the multiplications from the multiplication tables of 2 to 9 easily.



### Fun with Maths!

- Work in 2 groups of 2.
- The first group comes up with a 2-digit number.
- The second group comes up with a 1-digit number.
- The first group finds the product of the 2 numbers.
- The second group checks if the answer is correct.
- Switch roles and play for 5 rounds.
- The group with more correct answers wins.

### TRY THIS!

1.  $\begin{array}{r} 17 \\ \times 2 \\ \hline \end{array}$

2.  $\begin{array}{r} 26 \\ \times 3 \\ \hline \end{array}$

3.  $\begin{array}{r} 73 \\ \times 2 \\ \hline \end{array}$

4.  $\begin{array}{r} 82 \\ \times 4 \\ \hline \end{array}$

5.  $\begin{array}{r} 45 \\ \times 7 \\ \hline \end{array}$

6.  $\begin{array}{r} 86 \\ \times 8 \\ \hline \end{array}$

7.  $28 \times 2 =$

8.  $63 \times 3 =$

9.  $82 \times 7 =$

## Lesson 4 Word problems

### Starting point

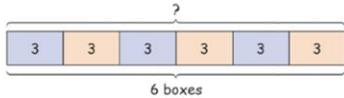
There are 4 plates of apples. Each plate has 5 apples.

How do you find the total number of apples?



### Learning to know Solving word problems

There are 3 pencils in each box. How many pencils are there in 6 boxes altogether?

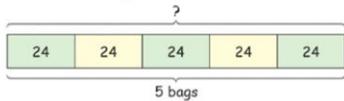


$$\begin{array}{r} 6 \\ 3 \times \\ \hline 18 \end{array}$$

$$6 \times 3 = 18$$

There are 18 pencils in 6 boxes altogether.

There are 24 marbles in each bag. Jack buys 5 bags of marbles. How many marbles does he buy?



$$5 \times 24 = 120$$

Jack buys 120 marbles.

$$\begin{array}{r} 2 \\ 24 \times \\ 5 \\ \hline 120 \end{array}$$

## Lesson 4 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

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. 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?

## 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 or to subtract or to multiply.
- Analyze the bar model drawn.
- Then, write the number equation and solve it.

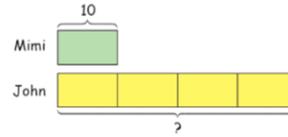
### Step 3: Check the answer

- 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.

Mimi has 10 storybooks. John has 4 times as many storybooks as Mimi. How many storybooks does John have?



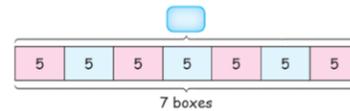
$$10 \times 4 = 40$$

John has 40 storybooks.

$$\begin{array}{r} 10 \\ \times 4 \\ \hline 40 \end{array}$$

### TRY THIS!

1. There are 5 cupcakes in each box. There are 7 boxes. How many cupcakes are there altogether?

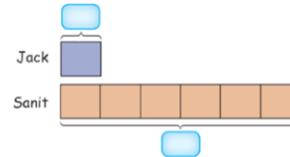


$$7 \times 5 = \boxed{\phantom{00}}$$

There are  $\boxed{\phantom{00}}$  cupcakes altogether.

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

2. Jack has 15 stamps. Sanit has 6 times as many stamps as Jack. How many stamps does Sanit have?

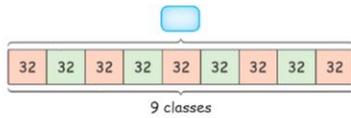


$$6 \times 15 = \boxed{\phantom{00}}$$

Sanit has  $\boxed{\phantom{00}}$  stamps.

$$\begin{array}{r} 15 \\ \times 6 \\ \hline \end{array}$$

3. There are 32 students in each class. There are 9 classes. How many students are there altogether?



$9 \times 32 =$

There are  students altogether.

**Learning to know** **Creating word problems**

Create a multiplication word problem based on the equation below.

$12 \times 3 = 36$

- ☞ Understand the equation.
  - ☞ There are 12 groups of things. Each group has 3 things.
- ☞ Write the name of a thing to tell the amount the number represents.
  - ☞ 12 bags, 3 loaves of bread
- ☞ Lastly, write a multiplication question for the two things.
  - ☞ How many loaves of bread are there altogether?



**Answer**

There are 12 bags. Each bag has 3 loaves of bread. How many loaves of bread are there altogether?

**TRY THIS!**

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

1.  $8 \times 6 = 48$
2.  $35 \times 7 = 245$

**Further practices**

Get the students to complete the practices on pages 97 to 99 in Go Get Maths Workbook P2.

**Teaching ideas**

1. Write  $15 \times 3 = 45$  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 118. 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 100 and 101 in Go Get Maths Workbook P2.

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 102 to 108 in Go Get Maths Workbook P2.

## Chapter 7 Division

### The big idea

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

- How many oranges does the boy have?
- How many plates are there?
- How many oranges does he have to put on every plate so that each plate has the same number of oranges?
- If you were the boy, how will you put the oranges on the plate? Is there a way to do so?

### Chapter 7 Division



Pheng has 10 oranges. He wants to have the same number of oranges on each of the 5 plates. How many oranges should he put on each plate?

- Lesson 1 Meaning of division
- Lesson 2 Division and multiplication
- Lesson 3 Division
- Lesson 4 Word problems



### Strand 1: Numbers and Algebra

#### Standard M.1.1 Numbers

##### Indicators:

**M 1.1 Gr2/6** Find the value of unknown in division equations that dividend is not more than 2 digits and divisor is 1 digit and the quotient is 1 digit with and without remainder.

## Lesson 1 Meaning of division

### Starting point

There are 9 doughnuts and 3 boys.  
How many doughnuts should you give to each of the boys so that each of them gets the same number of doughnuts?



### Learning to know Splitting equally

Mother has 6 doughnuts. She wants to divide the doughnuts equally among her 2 kids. Each kid will get the same number of doughnuts.



Each kid will get 3 doughnuts.

We write it as:

$$6 \div 2 = 3$$

We read it as:

six divided by two equals three

$6 \div 2 = 3$  is a division equation.

$$\begin{array}{ccc} \text{Dividend} & & \text{Quotient} \\ \downarrow & & \downarrow \\ 6 \div 2 = 3 \\ \uparrow & & \\ & \text{Divisor} & \end{array}$$

We read  $\div$  as divided by. It means to split things into equal groups.



122 | Mathematics Prathomsukha 2



or visit  
<http://tiny.cc/6bdpuz>

## Lesson 1 Meaning of division

### Lesson objectives

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

1. Understand what division is.

### Suggested teaching time

3 periods (3 x 50 minutes)

### Vocabulary

Division, dividend, divisor, quotient

### Materials needed

Counters, marbles

### Starting point

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

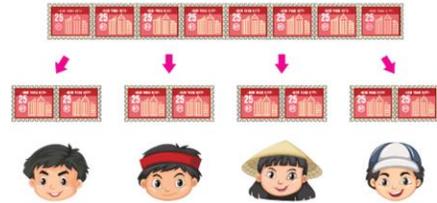
### Teaching ideas

1. Use 6 concrete models such as counters to represent the doughnuts and ask 2 students to take the same number of counters. How many counters should they take?
2. Tell the students that here 6 objects are divided into 2 equal groups and each group will have 3 objects.
3. Tell them that this is division in Maths. Guide them to write the division equation and how to read it.
4. Introduce the dividend, divisor and quotient.

### Teaching ideas

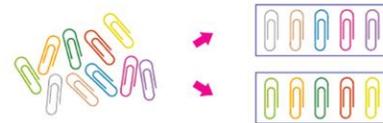
5. Reinforce the concept of forming equal groups with the examples. Use concrete objects to make them understand better.
6. Always ask these questions:
  - How many objects are there at first?
  - How many equal groups are we making?
  - How many objects are there in each group?

There are 8 stamps. The stamps are split equally among some friends. Each friend gets 2 stamps.



$8 \div 2 = 4$   
There are 4 friends.

There are 10 paper clips. They are divided into 2 groups equally.



$10 \div 2 = 5$   
There are 5 paper clips in each group.

There are 12 cupcakes. The baker wants to split them equally into 3 groups.



$12 \div 3 = 4$   
There are 4 cupcakes in each group.

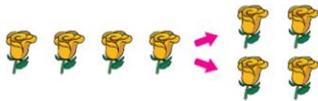
### Fun with Maths!

1. Get into groups of 4.
2. Get 36 marbles.
3. Divide the marbles equally into 2 groups. How many marbles are there in each group?
4. Repeat step 3 with 3, 4 and 6 groups.

Number of groups	2	3	4	6
Number of marbles in each group				

### Try This!

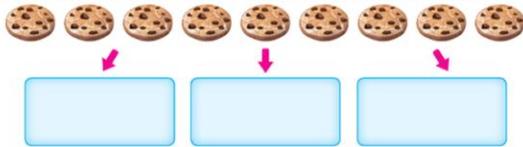
1. There are 4 roses. Aom wants to divide the flowers equally between her 2 teachers.



$$4 \div 2 = \square$$

Each teacher will get  roses.

2. Mother has 9 cookies. She wants to split them equally onto 3 trays.



$$9 \div 3 = \square$$

Each tray will have  cookies.

### Fun with Maths!

**Materials required:** Marbles

**Objective of the activity:** Making equal groups

The students will know that they can divide 36 marbles into 2 groups, 3 groups, 4 groups and even 6 groups. Ask them if they can divide the marbles into 5 groups or 7 groups.

### 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 109 to 112 in Go Get Maths Workbook P2.

## Lesson 2 Division and multiplication

### Lesson objectives

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

1. Relate division and multiplication.

### Suggested teaching time

2 periods (2 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.

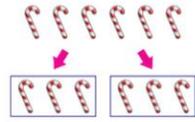
### Teaching ideas

1. Help the students to recall the fact family of addition and subtraction. Write 5, 10 and 15 on the board. Get the students to write the fact family of addition and subtraction.
2. Use concrete objects to represent the buttons as in the example. Guide them to make 2 multiplication equations and 2 division equations. Guide them to realize that these 4 equations are made of a set of numbers – 2, 3 and 6. Inform that these 4 equations make the fact family of multiplication and division.

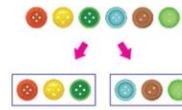
## Lesson 2 Division and multiplication

### Starting point

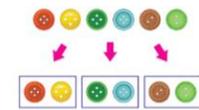
6 candies are divided into 2 groups. Each group has 3 candies.  
There are 2 groups of 3 candies. There are 6 candies altogether.  
What can you say about these 2 statements?



### Learning to know Relating division and multiplication



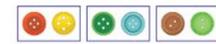
6 buttons can be divided into 2 groups of 3.  
 $6 \div 2 = 3$



6 buttons can be divided into 3 groups of 2.  
 $6 \div 3 = 2$



There are 2 groups of buttons. Each group has 3 buttons.  
There are 6 buttons altogether.  
 $2 \times 3 = 6$



There are 3 groups of buttons. Each group has 2 buttons.  
There are 6 buttons altogether.  
 $3 \times 2 = 6$

$$6 \div 2 = 3$$

$$6 \div 3 = 2$$

$$2 \times 3 = 6$$

$$3 \times 2 = 6$$

These 4 equations are related. They make up a **fact family of multiplication and division**. They use the same set of numbers.

**TRY THIS!**

Write a fact family of multiplication and division using this set of numbers.

<b>10</b>	<b>2</b>	<input type="text"/> ÷ <input type="text"/> = <input type="text"/>	<input type="text"/> × <input type="text"/> = <input type="text"/>
	<b>5</b>	<input type="text"/> ÷ <input type="text"/> = <input type="text"/>	<input type="text"/> × <input type="text"/> = <input type="text"/>

**Learning to know****Finding the unknowns in division and multiplication**

<input type="text"/> ÷ 2 = 4	2 × <input type="text"/> = 8
8 ÷ 4 = <input type="text"/>	4 × 2 = <input type="text"/>

Based on the diagram and the fact family, we can find the missing numbers.



Based on the diagram, there are 2 groups of 4 balls. There are 8 balls altogether. So,  $2 \times 4 = 8$ . The set of numbers for this fact family is 2, 4 and 8.

Therefore,

<input type="text"/> 8 ÷ 2 = 4	8 ÷ 4 = <input type="text"/> 2	2 × <input type="text"/> 4 = 8	4 × 2 = <input type="text"/> 8
--------------------------------	--------------------------------	--------------------------------	--------------------------------

**TRY THIS!**

Fill in the blanks.



