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1

# PRIMARY MATHEMATICS

STUDENTS' COURSE BOOK

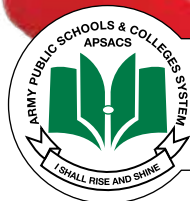
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Wong Oon Hua

ADDENDUM



ARMY PUBLIC SCHOOLS & COLLEGES SYSTEM

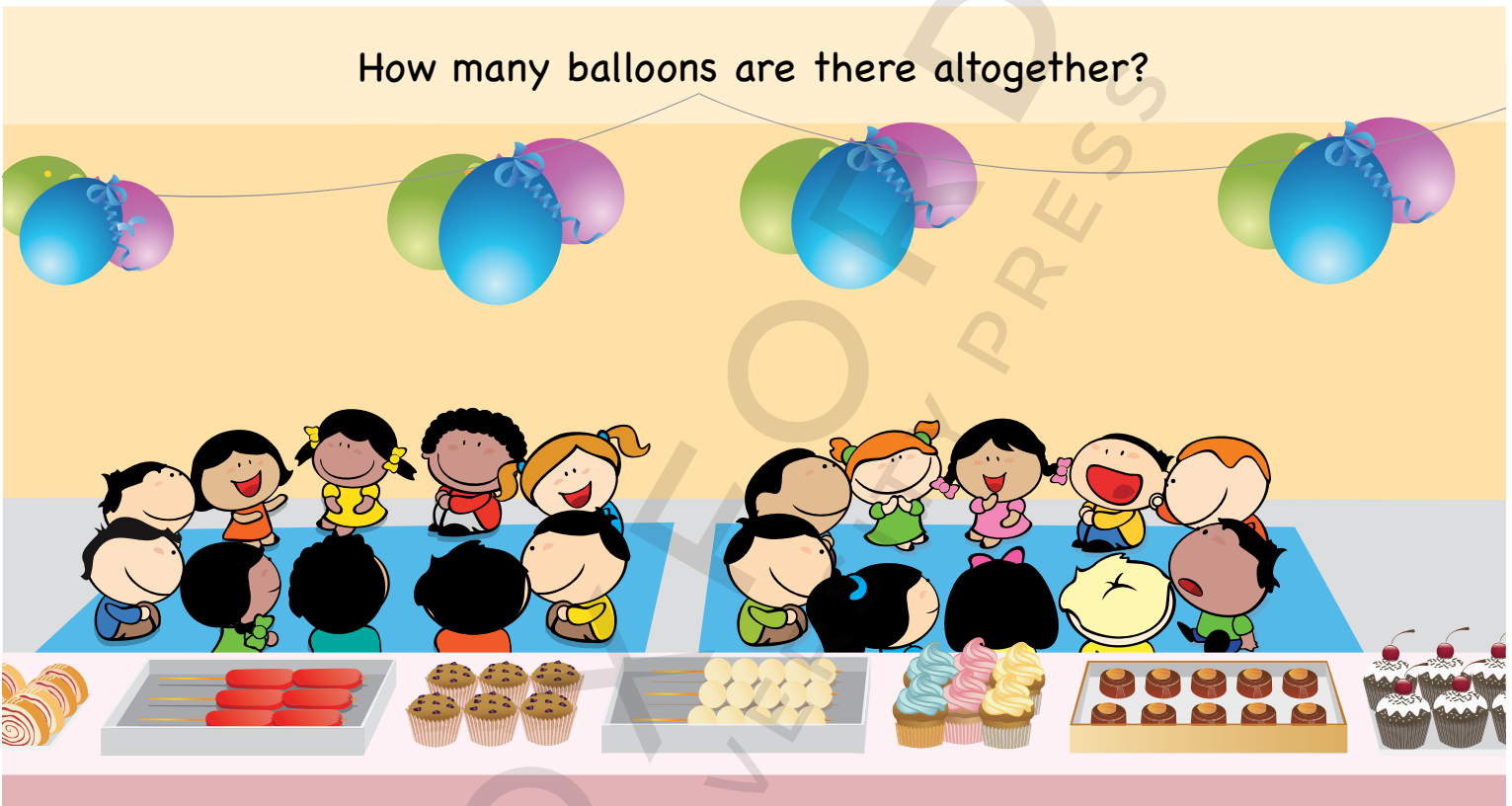
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Recognise multiplication as repeated addition using concrete objects and pictorial representations (for instance materials, groups and arrays).	1
Count and write in 2's, 5s, and 10s using concrete objects (such as counters, pebbles, popsicle sticks etc) and pictorial representations (such as number line, hundred square grid.)	1
Recognise counting in 2s, 5s, and 10s as multiplication tables of two, five, and ten.	1
Recognise using concrete objects and pictorial representations that the multiplication of any two numbers can be done in any order.	1
Solve simple real-world problems involving multiplication and division using any method (materials, repeated addition, groups, and arrays, mental methods, and known multiplication tables).	1, 18
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### Students' Learning Outcomes:

- Count and write in 2's, 5s, and 10s using concrete objects (such as counters, pebbles, popsicle sticks etc) and pictorial representations (such as number line, hundred square grid).
- Recognise counting in 2s, 5s, and 10s as multiplication tables of two, five, and ten.
- Recognise multiplication as repeated addition using concrete objects and pictorial representations.
- Recognise using concrete objects and pictorial representations that the multiplication of any two numbers can be done in any order. (for instance materials, groups, and arrays).
- Solve simple real-world problems involving multiplication using any method (materials, repeated addition, groups and arrays, mental methods, and known multiplication tables).