15 ÷ 3 = <input type="text"/>	3 × <input type="text"/> = 15	5 × 3 = <input type="text"/>	<input type="text"/> ÷ 5 = 3
-------------------------------	-------------------------------	------------------------------	------------------------------



or visit  
<http://tiny.cc/cbdpuz>

**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 113 in Go Get Maths Workbook P2.

**Teaching ideas**

1. We can find the unknown in a division equation or multiplication equation if we know any of the other 3 equations from its fact family of multiplication and division.
2. Use the example to explain further.

**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 114 in Go Get Maths Workbook P2.

## Lesson 3 Division

### Lesson objectives

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

1. Divide a dividend that is not more than 2 digits by a 1-digit divisor to give a 1-digit quotient.

### Suggested teaching time

4 periods (4 x 50 minutes)

### Vocabulary

Remainder

### 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. Use 8 counters and ask the students to divide them into 4 equal groups. Ask them how many counters there will be in each group and if there will be any remaining counters. Get a student to write the division equation on the board.
2. Introduce to them that this type of division is known as division without remainders.

### Thinking Corner!

Ask the students how they divide the 8 counters into 4 equal groups. Discuss if there is any better way.

## Lesson 3 Division

### Starting point

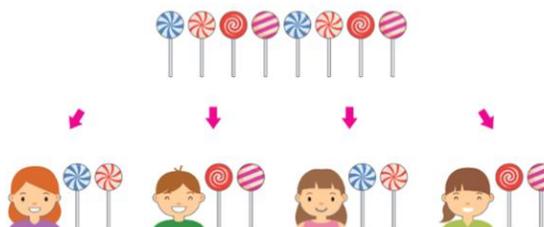
There are 5 apples.

Can you divide the apples into 2 groups equally?



### Learning to know Division without remainders

The teacher has 8 lollipops. She wants to divide them equally among 4 students. How many lollipops will each student get?



$$8 \div 4 = 2$$

Each student gets 2 lollipops.

In this situation, the teacher will have no lollipop left after dividing them among the students. This type of division has no remainder.



### Thinking corner!

If you were the teacher, how would you give out the lollipops and ensure each of the students gets the same number of lollipops?

**Learning to know** Division with remainders

Father buys 5 cupcakes. He wants to divide them equally into 2 boxes.



There are 2 cupcakes in each box with 1 cupcake left.

In this situation, one cupcake is left. This type of division has a remainder.



We write it as:

$$\boxed{5} \div \boxed{2} = \boxed{2} \text{ R } \boxed{1}$$

We read it as:

**five** divided by **two** equals **two** with a remainder of **1**

$$\begin{array}{c} \text{Dividend} \\ \downarrow \\ 5 \end{array} \div \begin{array}{c} \text{Quotient} \\ \downarrow \\ 2 \\ \uparrow \\ \text{Divisor} \end{array} = \begin{array}{c} 2 \\ \uparrow \\ \text{Remainder} \end{array} \text{ R } 1$$

**Teaching ideas**

1. Use 5 counters and ask the students to divide them into 2 equal groups. Ask them how many counters there will be in each group and if there will be any remaining counters.
2. Introduce to them that this type of division is known as division with remainders.
3. Guide them to write the equation for the division with remainders and how to read it. Emphasize that the R stands for remainder.

### Teaching ideas

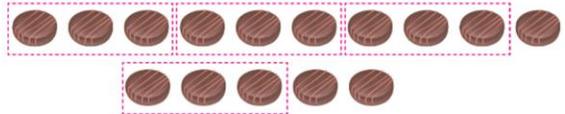
4. Use counters to simulate the examples to give a better understanding to the students.
5. Ask a student to write each equation and read it out.

Sanit draws 7 tomatoes. Then, he circles them to make groups of 2.



There are 3 groups. 1 tomato is left.  
 $7 \div 2 = 3 \text{ R } 1$

There are 15 cookies. Jum wants to split them among her 4 children.



Each child gets 3 cookies. 3 cookies are left.  
 $15 \div 4 = 3 \text{ R } 3$

Janice has 20 extra old coins. She wants to divide them equally among her 6 friends.



Each of her friends gets 3 coins. 2 coins are left.  
 $20 \div 6 = 3 \text{ R } 2$

**Fun with Maths!**

1. Get into groups of 4.
2. Get 40 marbles.
3. Divide the marbles equally into groups of 2. How many groups are there? Are there any remainders?
4. Repeat step 3 with groups of 3, 4, 5, 6 and 7.

Groups of	2	3	4	5	6	7
Number of groups						
Number of remainders						

**TRY THIS!**

1. There are 12 stars.



- (a) If the stars are divided equally into 3 groups, there will be  stars in each group.
  - (b) If the stars are divided equally into 4 groups, there will be  stars in each group.
  - (c) If the stars are divided equally into 5 groups, there will be  stars in each group and  stars are left.
  - (d) If the stars are divided equally into 6 groups, there will be  stars in each group.
2.  $4 \div 2 =$
  3.  $16 \div 4 =$
  4.  $30 \div 5 =$
  5.  $5 \div 2 =$   R
  6.  $18 \div 4 =$   R
  7.  $25 \div 3 =$   R

**Fun with Maths!**

**Materials required:** Counters

**Objective of the activity:** Grouping things into equal groups

The students will realize that they can make equal groups regardless the number of groups with some have remainders and some do not have remainders.

**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 115 to 119 in Go Get Maths Workbook P2.

## Lesson 4 Word problems

### Lesson objectives

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

1. Solve word problems involving division.

### Suggested teaching time

4 periods (4 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. 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 4 Word problems

### Starting point

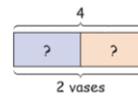
Grandpa has 4 mangoes. He splits them equally between his 2 grandsons.

How do you find the number of mangoes received by each grandson?



### Learning to know Solving word problems

Mother has 4 carnations. She puts them equally into 2 vases. How many carnations are there in a vase?



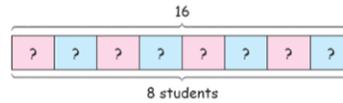
$$4 \div 2 = 2$$

There are 2 carnations in each vase.



Check with the fact family!  
 $2 \times 2 = 4$   
The answer is correct.

Teacher has 16 pencils. She divides the pencils equally among her 8 top students. How many pencils does each student get?



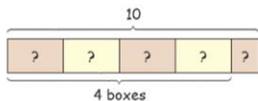
$$16 \div 8 = 2$$

Each student gets 2 pencils.



Check with the fact family!  
 $2 \times 8 = 16$  or  
 $8 \times 2 = 16$

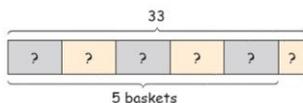
Mimi has 10 doughnuts. She wants to put them equally into 4 boxes. How many doughnuts are there in each box? How many doughnuts are left?



$10 \div 4 = 2 \text{ R } 2$   
 There are 2 doughnuts in each box.  
 2 doughnuts are left.

Check with the fact family!  
 $2 \times 4 = 8$   
 $8 + 2 = 10$   
 The answer is correct.

Mira puts 33 bananas equally into 5 baskets. How many bananas are there in each basket? How many bananas are left?



$33 \div 5 = 6 \text{ R } 3$   
 There are 6 bananas in each basket.  
 3 bananas are left.

Check with the fact family!  
 $5 \times 6 = 30$   
 $30 + 3 = 33$   
 The answer is correct.



Make sure you know your multiplication tables well.

## 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

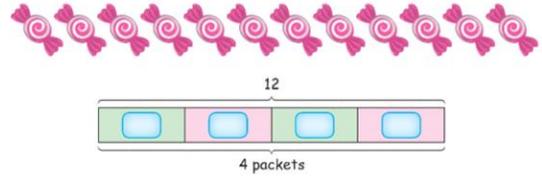
- Always ask the students to check their answer. They need to check if the answer makes sense and is reasonable.
2. Work with them the 3 steps in solving the word problems.
  3. Ask the students to always check with the fact family. They should be good with the multiplication tables too.

**Try This!**

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

**TRY THIS!**

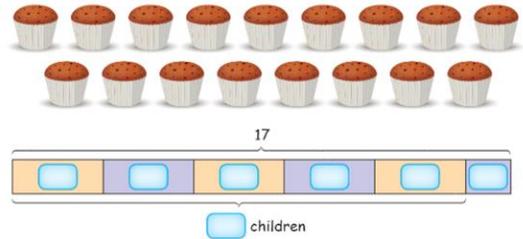
1. Kate has 12 sweets. She packs them equally into 4 packets. How many sweets are there in each packet?



$12 \div 4 =$

There are  sweets in each packet.

2. Som has 17 muffins. She gives an equal number of muffins to each of the 5 children. How many muffins does each child get? How many muffins does Som have left?

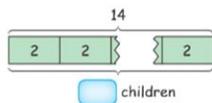


$17 \div 5 =$   R

Each child gets  muffins.

Som has  muffins left.

3. A teacher has 14 balloons. She gives them to some children. Each child gets 2 balloons. How many children are there?



$$14 \div 2 = \square$$

There are  children.

### Learning to know *Creating word problems*

Create a division word problem based on the equation below.

$$15 \div 3 = 5$$

- ☞ Understand the equation.
  - ☞ There are 15 things. There are 3 groups.
- ☞ Write the name of a thing to tell the amount the number represents.
  - ☞ 15 apples, 3 friends
- ☞ Lastly, write a division question for the two things.
  - ☞ How many apples does each friend get?



### Answer

There are 15 apples. The apples are divided equally among 3 friends. How many apples does each friend get?

### TRY THIS!

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

1.  $8 \div 4 = 2$

2.  $24 \div 3 = 8$



or visit  
<http://tiny.cc/8ddpuz>

### Further practices

Get the students to complete the practices on pages 120 to 122 in Go Get Maths Workbook P2.

### Teaching ideas

1. Write  $18 \div 2 = 9$  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 131. 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.

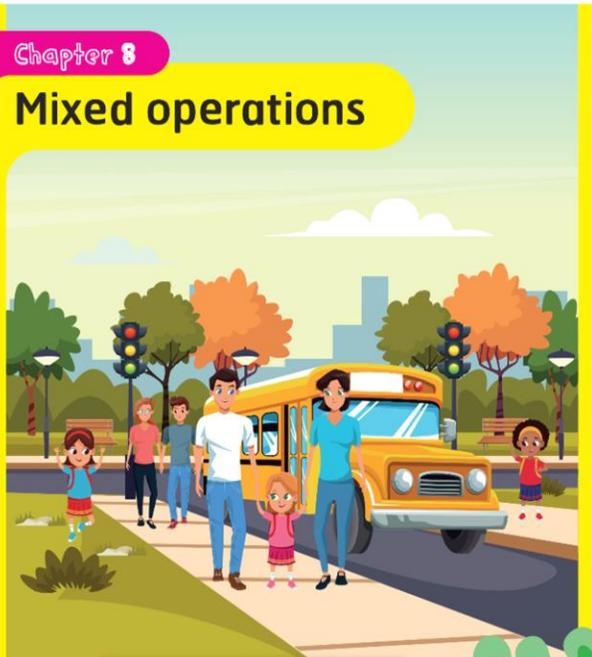
### Further practices

Get the students to complete the practices on pages 123 and 124 in Go Get Maths Workbook P2.

## Chapter 8 Mixed operations

### The big idea

1. Ask the students to look at the picture and read the text.
2. Ask them these questions to start a discussion:
  - How many students are there in the bus at first?
  - Then, how many students get on the bus?
  - How do we find the number of students in the bus now?
  - Lastly, how many students get off the bus?
  - How do you find the number of students left in the bus?



Chapter 8  
Mixed operations

There are 8 students in the bus. 2 students get on the bus and 3 students get off the bus. How many students are there in the bus now?

Lesson 1 Order of operations  
Lesson 2 Word problems



### Strand 1: Numbers and algebra

#### Standard M.1.1 (Numbers)

##### Indicators:

**M 1.1 Gr2/7** Find the results of mix addition, subtraction, multiplication and division of cardinal numbers not exceeding 1,000 and 0.

**M 1.1 Gr2/8** Show mathematical methods to solve 2-step word problems of cardinal numbers not exceeding 1,000 and 0.

## Lesson 1 Order of operations

### Starting point

$$8 + 2 \times 4 = 40 \quad \times$$

Why is the equation not correct? How do we solve such equations?

### Learning to know Order of operations

The four basic mathematical operations are as follows.



addition



subtraction



multiplication



division

For any mathematical problem, it is important to carry out the operations in the right order. If not, we will end up with the wrong answer.

Firstly, we must do the operation in the brackets if there are any brackets.

$$3 + (4 \times 2) = 3 + 8 \\ = 11$$

$$(3 + 4) \times 2 = 7 \times 2 \\ = 14$$

After performing the operations in the brackets or if there are no brackets, then we must perform all the multiplications or divisions from left to right.

$$12 \div 4 - 2 = 3 - 2 \\ = 1$$

$$10 + 15 \div 5 = 10 + 3 \\ = 13$$

$$12 \div 2 \times 3 = 6 \times 3 \\ = 18$$

$$16 \times 4 \div 8 = 64 \div 8 \\ = 8$$

Lastly, we will perform any additions or subtractions from left to right.

## 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

3 periods (3 x 50 minutes)

### Vocabulary

Order 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 bathe? Then, what do you do? 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 term mathematical operations. Inform them the basic mathematical operations 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.

**Order of operations:**

1. Operations in the brackets
2. Multiplications or divisions from left to right
3. Additions or subtractions from left to right



Then, perform the multiplication.

$$6 + 3 \times (2 \times 5)$$
$$= 6 + 3 \times 10$$
$$= 6 + 30$$
$$= 36$$

Perform the operation in the brackets first.

Lastly, perform the addition.

Starting from the left, perform the multiplication.

$$4 \times 6 - 9 \div 3$$
$$= 24 - 9 \div 3$$
$$= 24 - 3$$
$$= 21$$

Then, only perform the division.

Lastly, perform the subtraction.

Then, perform the multiplication.

$$56 \div 7 + 10 \times 2$$
$$= 8 + 10 \times 2$$
$$= 8 + 20$$
$$= 28$$

Starting from the left, perform the division.

Lastly, perform the addition.

Are the answers the same if we perform the operations without taking into consideration the order of operations?



Chapter 8 | 137

### Activity for Reinforcement

1. Write  $2 + 6 \div 2 - 3$  on the board.
2. Get a student to solve it without following the order.
3. Get another student to solve it following the order.
4. Discuss with them the importance of following the order of operations.
  - Why is following the order of operations when solving mathematical problems important?
  - What happens if we do not follow it?

Starting from the left, perform the addition.

$$\begin{aligned} &6 + 32 - (4 \times 7) \\ &= 6 + 32 - 28 \\ &= 38 - 28 \\ &= 10 \end{aligned}$$

Firstly, perform the operations in the brackets.

Lastly, perform the subtraction.

### TRY THIS!

1.  $(6 + 4) \times 9$   
=   $\times 9$   
=

2.  $12 - 4 \div 2$   
=  $12 -$    
=

3.  $10 \times 5 + 7$   
=   $\times$    $+$    
=

4.  $(9 - 1) \div 2$   
=   $-$    $\div$    
=

5.  $14 + 18 \div 2 - 18$   
=  $14 +$    $\div 2 - 18$   
=   $- 18$   
=

6.  $21 \div (3 + 4) \times 2$   
=  $21 \div$    $\times 2$   
=   $\times 2$   
=

7.  $18 - 8 + 20 \div 4$   
=   $-$    $+$    $\div$    
=   $-$    $+$    
=

8.  $18 \div 9 + 5 - 2$   
=   $\div$    $+$    $-$    
=   $+$    $-$    
=

### Extra notes

Many students learn the order of operations as a memory aid. This very often leads to the misconception that multiplication comes before division and that addition comes before subtraction. Understanding the principle is probably the best memory aid.

### Teaching ideas

8. Guide the students to refer to **Starting Point** on page 136. 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.

If the students answered wrongly, guide them to identify their mistakes.

### Further practices

Get the students to complete the practices on pages 125 to 128 in Go Get Maths Workbook P2.



or visit  
<http://tiny.cc/bddpuz>

## 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. Reiterate the 3 simple steps to solve a word problem.  
**Step 1: Understand the problem**  
**Step 2: Plan and execute**  
**Step 3: Check the answer**
2. Inform the students that these word problems involve 2 steps. They need to understand the number story and the question well.
3. For this example, guide the students to use the 3 steps. Set them thinking about these questions:
  - What do I know?
  - How many packs of flour did the shop have at first?
  - How many did it sell?
  - How many packs of flour did it receive?
  - What do I need to find at the end?
  - What do I need to find out first?

## Lesson 2 Word problems

### Starting point

There are 10 kids in the bus. 3 kids get off the bus. Then, 1 kid gets on the bus. How do we find the number of kids in the bus now?



### Learning to know Solving word problems

The shop had 36 packets of flour. It sold 19 packets yesterday. Then, today it receives 20 packets of flour from the supplier. How many packets of flour does the shop have now?

#### The first step

The shop had 36 packets of flour. Then, it sold 19 packets. How many packets of flour were left?

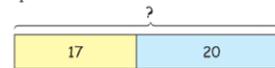


$$36 - 19 = 17$$

So, 17 packets of flour were left yesterday.

#### The second step

The shop had 17 packets of flour left. Today it receives 20 packets. How many packets does the shop have now?



$$17 + 20 = 37$$

Therefore, the shop has 37 packets of flour now.

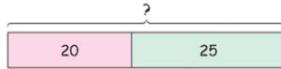
We can summarize the whole operation as  $36 - 19 + 20 = 37$ .

A charity organization has 20 kg of rice. Someone donates 25 kg of rice to the organization. The organization divides all the rice equally among 5 families. How much rice does each family receive?



**The first step**

The organization has 20 kg of rice. Someone donates 25 kg of rice. How much rice does the organization have altogether?

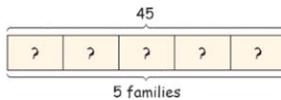


$$20 + 25 = 45$$

So, the organization has 45 kg of rice altogether.

**The second step**

The organization has 45 kg of rice. It divides equally among 5 families. How much rice does each family receive?



$$45 \div 5 = 9$$

Therefore, each family receives 9 kg of rice.

We can summarize the whole operation as  $(20 + 25) \div 5 = 9$ .

**Thinking corner!**

Can we write  $(20 + 25) \div 5$  as  $20 + 25 \div 5$ ? Why?

**Teaching ideas**

4. For this example, guide the students to use the 3 steps. Set them thinking about these questions:

- What do I know?
- How much rice did the organization have at first?
- How much more rice did it receive?
- How many families got the rice?
- How much rice did each family get?
- What do I need to find at the end?
- What do I need to find out first?

**Thinking Corner!**

Ask the students these questions to start the discussion:

- What is the difference between both?
- Are the answers for both the same?
- What are the brackets for?

Tell the students that brackets are in pairs and they are used to group things together. We need to do the operations in the brackets first before other operations when solving a mathematical problem.

### Teaching ideas

5. For this example, guide the students to use the 3 steps. Set them thinking about these questions:
- What do I know?
  - How many stamps did I have at first?
  - How many friends gave me stamps?
  - How many stamps did each of them give me?
  - How many stamps did all my friends give me?
  - What do I need to find at the end?
  - What do I need to find out first?

I have 38 stamps. Then, 6 friends give me 4 stamps each. How many stamps do I have now?

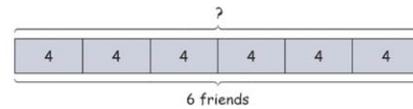


Always read the word problem carefully to understand it.



#### The first step

6 friends give me 4 stamps each. How many stamps do they give me altogether?

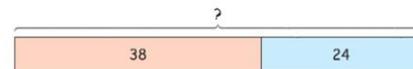


$$6 \times 4 = 24$$

They give me 24 stamps altogether.

#### The second step

I have 38 stamps. My friends give me 24 stamps altogether. How many stamps do I have altogether?



$$38 + 24 = 62$$

Therefore, I have 62 stamps altogether.

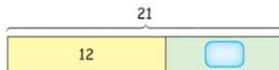
We can summarize the whole operation as  $6 \times 4 + 38 = 62$ .

**TRY THIS!**

1. There are 21 passengers in the bus. 12 passengers get off at the first bus stop. At the second bus stop, 14 passengers get on the bus. How many passengers are there in the bus at the end?

**The first step**

There are 21 passengers in the bus. 12 passengers get off the bus. How many passengers are there in the bus after the first bus stop?

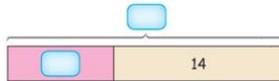


$$21 - 12 = \square$$

So, there are  $\square$  passengers in the bus after the first bus stop.

**The second step**

There are  $\square$  passengers in the bus now. 14 passengers get on the bus at the second bus stop. How many passengers are there in the bus at the end?



$$\square + 14 = \square$$

Therefore, there are  $\square$  passengers in the bus at the end.

**Try This!**

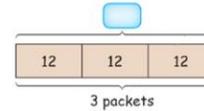
Get 3 students to answer it. Ask the rest to verify the answers.

2. Jack buys 3 packets of cookies. Each packet has 12 cookies. He and his brother eat 7 cookies. How many cookies are left?



**The first step**

Jack buys 3 packets of cookies. Each packet has 12 cookies.

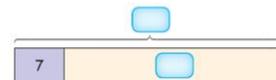


$$12 \times 3 = \square$$

So, there are  $\square$  cookies altogether.

**The second step**

There are  $\square$  cookies altogether. Jack and his brother eat 7 cookies. How many cookies are left?



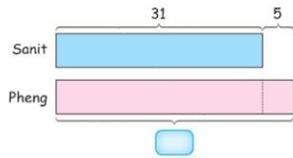
$$\square - 7 = \square$$

Therefore,  $\square$  cookies are left.

3. Sanit has 31 marbles. Sanit has 5 fewer marbles than Pheng. Pheng splits his marbles equally among his 4 cousins. How many marbles does each of Pheng's cousins get?

**The first step**

Sanit has 31 marbles. Sanit has 5 fewer marbles than Pheng. How many marbles does Pheng have?

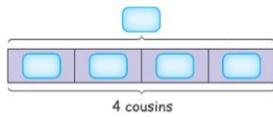


$$31 + 5 = \square$$

Pheng has  marbles.

**The second step**

Pheng has  marbles. He splits his marbles equally among his 4 cousins.



$$\square \div 4 = \square$$

Therefore, each of Pheng's cousins gets  marbles.

**Further practices**

Get the students to complete the practices on pages 129 to 136 in Go Get Maths Workbook P2.

### Teaching ideas

1. Write  $3 \times 2 + 5 = 11$  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 139. 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 137 and 138 in Go Get Maths Workbook P2.

#### Learning to know

#### Creating word problems

Create a 2-step word problem based on the equation below.

$$15 + 6 - 3 = 18$$

- ☞ Understand the equation.
  - ☞ There are 15 things. Then, 6 things are added to them. Later, 3 things are removed from them.
- ☞ Write the name of a thing to tell the amount the number represents.
  - ☞ The numbers represent the numbers of apples.
- ☞ Then, write the information for the first step of the word problem.
  - ☞ There are 15 apples. Mother buys 6 more apples.
- ☞ Then, write the information for the second step of the word problem.
  - ☞ We eat 3 apples.
- ☞ Lastly, write a question.
  - ☞ How many apples are left?



#### Answer

There are 15 apples. Mother buys 6 more apples. We eat 3 apples. How many apples are left?

#### TRY This!

Create a 2-step word problem using each of the equations below.

1.  $20 - 7 + 16 = 29$
2.  $(2 \times 6) - 4 = 8$



or visit  
<http://tiny.cc/cddpuz>

## Chapter 9

# Time



- Lesson 1 Telling and writing time
- Lesson 2 Duration of events in hours and minutes
- Lesson 3 Comparing and ordering duration of events
- Lesson 4 Word problems
- Lesson 5 Understanding calendars

What is the time now?



## Chapter 9 Time

### The big idea

1. Ask the students how they know when they should leave their house for school every morning.
2. Ask them if they have clocks at home.
3. Ask the students to look at the picture of the clock carefully. Ask them these questions to start a discussion:
  - a. How many numbers are there on a clock?
  - b. How many hands are there on the clock?
  - c. The clock is showing 10.00 hours. It is morning. What do you usually do at 10.00 hours?

## Strand 2: Measurement and geometry

### Standard M.2.1

#### Indicators:

**M 2.1 Gr2/1** Show mathematical operations in word problems involving time with one and the same standard units.

## Lesson 1 Telling and writing time

### Lesson objectives

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

1. Tell parts of a clock.
2. Tell the periods of the day.
3. Tell and write time to hour.
4. Tell and write time to 5 minutes.

### Suggested teaching time

7 periods (7 x 50 minutes)

### Vocabulary

Hour, minute, clock, minute hand, hour hand, second hand, morning, midday, afternoon, evening, midnight

### 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.

### Fun with Maths!

**Materials required:** A wall clock

**Objective of the activity:** Understanding how the hands of a clock work

The students should know how the hour hand, minute hand and second hand move.

## Lesson 1 Telling and writing time

### Starting point

We have clocks to tell us time.

How do we read the time shown on a clock?