How many balloons are there altogether?



## MULTIPLICATION AS REPETITIVE ADDITION

To solve a multiplication problem through repeated addition, we group and add the same numbers again and again to get the answer.

$3 + 3 + 3 + 3 = 12$   
Here 3 is added 4 times.

We can write  
 $4 \times 3 = 12$



1. There are 3 blocks in each figure.



$$3 + 3 + 3 + 3 = 12$$

$$4 \times 3 = 12$$

There are 12 blocks altogether.

2. Each box has 5 stars



$$5 + 5 + 5 = 15$$

$$3 \times 5 = 15$$

There are 15 stars altogether.



$$3 + 3 + 3 + 3 = 12$$

$$4 \text{ threes} = 12$$

$$4 \text{ groups of } 3 = 12$$

$$4 \times 3 = 12$$

There are 12 balloons altogether.

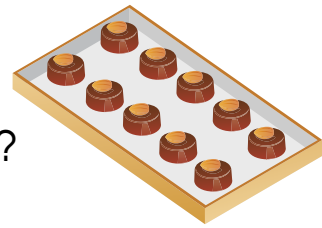
There are 4 groups.  
Each group  
has 3 balloons.



$4 \times 3 = 12$  is  
read as 4 times 3  
equals 12.

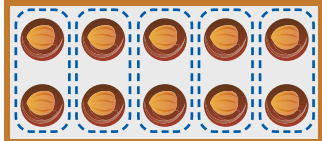


How many chocolates are there in each box?

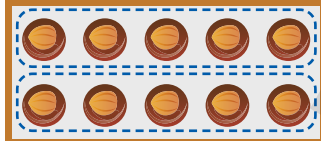


LET'S LEARN

1.



$$5 \times 2 = 10$$



$$2 \times 5 = 10$$

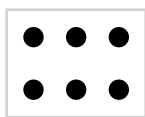
$5 \times 2 = 10$  is the same as  $2 \times 5 = 10$ .

$$5 \times 2 = 2 \times 5$$



2.

How many dots are there?



$$2 \times 3 = 6$$



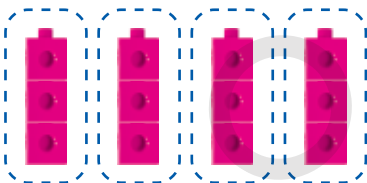
$$3 \times 2 = 6$$

$2 \times 3 = 6$  is the same as  $3 \times 2 = 6$ .

3.

Multiply 3 by 4.

Number of groups



$$3 \times 4 = 12$$

Number of objects in each group

We can also write  $4 \times 3 = 12$ .

$3 \times 4$  is the same as  $4 \times 3$ .



4.

Multiply 2 by 8.



$$2 \times 8 = \square$$

We can also write  $8 \times 2 = \square$ .  
 $2 \times 8$  is the same as  $8 \times 2$ .

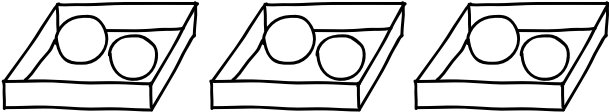


Work in groups of 4.

- 1 Make three multiplication stories.  
Draw to show your stories.

**Example**

There are 3 boxes.  
Each box has 2 balls.



$3 \times 2 = 6$

There are 6 balls in all.

What you need:



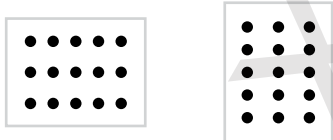
What is the meaning of '=' ?



**PRACTICE** 

1. How many dots are there?

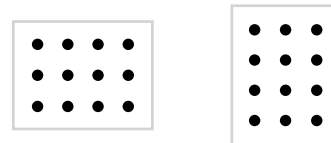
(a)



$3 \times 5 = \square$

$\square \times \square = \square$

(b)



$3 \times 4 = \square$

$\square \times \square = \square$

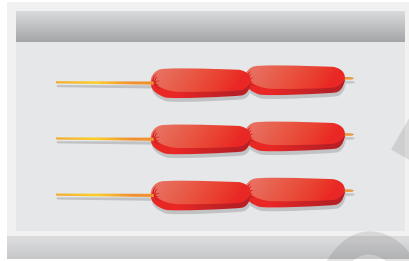
2. (a) Multiply 5 by 4.

$\square \times \square = \square$

- (b) Multiply 6 by 3.