### Learning to know Parts of a clock

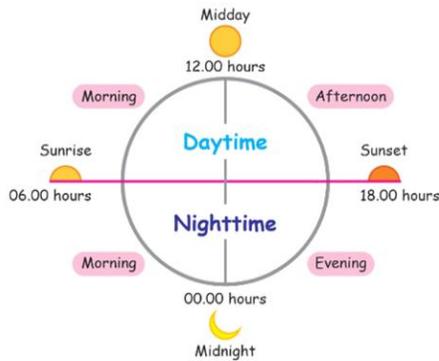


### Fun with Maths!

Observe a wall clock. Answer these questions.

1. Do all the 3 hands move together?
2. Which hand moves the fastest?
3. Which hand moves the slowest?
4. What happens to the minute hand when the second hand moved 1 round?
5. What happens to the hour hand when the minute hand moved 1 round?

**Learning to know** Telling the periods of the day



From sunrise until midday when the Sun is above our head, this period of the day is known as **morning**. What do you usually do in the morning?



**Thinking corner!**

If you were not going to school for a day, what would you be doing in the morning?

**Teaching ideas**

1. Inform the students that a day can be divided into a few periods such as morning, afternoon and evening.
2. Discuss with them how differentiate these periods.
3. Discuss with the students about the activities they usually carry out during these periods:
  - What do you do in the morning?  
Do you wake up and prepare to go to school?
  - What do you usually do in the morning in the school?
  - What do you usually do in the afternoon in the school?
  - What do you do at home in the afternoon?
  - What do you usually do at night?
  - What do you do in the early morning?

**Thinking Corner!**

Ask the students what they usually do during the weekends.

### Teaching ideas

- Let the students discuss why certain activities are carried out in certain periods only such as why we usually sleep in the late evenings or at night and why we usually play in the late afternoons.

### 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 139 and 140 in Go Get Maths Workbook P2.

From midday until sunset, this period of the day is known as **afternoon**.



From sunset until midnight, this period of the day is known as **evening**.



From midnight until the next sunrise, this period of day is known as **morning** also.

### TRY This!

Which period of the day do you usually carry out each of these activities? Match.

Have lunch	•	Morning	•	Have dinner
Go to bed	•	Afternoon	•	Go to school
Wake up	•	Evening	•	Return from school



or visit  
<http://tiny.cc/fddpuz>

**Learning to know** Telling and writing time to the hour



In the morning

It is morning.  
The hour hand is pointing at 2.  
The minute hand is pointing at 12.  
The time is 02.00 hours.  
We read it as zero two hundred hours.



In the morning

It is morning.  
The hour hand is pointing at 8.  
The minute hand is pointing at 12.  
The time is 08.00 hours.  
We read it as zero eight hundred hours.



In the morning

It is morning.  
The hour hand is pointing at 11.  
The minute hand is pointing at 12.  
The time is 11.00 hours.  
We read it as eleven hundred hours.

Some people read 08.00 hours as oh eight hundred hours. They use oh instead of zero.



**Activity for Reinforcement**

The students need more practice to tell, write and read time for the morning period. 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**

1. Tell the students that the hour hand of the clocks in this book is red and the minute hand is blue.
2. Inform the students that when the minute hand is point to 12, the clock tells the time to the hour.
3. Discuss with the students on how to tell the time from a clock using these questions:
  - What is period of the day, morning, afternoon or evening?
  - Where is the minute hand pointing to?
  - Where is the hour hand pointing to?
  - What is the time, in numerals and words?
4. Tell the students that when it is morning and the minute hand is pointing to 12, the number that the hour hand is pointing to is related to the time.
5. Guide them to read write and read the time based on the examples.

### Teaching ideas

- Discuss with the students on how to tell the time from a clock using these questions:
  - What is period of the day, morning, afternoon or evening?
  - Where is the minute hand pointing to?
  - Where is the hour hand pointing to?
  - What is the time, in numerals and words?
- Tell the students that when it is afternoon or evening and the minute hand is pointing to 12, we need to add 12 to the number that the hour hand is pointing to, to relate to the time.
- Guide them to read write and read the time based on the examples.



In the afternoon

It is afternoon.  
The hour hand is pointing at 2.  
The minute hand is pointing at 12.  
The time is 14.00 hours.  
We read it as fourteen hundred hours.



In the evening

It is evening.  
The hour hand is pointing at 7.  
The minute hand is pointing at 12.  
The time is 19.00 hours.  
We read it as nineteen hundred hours.



In the evening

It is evening.  
The hour hand is pointing at 11.  
The minute hand is pointing at 12.  
The time is 23.00 hours.  
We read it as twenty-three hundred hours.

To tell the times after midday, we add 12 to the hours shown by the hour hand on the clock.



### Activity for Reinforcement

The students need more practice to tell, write and read time for the afternoon or evening period. 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.

### Fun with Maths!

1. Work in pairs. Get a clock.
2. Show a time to the hour with the clock and decide whether it is daytime or nighttime.
3. Your partner tells the time shown and talks about the activities he or she usually does at that time.



4. Switch roles and repeat for 4 times.

### TRY THIS!

1. Write the times. Read them out loud.



In the morning:

In the evening:

2. Draw the missing hour and minute hands.

(a)



05.00 hours

(b)



12.00 hours

(c)



19.00 hours

### Fun with Maths!

**Materials required:** An analog clock

**Objective of the activity:** Reading time to the hour

The students should be able to connect between the time and events of the day.

### 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 141 to 144 in Go Get Maths Workbook P2.

### Activity for Reinforcement

**Materials required:** 10 cards with time written on them, analog clocks

**Objective of the activity:** Showing time

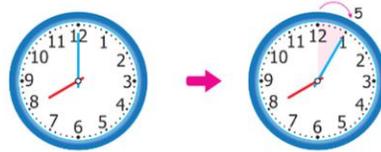
1. Ask the students to work in pairs.
2. Ask each of them to select a card and read it out.
3. Then, get them to show the time using the clock and state the period of the day for the time.
4. Repeat with all the cards.

## Teaching ideas

1. Ask the students to count in fives a loud.
2. Tell the students that the minute hand takes 5 minutes to move from a number to the next number.
3. Explain that when the minute hand is pointing at 1, it has taken 5 minutes to move from 12 to 1. When it is pointing at 2, it has taken 10 minutes to move from 12 to 2. Repeat with the rest of the numbers.
4. Discuss with the students on how to tell the time to 5 minutes from a clock using these questions:
  - What is period of the day, morning, afternoon or evening?
  - Where is the minute hand pointing to?
  - How many minutes it took to reach that number from 12?
  - Where is the hour hand is pointing to?
  - What is the time, in numerals and words?
5. Guide them to read write and read the time based on the example.

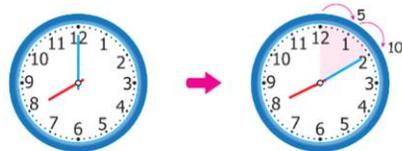
### Learning to know Telling and writing time to 5 minutes

#### In the morning



The minute hand moves from 12 to 1. It takes 5 minutes to do so.  
Now, the time is 08.05 hours.  
We read it as zero eight zero five hours.

#### In the morning

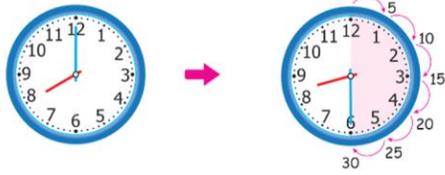


The minute hand moves from 12 to 2. It takes 10 minutes to do so.  
Now, the time is 08.10 hours.  
We read it as zero eight ten hours.

Count in fives when the minute hand moves from a number to the next.

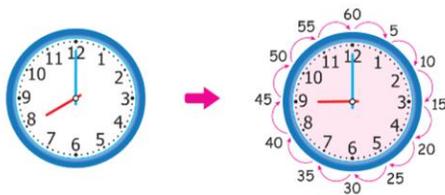


**In the morning**



The minute hand moves from 12 to 6. It takes 30 minutes to do so.  
Now, the time is 08.30 hours.  
We read it as zero eight thirty hours.

**In the morning**



The minute hand moves from 12 to 12.  
It makes a complete circle. It takes 60 minutes to do so.  
The hour hand moves from 8 to 9.  
Now, the time is 09.00 hours.  
We read it as zero nine hundred hours.

60 minutes make 1 hour.



**Teaching ideas**

6. Guide them to read write and read the time based on the examples.
7. Discuss that 60 minutes make 1 hour using these questions:
  - How many minutes does the minute hand take to move from 12 to 6?
  - How many minutes does the minute hand take to move from 12 to 9?
  - How many minutes does the minute hand take to move from 12 to 12 or 1 circle around the clock?
  - What happens to the hour hand when the minute hand makes a complete circle around the clock?
8. Guide the students to refer to **Starting Point** on page 147. Ask them to answer the question. Have a discussion to conclude the lesson.

**Activity for Reinforcement**

**Materials required:** Analog clocks

**Objective of the activity:** Showing time

1. Ask the students to work in pairs.
2. Ask each of them to show the time to 5 minutes using the clock and indicate the period of day.
3. Get the other student to write and read the time shown.
4. Repeat a few times.

### Fun with Maths!

**Materials required:** Cards with time to 5 minutes written on them, analog clocks

**Objective of the activity:** Showing time with clock

Ask the students to indicate the period of the day for each time shown.

### 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 145 to 147 in Go Get Maths Workbook P2.

### Fun with Maths!

1. Work in pairs.
2. Get a clock.
3. Write a time to 5 minutes on a card and show it to your partner.
4. Your partner reads out the time.
5. Then, he or she will show the time with the clock.
6. Is it correct? Repeat 4 times.



7. Then, change roles and repeat.

### TRY THIS!

1. Write the times. Read them out loud.



In the morning:

In the evening:

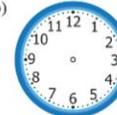
2. Draw the missing hour and minute hands.

(a)



01.15 hours

(b)



14.55 hours

(c)



21.30 hours



or visit  
<http://tiny.cc/hddpuz>

## Lesson 2

## Duration of events in hours and minutes

### Starting point

Chai arrived at the library at 10.00 hours and left the library at 12.00 hours.

How do we find the period of time Chai spent in the library?



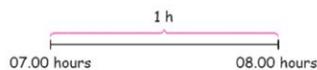
### Learning to know Duration of events in hours



We start to jog at 07.00 hours. We finish jogging at 08.00 hours.



We can draw a timeline to understand better.



We jog for 1 h.  
08.00 hours is 1 h after 07.00 hours.

We can use h for hour.  
We read 1 h as 1 hour.



## Lesson 2 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

6 periods (6 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 they jogged.
2. Ask them to take note that the minute hands in both clocks are pointing to 12 and the hour hand has moved from 7 to 8.
3. Explain that from 07.00 hours, the minute hand has made a complete circle to reach 08.00 hours.
4. Guide them to draw the timeline.
5. 60 minutes or an hour has passed from 07.00 hour to 08.00 hours.
6. Guide them to say that 08.00 hours is 1 hour after 07.00 hours.

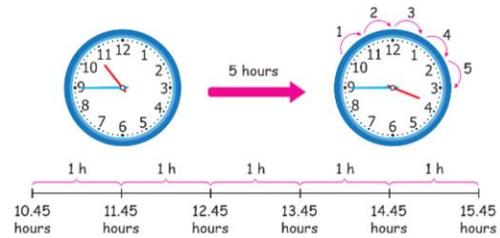
### Teaching ideas

- Repeat with the example for the students to understand more.
- Ask them to take note of the position of the minute hands in both the clocks.
- If there are no changes, then ask them to count the hours that have passed.
- Guide them to draw the timeline.
- Always ask the students to draw 2 clocks when calculating the duration of an event. The first clock will show the time the event started and the other clock will show the time the event ended.

### Teaching ideas

- Read the example. Discuss it using these questions:
  - Did the minute hand make a complete circle around the clock? Why did you say so?
  - How much time did the minute hand take to move from 12 to 3?
  - How much time has passed from 12.00 hours to 12.15 hours?
- Guide them to draw the timeline.

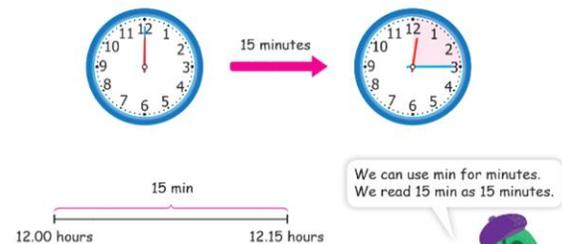
The kids went to the zoo at 10.45 hours. They left the zoo at 15.45 hours.



They spent 5 h at the zoo.  
15.45 hours is 5 h after 10.45 hours.

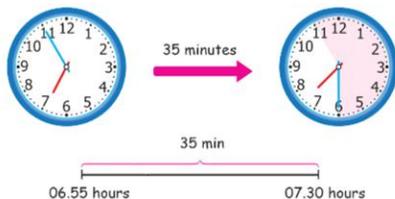
### Learning to know Duration of events in minutes

David reaches the bus stop at 12.00 hours. The bus comes at 12.15 hours.



David waits for 15 min for the bus.  
12.15 hours is 15 min after 12.00 hours.

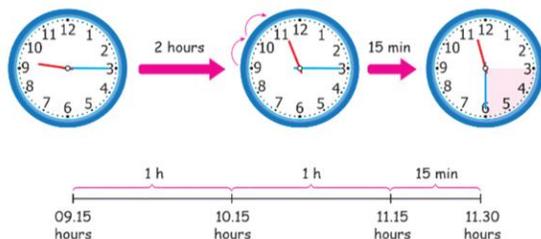
The kids start walking to school at 06.55 hours. They reach the school at 07.30 hours.



The kids walk for 35 min to reach the school.  
07.30 hours is 35 min after 06.55 hours.

**Learning to know** Duration of events in minutes and hours

The movie starts at 09.15 hours. It ends at 11.30 hours.



The movie runs for 2 h 15 min.  
11.30 hours is 2 h 15 min after 09.15 hours.

**Teaching ideas**

3. Read the example. Discuss it using these questions:
  - Did the minute hand make a complete circle around the clock? Why did you say so?
  - How much time did the minute hand take to move from 11 to 6?
  - How much time has passed from 06.55 hours to 07.30 hours?
4. Guide them to draw the timeline.

**Teaching ideas**

1. Here we need to find the duration of events in hours and minutes. These events take more than 1 hour.
2. For these events, count the nearest hours the events had taken up, before counting the remaining minutes.
3. For this example, the event starts at 09.15 hours and ends at 11.30 hours.
4. From 09.15 hours to 10.15 hours, it takes up 1 hour. From 10.15 to 11.15, it takes up another 1 hour. So, from 09.15 hours to 11.15 hours, it takes up 2 hours.
5. From 11.15 hours to 11.30 hours, it takes up 15 min as the minute hand moves from 3 to 6.
6. So, in total the event takes 2 h and 15 min.
7. Guide them to draw the timeline.

### Teaching ideas

- Use the example to explain further.
- Guide them to draw the timeline.
- Always ask them to draw the clocks to understand the problems better.
- Guide the students to refer to **Starting Point** on page 156. Ask them to answer the question. Have a discussion to conclude the lesson.

### Fun with Maths!

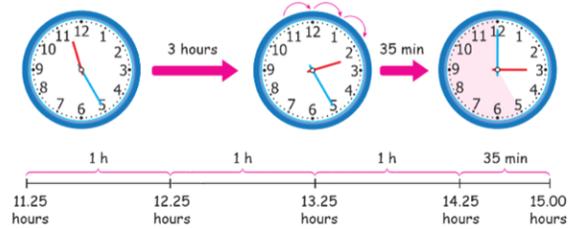
**Materials required:** -

**Objective of the activity:** Calculate the duration of events

Ask the students these questions:

- Which activity did you spend the most time?
- Which activity did you spend the least time?

My family starts our journey to Grandma's house at 11.25 hours. We reach Grandma's house at 15.00 hours.



The journey to Grandma's house takes 3 h 35 min.  
15.00 hours is 3 h 35 min after 11.25 hours.

### Fun with Maths!

- Record the activities that you do when you reach home today.
- Record the starting time and the finishing time of each activity.
- An example is shown below.

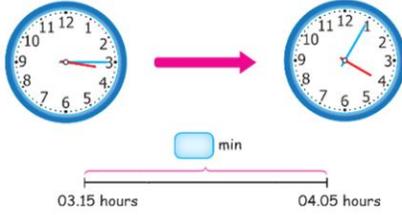
Activity	Starting time	Finishing time	Duration of the activity
Play badminton	17.20 hours	18.30 hours	1 h 10 min
Rest	18.30 hours	19.00 hours	30 min
Bathe	19.00 hours	19.15 hours	15 min
Take dinner	19.15 hours	19.45 hours	30 min

- Calculate the duration of each activity.
- Which activity did you enjoy the most? Why?

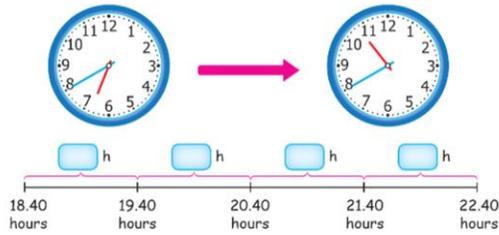
**TRY THIS!**

Write the amount of time that has passed for each set of times below.

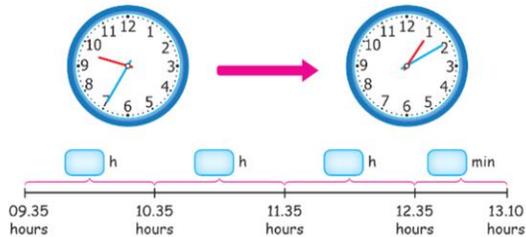
1.



2.



3.



**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 148 to 153 in Go Get Maths Workbook P2.

## Lesson 3 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

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 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 3

## Comparing and ordering duration of events

### Starting point

Annie reached the library at 10.25 hours and left at 11.50 hours. Karen reached the library at 10.30 hours and left at 11.35 hours.



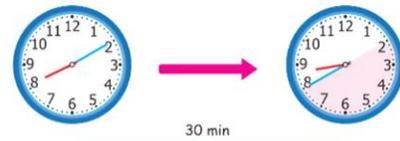
How do we find who stayed longer in the library?

### Learning to know

### Comparing duration of events

Aom started to do her homework at 20.10 hours and finished at 20.40 hours. Jimmy started to do his homework at 19.45 hours and finished it at 20.30 hours.

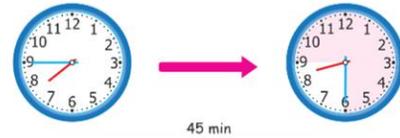
Aom:



30 min

20.10 hours                      20.40 hours

Jimmy:



45 min

19.45 hours                      20.30 hours

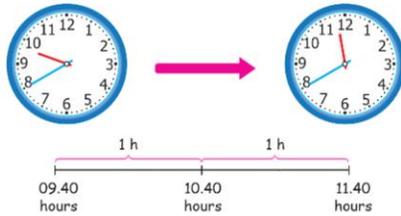
$$45 - 30 = 15$$

Jimmy took 15 min more than Aom to finish the homework.

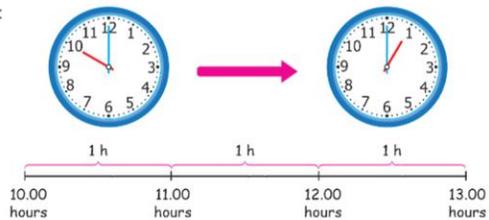
Aom took 15 min less than Jimmy to finish the homework.

Mimi started sewing a bag at 09.40 hours and finished doing so at 11.40 hours.  
Daisy did the same from 10.00 hours to 13.00 hours.

Mimi:



Daisy:



Mimi took 2 h to sew a bag.

Daisy took 3 h to sew a bag.

$$3 - 2 = 1$$

Mimi took 1 h less than Daisy to sew a bag.

Daisy took 1 h more than Mimi to sew a bag.

### Teaching ideas

4. Use the example to explain more.

### Teaching ideas

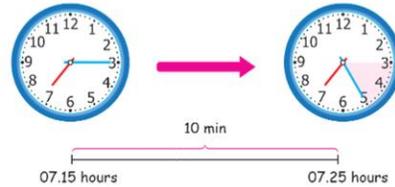
5. Tell the students that to order duration of events, we need to find the duration of each event first.
6. Then, we compare and arrange them either starting from the one with the shortest duration or with the longest duration.

### Learning to know Ordering duration of events

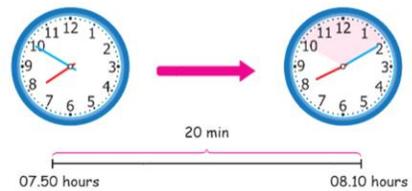
Ahtit started sweeping his classroom at 07.15 hours and finished at 07.25 hours. John started doing so at 07.50 hours and finished at 08.10 hours. Nut also started doing so at 07.30 hours and finished at 07.45 hours.



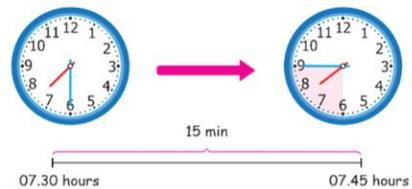
Ahtit:



John:



Nut:

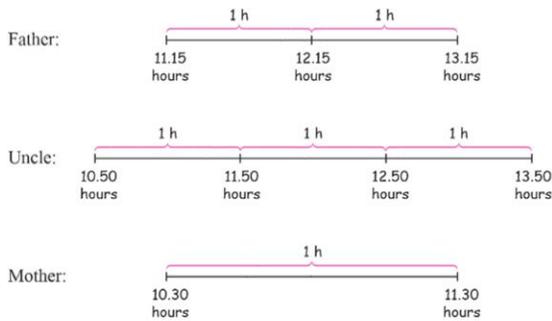


Ahtit took 10 min to sweep the classroom.  
 John took 20 min to sweep the classroom.  
 Nut took 15 min to sweep the classroom.

We can arrange them

- starting with the one who took the longest time: John, Nut, Ahtit
- starting with the one who took the shortest time: Ahtit, Nut, John

Father drove from 11.15 hours to 13.15 hours. Uncle drove from 10.50 to 13.50 hours. Mother drove from 10.30 to 11.30 hours.



Father drove for 2 h.  
 Uncle drove for 3 h.  
 Mother drove for 1 h.

We can arrange them starting with

- the one who drove the longest duration: Uncle, father, mother
- the one who drove the shortest duration: Mother, father, uncle

### Teaching ideas

7. 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.
8. Guide the students to refer to **Starting Point** on page 161. 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.

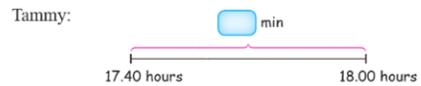
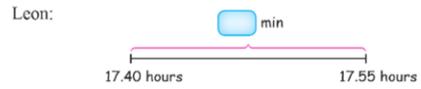
### Further practices

Get the students to complete the practices on pages 154 and 155 in Go Get Maths Workbook P2.

### TRY THIS!

Fill in the blanks.

1. Leon and Tammy started cycling to the park at 17.40 hours. Leon reached the park at 17.55 hours. Tammy reached the park at 18.00 hours.



- Leon took  min to reach the park.  
Tammy took  min to reach the park.  
Leon took  min less than Tammy to reach the park.  
Tammy took  min more than Leon to reach the park.

2. Sari and Kim started shopping at 10.00 hours. Janice started shopping at 12.00 hours. Kim and Janice finished shopping at 13.00 hours. Sari finished shopping at 12.00 hours.

Arrange them

starting with the person who spent the longest time on shopping:

,  ,

starting with the person who spent the shortest time on shopping:

,  ,

## Lesson 4 Word problems

### Starting point

Mother walked 10 min to the post office from home. She then took another 15 min to reach the market.

How do we find the total time she took to reach the market from home?



### Learning to know Solving word problems

Sakda spent 30 min jogging. Then, he skipped for 10 min. What was the total time he took to jog and skip?



$$30 + 10 = 40$$

Sakda took 40 min to jog and skip.

Nan went for a movie. It started at 16.20 hours and ended at 18.10 hours. How long was the movie?



Here we find the total time spent.



The movie was 1 h 50 min long.

## Lesson 4 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

10 periods (10 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.

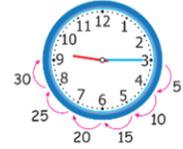
### Teaching ideas

1. Guide them to understand the word problems.
2. Work through the first example with the students to find the total time taken by Sakda to jog and skip.
3. Work through the second example with the students to find the duration of the movie.

### Teaching ideas

4. Work through the first example with the students to find the end time. Advise them to find the time after 1 h first and then find the end time after 30 min. Guide them to count forward the time.
5. Work through the second example with the students to find the start time. Advise them to find the time before 1 h first and then find the start time before another 1 h. Guide them to count backward the time.
6. Ask them to draw the clocks for counting forward and backward involving the minutes.

Kasem started doing his homework at 20.15 hours. He spent 1 h and 30 min on his homework. What time did he finish his homework?



1 h after 20.15 hours is 21.15 hours.

30 min after 21.15 hours is 21.45 hours.

Kasem finished his homework at 21.45 hours.

The problem above needs us to find the ending time of the event. We count forward, either the hours or minutes or both.



Ice played the computer game for 2 h. He switched off the computer at 15.20 hours. What time did he start playing the computer game?



1 h before 15.20 hours is 14.20 hours.

1 h before 14.20 hours is 13.20 hours.

Ice started playing the computer game at 13.20 hours.



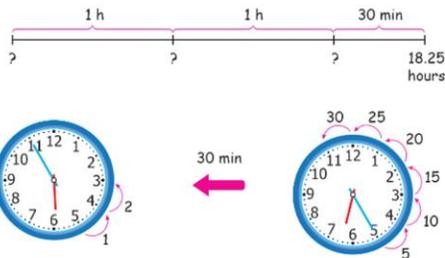
To find the starting time, we need to count backward, either the hours or minutes or both.

Anurak is going to meet a friend in the library at 11.15 hours. It takes him 25 min to walk to the library. What time should he leave his house to arrive on time?



25 min before 11.15 hours is 10.50 hours.  
Anurak should leave his house at 10.50 hours to arrive on time.

Preeda and her family arrived at her grandma's house at 18.25 hours. The journey took 2 hours and 30 minutes. What time did they start their journey?



30 min before 18.25 hours is 17.55 hours.  
2 h before 17.55 hours is 15.55 hours.  
They started their journey at 15.55 hours.

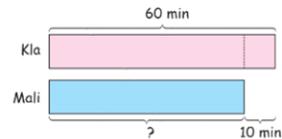
### Teaching ideas

7. Work through the first example with the students to find the start time. Guide them to count backward the time. Ask them to draw a clock.
8. Work through the second example with the students to find the start time. Guide them to count backward the time.
9. Tell the students that they can count backward 30 min first and then the 2 h. The answer is the same.

### Teaching ideas

10. Guide the students to use comparison to find the answers to the 2 examples.
11. Ask them to draw the comparison bar models.
12. Guide the students to refer to **Starting Point** on page 166. Ask them to answer the question. Have a discussion to conclude the lesson.

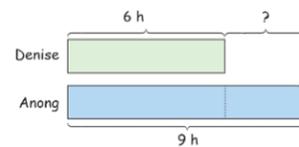
Kla took 60 min to finish reading the book. Mali took 10 min less than Kla to do the same. How long did Mali take to finish reading the book?



$$60 - 10 = 50$$

Mali took 50 min to finish reading the book.

Denise took 6 h to complete the Science project. Anong took 9 h to complete it. How much more time did Anong take than Denise to complete the project?

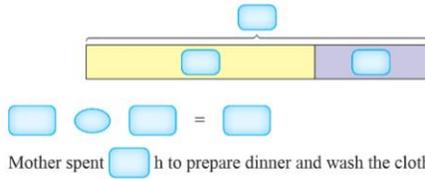


$$9 - 6 = 3$$

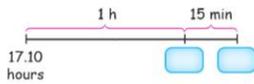
Anong took 3 h more than Denise to complete the project.

**TRY THIS!** Fill in the blanks.

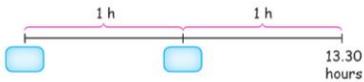
1. Mother took 2 h to prepare dinner and 1 h to wash the clothes. How much time did Mother spend to prepare dinner and wash the clothes?



2. Chai and his friends started playing football at 17.10 hours. They played for 1 h and 15 min. What time did they stop playing?



3. Jamie spent 2 h at the hospital visiting her sick grandpa. She left the hospital at 13.30 hours. What time did she reach the hospital?



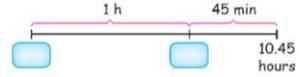
**Try This!**

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

### Further practices

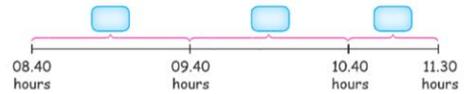
Get the students to complete the practices on pages 156 to 160 in Go Get Maths Workbook P2.

4. Father took 1 h 45 min to wash the car. He finished washing at 10.45 hours. What time did he start to wash the car?



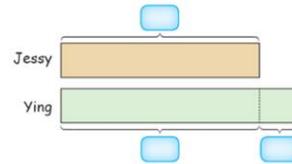
He started to wash the car at  hours.

5. Nattapong started making a kite at 08.40 hours. He finished at 11.30 hours. How long did he take to make the kite?



Nattapong took  h  min to make the kite.

6. Jessy swam for 50 min. Ying swam 10 min more than Jessy. How long did Ying swim?



Ying swam for  min.

## Lesson 5 Understanding calendars

### Starting point

You received an invitation to Noah's birthday party. It is on 12th August.

How do you know when is 12th August?



### Learning to know Reading a calendar

There are 12 months in a year. They are January, February, March, April, May, June, July, August, September, October, November and December.

Each month has either 30 or 31 days except February.

A leap year happens every four years. In a leap year, there are 29 days in February. In a normal year, there are 28 days in February.

# 2021

#### JANUARY

S	M	T	W	T	F	S
						1 2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

#### FEBRUARY

S	M	T	W	T	F	S
						1 2 3 4 5 6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

#### MAY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

#### JUNE

S	M	T	W	T	F	S
						1 2 3 4 5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

#### SEPTEMBER

S	M	T	W	T	F	S
						1 2 3 4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

#### OCTOBER

S	M	T	W	T	F	S
						1 2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

### Extra notes

One of the easiest ways to remember the numbers of days in each month is by using our knuckles. Make a fist and starting with the first knuckle say the months of the year including the valleys between the knuckles.



The knuckles represent the months with 31 days and the valleys represent the month with 30 days. You only need to remember that February has 28 or 29 days.

## Lesson 5 Understanding calendars

### Lesson objectives

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

1. Read calendars.

### Suggested teaching time

4 periods (4 x 50 minutes)

### Vocabulary

-

### Materials needed

Table calendars, wall calendars, cards with names of the months and days

### 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 them a table calendar and a wall calendar.
2. Ask them these questions to start the discussion:
  - Have you seen a calendar?
  - What year is this calendar?
  - What are written on a calendar?
  - How many months are there? Read them out loud.
  - How many days are there in each month?
  - How many days are there in each week?

### Teaching ideas

3. Guide the students to read and spell out loud the months and the days.

### Fun with Maths!

**Materials required:** Table calendars

**Objective of the activity:** Reading dates and days on the calendar

The students may continue with the national celebrations such as the Father's Day, Christmas Day and Coronation Day.

### Fun with Maths!

1. Get a calendar.
2. Each pupil finds the day his or her birthday falls on this year.
3. Then, each pupil says the date and day of his or her birthday. For example, 'My birthday is on 5th of January. It is a Tuesday.'

## Calendar

MARCH							APRIL						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6				1	2	3	
7	8	9	10	11	12	13	4	5	6	7	8	9	10
14	15	16	17	18	19	20	11	12	13	14	15	16	17
21	22	23	24	25	26	27	18	19	20	21	22	23	24
28	29	30	31				25	26	27	28	29	30	

JULY							AUGUST						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7
4	5	6	7	8	9	10	8	9	10	11	12	13	14
11	12	13	14	15	16	17	15	16	17	18	19	20	21
18	19	20	21	22	23	24	22	23	24	25	26	27	28
25	26	27	28	29	30	31	29	30	31				

NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
	1	2	3	4	5	6				1	2	3	4
7	8	9	10	11	12	13	5	6	7	8	9	10	11
14	15	16	17	18	19	20	12	13	14	15	16	17	18
21	22	23	24	25	26	27	19	20	21	22	23	24	25
28	29	30					26	27	28	29	30	31	

There are about 4 weeks in a month.

There are 7 days in a week. They are Sunday, Monday, Tuesday, Wednesday, Thursday, Friday and Saturday.

In a normal year, there are 365 days. In a leap year, there are 366 days.

### Activity for Reinforcement

**Materials required:** Cards with names of months and days

**Objective of the activity:** Memorizing the months and days

1. Get the students to chant the months and days in order a few times. This can be more fun to chant in a tune.
2. Then, show them a card with the name of a month. Get the students to shout the next month or day.
3. Repeat this with all the months and days.

## April 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6 Chakri Day	7	8	9	10
11	12	13 Songkran	14 Songkran	15 Songkran	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Look at the calendar. We can get some information from it.

- This is a calendar of April 2021.
- There are 30 days in April.
- 1st April falls on Thursday.
- 7 days after 1st April is 8th April. It is also a Thursday as there are 7 days in a week.
- There are 4 Sundays and 5 Fridays.
- There are 4 days of public holidays which fall on 6th, 13th, 14th and 15th.
- Chakri Day falls on 6th April which is a Tuesday.
- Songkran is celebrated for 3 days starting from 13th April to 15th April.

### Thinking corner!

30th April 2021 is a Friday. What is the date of the next Friday?

### Teaching ideas

4. Guide the students to extract the extra information from a calendar.
5. Show a calendar of another month. Ask these questions to start the discussion:
  - What month does this calendar show?
  - How many days are there in this month?
  - How many Mondays and Fridays are there in this month?
  - Are there any public holidays that fall in this month?
  - What is the last day of the month?
6. Guide the students to refer to **Starting Point** on page 172. Ask them to answer the question. Have a discussion to conclude the lesson.

### Thinking Corner!

Ask the students these questions to lead them to discuss:

- How many days are there between 2 consecutive Fridays?
- How many days are there in April?
- What is the day and date a day after 30th April 2021?
- What is the day and date 2 days after 30th April 2021?
- What is the day and date 3 days after 30th April 2021?
- What is the day and date 7 days after 30th April 2021?

### 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 161 to 163 in Go Get Maths Workbook P2.

**TRY THIS!** Analyze the calendar. Fill in the blanks.

## May 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Labor Day
2	3	4 Coronation Day	5	6	7	8
9	10	11 Royal Ploughing Ceremony Day	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26 Visakha Bucha Day	27	28	29
30	31					

1. This is a calendar of .
2. There are  days in the month of May.
3. The first day of May 2021 falls on a .
4. 6th May 2021 is a .
5. There are  Mondays in this month.
6. There are  Fridays in this month.
7. There are  public holidays in this month.
8. We celebrate the King's Coronation Day on  May which is a .

## Chapter 10 Shapes and patterns

### The big idea

1. Help the students to recall what 2D shapes are by asking them these questions:
  - How are 2D shapes different from 3D shapes?
  - What are the 2D shapes that you have learnt in P1? Draw and name them.
  - How many sides and vertex does a quadrilateral have?
  - How many sides and vertex does a triangle have?
  - How many sides and vertex does a circle have?
  - How many sides and vertex does an oval have?
2. Ask the students to analyze the 2D shapes shown. Ask them these questions to start a discussion:
  - What are the 2D shapes shown here that you know?
  - Are there other 2D shapes besides the quadrilaterals and triangles?

Chapter 10  
**Shapes and patterns**

Do you know these 2D shapes?

Lesson 1 More 2D shapes  
Lesson 2 Making patterns with shapes

### Strand 2: Measurement and geometry

#### Standard M.2.2

#### Indicators:

**M 2.2 Gr2/1** Distinguish and describe the features of polygons and circles.

## Lesson 1 More 2D shapes

### Lesson objectives

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

1. Describe the properties of polygons, circles and ovals.
2. Draw polygons, circles and ovals.

### Suggested teaching time

4 periods (4 x 50 minutes)

### Vocabulary

Polygon, pentagon, hexagon, heptagon, octagon

### Materials needed

Paper, yarn, cut-outs of polygons, circles and ovals

### 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. Lead the students to understand the properties of polygons such as
  - Polygons are 2D shapes.
  - Polygons are enclosed with straight sides.
  - They have at least 3 vertices and 3 straight sides.

### Thinking Corner!

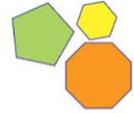
Ask the students these questions to start the discussion:

- What are the properties of a polygon?
- Are cuboids 2D shapes? Why?
- Are cuboids polygons?

## Lesson 1 More 2D shapes

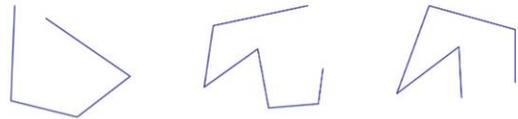
### Starting point

Look at the shapes. They are 2D shapes. They are not quadrilaterals or triangles. What are they?



### Learning to know Describing polygons, circles and ovals

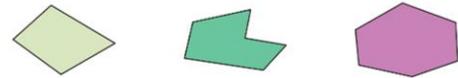
A **polygon** is a 2D shape that is made up of at least 3 sides and is enclosed.



The shapes above are not enclosed. They are not polygons.



The shapes above are enclosed. They have curves. They are not polygons.



The shapes above are enclosed with sides. They are polygons.

### Thinking corner!

Are cuboids polygons? Why?



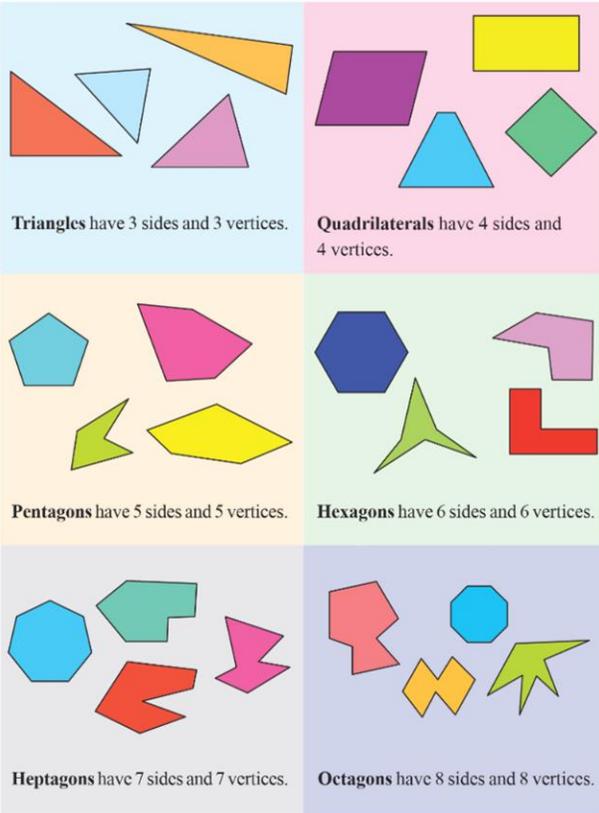
### Activity for Reinforcement

**Materials required:** Paper

**Objective of the activity:** Recognizing polygons

1. Get 10 students to draw a shape on a piece of paper.
2. Gather the shapes and ask a student to show the shape to the class.
3. Ask if this shape is a polygon.
4. Get a volunteer to explain his or her answer.
5. Get another volunteer to verify the answer.
6. Repeat with other remaining shapes.

We can categorize polygons based on the number of sides or vertices.



### Teaching ideas

2. Tell the students that we can categorize polygons based on the number of sides or vertices.
3. Guide them to read and spell the names of the polygons.
4. Use cut-outs of polygons to reinforce their understanding.
5. Ask them to draw 2 examples of each type of polygons on a piece of paper. Ask them to name the shapes and list the number of vertices and sides of each shape.

### Activity for Reinforcement

**Materials required:** Yarn

**Objective of the activity:** Creating polygons

1. Get 10 volunteers and give them a long piece of yarn.
2. Ask them to tell the properties of polygons.
3. Get a student to name a polygon such as a pentagon.
4. Then, the volunteers need to create a pentagon using the yarn and they themselves as the vertices.
5. Get another student to verify the shape they made.
6. Repeat with other volunteers and shapes.

### Teaching ideas

6. Help the students to recall what circles and ovals are by asking them these questions:
  - Are circles and ovals 2D shapes?
  - Do circles and ovals have straight sides and vertices?
7. Show how a circle and an oval differ by using the cut-outs of a circle and an oval. Ask them these questions to start the discussion:
  - Where are the centers of the circle and oval?
  - Where are the curved sides of the circle and oval?
  - Are the distances from the center to any point on the side of a circle the same?
  - Are the distances from the center to any point on the side of an oval the same?

### Fun with Maths!

Encourage the students to be creative and use their imagination to draw a figure using many different polygons, circles and ovals.

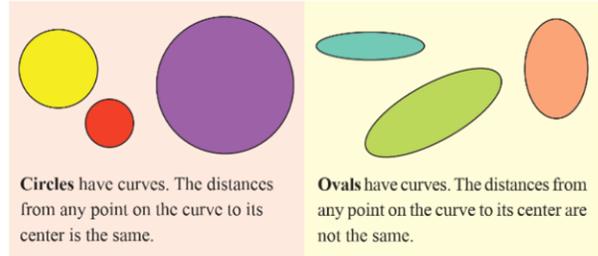
### Try This!

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

### Further practices

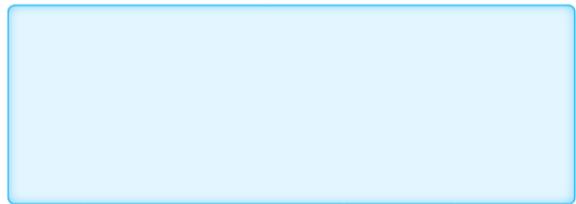
Get the students to complete the practices on pages 164 to 169 in Go Get Maths Workbook P2.

Circles and ovals are enclosed. They have curves.



### Fun with Maths!

Draw a figure that is made from the shapes you have learned.



### TRY THIS!

Fill in the blanks.

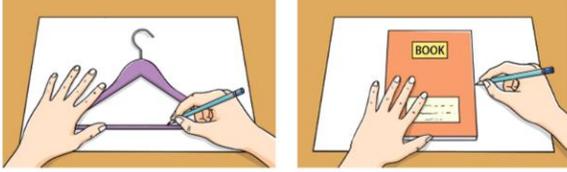
1. Polygons are 2D shapes that are enclosed with at least  sides.
2. Triangles have  sides and  vertices.
3. Octagons have  sides and  vertices.
4. Circles and ovals are 2D shapes with  only.



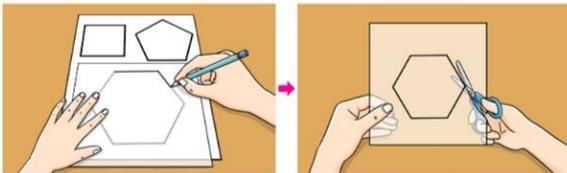
or visit  
<http://tiny.cc/oddpuz>

**Learning to know** Drawing polygons, circles and ovals

To draw a polygon, we can use an item of that shape and trace it.

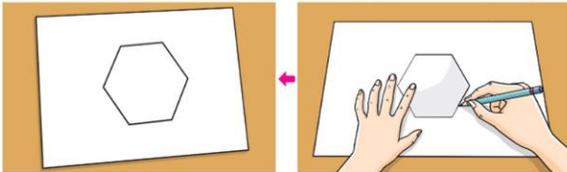


If we cannot find any suitable item of the shape we want, we will need to make a stencil of the shape.



Trace the shape on a plastic sheet.

Cut the shape out.



Finally, we get the hexagon drawn on the paper.

Trace the shape on a piece of paper.



or visit  
<http://tiny.cc/qddpuz>

**Teaching ideas**

1. Ask the students for any items in the classroom that have the shapes of polygons, circles and ovals.
2. Ask them to use the item to trace out the shapes.
3. Inform the students that we can draw the shapes using stencils of the shapes too. Guide them to do so.
4. Guide the students to refer to **Starting Point** on page 176. Ask them to answer the question. Have a discussion to conclude the lesson.

**Try This!**

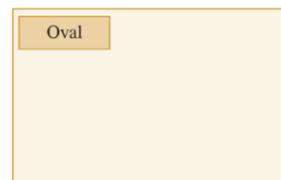
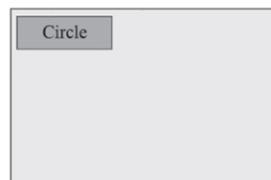
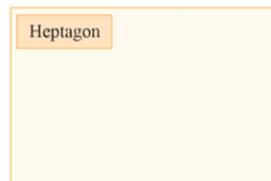
Get 8 students to answer it. Ask the rest to verify the answers.

**Further practices**

Get the students to complete the practices on page 170 in Go Get Maths Workbook P2.

**TRY THIS!**

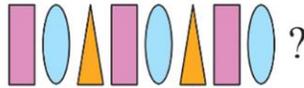
Make a stencil of each of the shapes mentioned below. Then, trace them in the boxes below.



## Lesson 2 Making patterns with shapes

### Starting point

Look at the pattern. What is the next shape? How do you know?



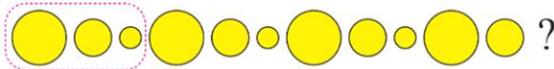
### Learning to know Identifying the next shape in a pattern

What is the next shape in the pattern?



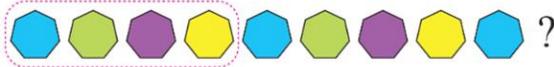
There is a **change in shape**.

The next shape is .



There is a **change in size**.

The next shape is .



There is a **change in color**.

The next shape is .

## Lesson 2 Making patterns with shapes

### Lesson objectives

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

1. Make patterns with shapes.

### Suggested teaching time

3 periods (3 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. Draw a pattern with 3 different shapes on the board. Guide the students to recognize the repeating groups of shapes in the pattern. Circle the repeating groups and lead them to identify the next shape in the pattern.
2. Repeat using patterns with changes in size, color and orientation.

### Teaching ideas

3. Repeat using patterns with mixtures of changes in size, color and orientation.
4. Use the examples to explain further.
5. Guide the students to refer to **Starting Point** on page 182. Ask them to answer the questions. 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 171 to 174 in Go Get Maths Workbook P2.

There is a **change in orientation**.  
The next shape is .

Some patterns change in more than one way.

There is a **change in shape and size**.  
The next shape is .

There is a **change in color, shape and orientation**.  
The next shape is .

**TRY THIS!** Identify the next shape.

1.  ?
2.  ?

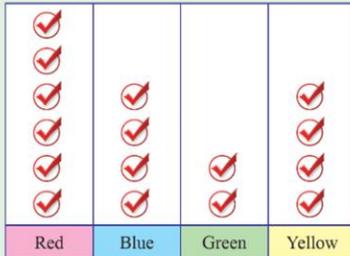
Chapter 10 | 183



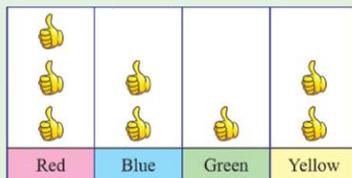
or visit  
<http://tiny.cc/sddpuz>

## Chapter 11

# Picture graphs



Each ✓ represents 1 child.



Each 👍 represents 2 children.

These two picture graphs represent the same data. Why do they look different?

Lesson 1

Reading picture graphs with scales

Lesson 2

Solving problems



## Chapter 11 Picture graphs

### The big idea

1. Ask the students to analyze the first picture graph. Ask them these questions to help them to recall how to read a picture graph:
  - How many colors are there for the children to choose?
  - How many students chose red?
  - How many students chose blue?
  - How many students chose green?
  - How many students chose yellow?
  - Which is the least favorite color among the children?
2. Tell the students that the first and second picture graphs show the same data. Ask them to spot the differences.

### Strand 3: Statistics and probability

#### Standard M.3.1

#### Indicators:

**M 3.1 Gr2/1** Use data from pictograms to find the answers of word problems where each picture represents 2 units, 5 units and 10 units.

## Lesson 1 Reading picture graphs with scales

### Lesson objectives

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

1. Read picture graphs with scales.

### Suggested teaching time

4 periods (4 x 50 minutes)

### Vocabulary

Scale

### 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

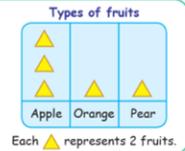
1. Ask the student to analyze the picture graph. Ask them these questions:
  - What does this picture graph tell us?
  - How many candies does a symbol represent?
  - How many types of candies are there?
2. Guide them to calculate the number of each type of candies.
3. Remind the students to always find out the number a symbol represents when analyzing a picture graph.

## Lesson 1 Reading picture graphs with scales

### Starting point

In the picture graph, each  represents 2 fruits.

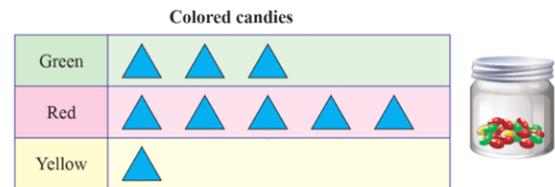
What does this mean? How many apples are there?



### Learning to know

### Understanding a picture graph with a scale

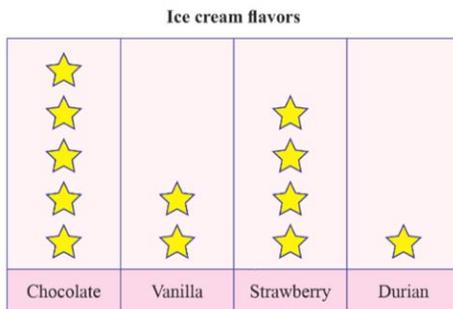
Here is a picture graph showing the number of colored candies in a jar.



Each  represents 2 candies.

- There are 3  for green candies.  
 $3 \times 2 = 6$   
There are 6 green candies.
- There are 5  for red candies.  
 $5 \times 2 = 10$   
There are 10 red candies.
- There is 1  for yellow candies.  
 $1 \times 2 = 2$   
There are 2 yellow candies.

The picture graph below shows the favorite ice cream flavors of a group of children.



Each ★ represents 5 children.

- There are 5 ★ for chocolate.  
 $5 \times 5 = 25$   
25 children like chocolate ice cream.
- There are 2 ★ for vanilla.  
 $2 \times 5 = 10$   
10 children like vanilla ice cream.
- There are 4 ★ for strawberry.  
 $4 \times 5 = 20$   
20 children like strawberry ice cream.
- There is 1 ★ for durian.  
 $1 \times 5 = 5$   
5 children like durian ice cream.

### Teaching ideas

4. Use the example to explain further. Ask them these questions:
  - What does this picture graph tell us?
  - How many children does a symbol represent?
  - How many types of ice cream flavors are there?
5. Guide them to calculate the number of children for each type of flavors.

### Teaching ideas

6. Use the example to explain further. Ask them these questions:
  - What does this picture graph tell us?
  - How many aluminum cans does a symbol represent?
  - How many classes are there altogether?
7. Guide them to calculate the number of aluminum cans collected by each class.
8. Guide the students to refer to **Starting Point** on page 184. Ask them to answer the questions. Have a discussion to conclude the lesson.

The picture graph below shows the number of aluminum cans collected by 4 classes during a recycling campaign in the school.

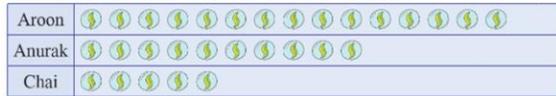


Each  represents 10 aluminum cans.

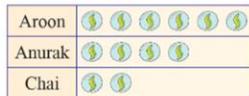
- There are 2  for 2 Red Class.  
 $2 \times 10 = 20$   
2 Red Class collected 20 aluminum cans.
- There are 3  for 2 Blue class.  
 $3 \times 10 = 30$   
2 Blue Class collected 30 aluminum cans.
- There are 3  for 2 Green Class.  
 $3 \times 10 = 30$   
2 Green Class collected 30 aluminum cans.
- There are 5  for 2 Yellow Class.  
 $5 \times 10 = 50$   
2 Yellow Class collected 50 aluminum cans.

### Thinking corner!

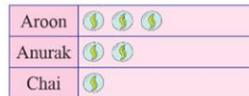
The 3 picture graphs below show the same information.



Each represents 2 marbles.



Each represents 5 marbles.



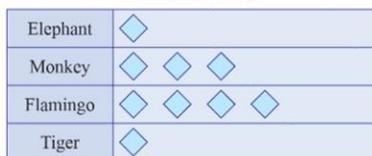
Each represents 10 marbles.

Which picture graph is easier to use? Why?

### TRY THIS!

The picture graph below shows the number of animals in a zoo. Fill in the blanks.

Animals in a zoo



Each represents 5 animals.

- There are  elephants in the zoo.
- There are  monkeys in the zoo.
- There are  flamingoes in the zoo.
- There are  tigers in the zoo.



or visit  
<http://tiny.cc/zddpuz>

### Thinking Corner!

Ask the students these questions to start the discussion:

- How many marbles does each symbol represent in each picture graph?
- Why does the first picture graph have many symbols compared to the other 2 picture graphs?
- Which picture graph will you use since all of them represent the same data? Why?

### 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 175 to 177 in Go Get Maths Workbook P2.

## Lesson 2 Solving problems

### Lesson objectives

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

1. Solve word problems involving picture graphs with scales.

### 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

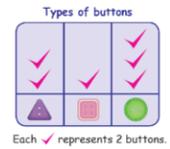
1. At the beginning, get a student to explain the title and another to tell the number of buttons the symbol represents.
2. It is a good idea to have the students to write the number of items for each column.
3. However, it is also good to have the students practice their spatial reasoning such as:
  - 'most' – the highest/longest column
  - 'least' – lowest/shortest column
  - 'more than', 'less than', 'as many as' – making one-to-one comparison of 2 columns

## Lesson 2 Solving problems

### Starting point

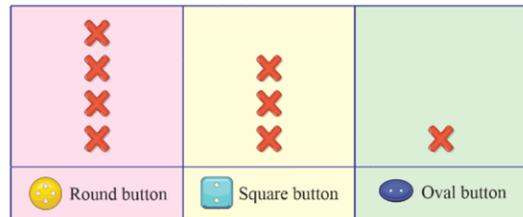
Look at the picture graph.

Besides the numbers of triangular, square and round buttons, what other information can we get from the picture graph?



### Learning to know Solving problems

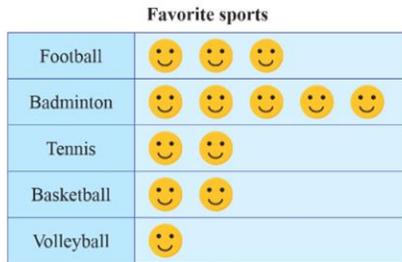
The picture graph below shows the number of buttons in a drawer.



Each X represents 2 buttons.

- How many fewer oval buttons than square buttons are there?  
There are 2 fewer X for oval buttons than for square buttons.  
 $2 \times 2 = 4$   
There are 4 fewer oval buttons than square buttons.
- How many more round buttons than oval buttons are there?  
There are 3 more X for round buttons than for oval buttons.  
 $3 \times 2 = 6$   
There are 6 more round buttons than oval buttons.

The picture graph below shows the favorite sports of a group of students.



Each  represents 5 students.

- How many students like tennis?  
There are 2  for tennis.  
 $2 \times 5 = 10$   
10 students like tennis.
- How many students are there altogether?  
There are 13  altogether.  
 $13 \times 5 = 65$   
There are 65 students altogether.
- How many more students like football than volleyball?  
There are 2 more  for football than for volleyball.  
 $2 \times 5 = 10$   
10 more students like football than volleyball.
- How many students like basketball and badminton?  
There are 7  for basketball and badminton.  
 $7 \times 5 = 35$   
35 students like basketball and badminton.

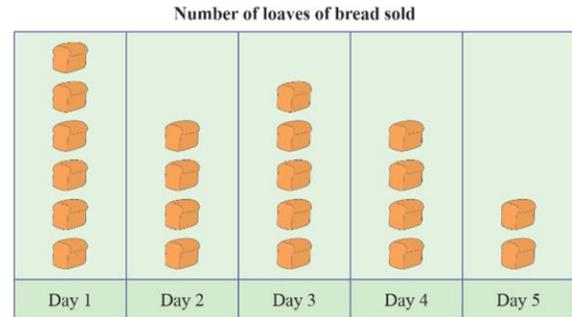
### Teaching ideas

4. At the beginning, get a student to explain the title and another to tell the number of students the symbol represents.
5. Guide the students through the questions.

### Teaching ideas

- At the beginning, get a student to explain the title and another to tell the number of loaves of bread the symbol represents.
- Guide the students through the questions.
- Guide the students to refer to **Starting Point** on page 189. Ask them to answer the question. Have a discussion to conclude the lesson.

The picture graph shows the number of loaves of bread sold by a bakery in 5 days.

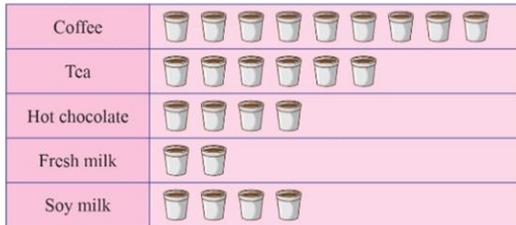


Each  represents 10 loaves of bread.

- How many loaves of bread were sold on Day 2 and Day 4?  
There are 8  for Day 2 and Day 4.  
 $8 \times 10 = 80$   
80 loaves of bread were sold on Day 2 and Day 4.
- How many fewer loaves of bread were sold on Day 5 than Day 3?  
There are 3 fewer  for Day 5 than for Day 3.  
 $3 \times 10 = 30$   
30 fewer loaves of bread were sold on Day 5 than Day 3.
- How many more loaves of bread were sold on Day 1 than Day 2?  
There are 2 more  for Day 1 than for Day 2.  
 $2 \times 10 = 20$   
20 more loaves of bread are sold on Day 1 than Day 2.
- How many loaves of bread were sold on the 5 days altogether?  
There are 21  altogether.  
 $21 \times 10 = 210$   
210 loaves of bread were sold on the 5 days altogether.

**TRY THIS!**

1. The picture graph shows the number of cups of beverages sold on Tuesday. Answer the questions based on the picture graph.



Each  represents 5 cups.

- (a) How many cups of tea were sold that day?
- (b) Which is the most popular beverage?
- (c) Which is the least popular beverage?
- (d) Which two beverages have the same number of cups sold?
- (e) How many more cups of coffee than fresh milk were sold?
- (f) How many fewer cups of hot chocolate than tea were sold?
- (g) How many cups of soy milk and tea were sold?
- (h) What is the total number of cups of beverages sold on Tuesday?



or visit  
<http://tiny.cc/2edpuz>

**Try This!**

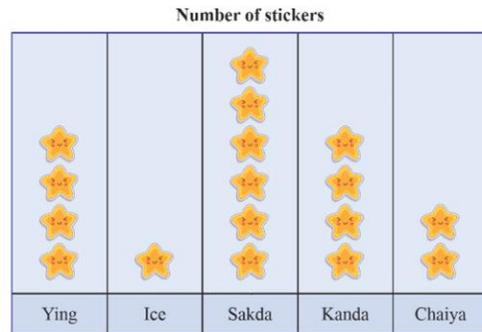
Get 16 students to answer it. Ask the rest to verify the answers.

### Further practices

Get the students to complete the practices on pages 178 to 181 in Go Get Maths Workbook P2.

To find out if the students have mastered the second half of the year's content, ask them to complete the **Revision 2** on pages 182 to 188 in Go Get Maths Workbook P2.

2. The picture graph shows the number of stickers the children have. Fill in the blanks.



Each  represents 10 stickers.

- (a)  has the greatest number of stickers.
- (b)  has the least number of stickers.
- (c)  has as many stickers as .
- (d) Ying has  stickers.
- (e) Sakda has  more stickers than Ice.
- (f) Chaiya has  fewer stickers than Ying.
- (g) Kanda and Sakda have  stickers altogether.
- (h) The children have  stickers altogether.

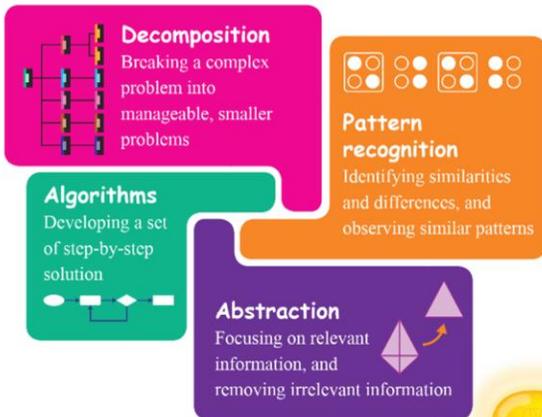


# Computational Thinking



Computational thinking is not about programming a computer or thinking like a computer. It is rather a set of systematic approaches to solving problems. Then, we can present the solutions in a way a computer or a human or both can understand.

There are four skills or elements in computational thinking.



With this new approach, we will be able to tackle unfamiliar and complex problems with confidence. It trains us to analyze information and deal with problems across disciplines. It will help us see a relationship between the school and the outside world.



## 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

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.

#### EXAMPLE

The delivery truck carries 15 trays of eggs. Each tray has 36 eggs. It is raining and the road is slippery. The truck skids but it manages to stop. However, 40 eggs are broken. How many eggs are in good condition?

##### ■ Abstraction:

**Irrelevant information** – delivery truck, raining, slippery road, skids but manages to stop

**Relevant information** – 15 trays of eggs, each tray has 36 eggs, 40 eggs are broken

##### ■ Decomposition:

**Part 1:** How many eggs are there altogether at first?

1 tray has 36 eggs.  
2 trays have  $(36 + 36)$  eggs.  
3 trays have  $(36 + 36 + 36)$  eggs.  
and so on.

**Part 2:** Find the number of eggs that are in good condition.

##### ■ Pattern recognition:

We can simplify the 1st part into

$$\begin{array}{cc} 15 \times 36 \\ \uparrow \quad \uparrow \\ \text{number of trays} \quad \text{number of eggs on each tray} \end{array}$$

##### ■ Algorithms:

**Part 1:** Find the total number of eggs at first.

$$15 \times 36 = 540$$

There are 540 eggs.

**Part 2:** Find the number of eggs in good condition.

$$\begin{array}{ccc} 540 - 40 = 500 \\ \uparrow \quad \uparrow \\ \text{number of eggs at first} \quad \text{number of broken eggs} \end{array}$$

500 eggs are in good condition.