$\square \times \square = \square$

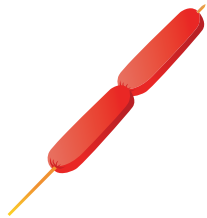
# MULTIPLICATION TABLE OF 2



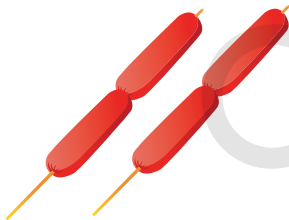
How many sausages are there?

## LET'S LEARN

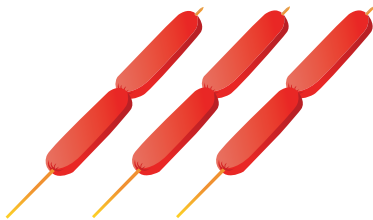
1. 1 stick has 2 sausages.



1 group of 2  
 $1 \times 2 = 2$



2 groups of 2  
 $2 \times 2 = 4$








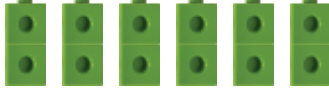
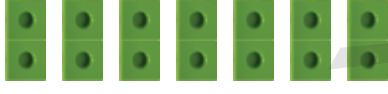



3 groups of 2  
 $3 \times 2 = 6$

There are 6 sausages altogether.

2.

Use  to make groups of 2.



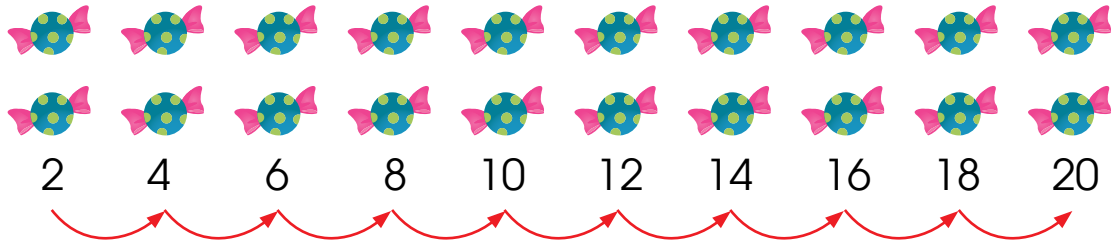
	$1 \times 2 = 2$
	$2 \times 2 = 4$
	$3 \times 2 = 6$
	$4 \times 2 = 8$
	$5 \times 2 = 10$
	$6 \times 2 = 12$
	$7 \times 2 = 14$
	$8 \times 2 = 16$
	$9 \times 2 = 18$
	$10 \times 2 = 20$

What do you notice when you add one more group of 2?





3. Count in twos.



2, 4, 6, 8, 10, 12, 14, 16, 18, 20

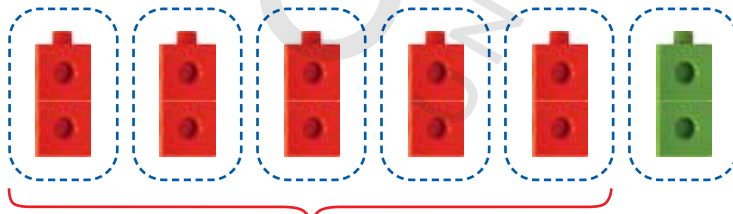


1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

What number pattern do you see?



4.  $6 \times 2 = \square$



$5 \times 2 = 10$

$6 \times 2 = 10 + 2$   
 $= 12$

$6 \times 2$  is 2 more than 10.

$10 \times 2 = 20$   
What is  $9 \times 2$ ?





1. Complete the multiplication facts.

(a)



$$\square \times \square = \square$$

(b)

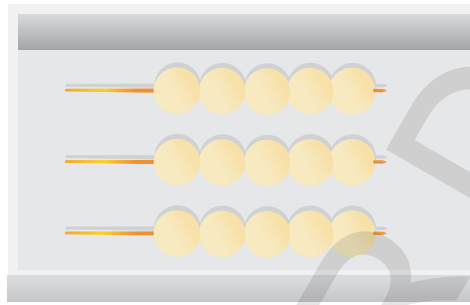


$$\square \times \square = \square$$

2. Complete the multiplication table.

$1 \times 2 = 2$	$2 \times 1 = \square$
$2 \times 2 = 4$	$2 \times 2 = \square$
$3 \times 2 = 6$	$2 \times 3 = \square$
$4 \times 2 = 8$	$2 \times 4 = \square$
$5 \times 2 = 10$	$2 \times 5 = \square$
$6 \times 2 = 12$	$2 \times 6 = \square$
$7 \times 2 = 14$	$2 \times 7 = \square$
$8 \times 2 = 16$	$2 \times 8 = \square$
$9 \times 2 = 18$	$2 \times 9 = \square$
$10 \times 2 = 20$	$2 \times 10 = \square$

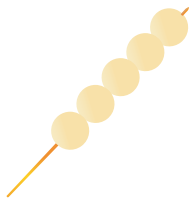
# MULTIPLICATION TABLE OF 5



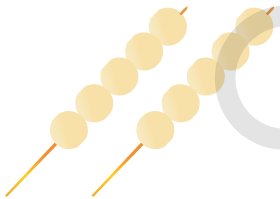
What is the total number of fish balls?

## LET'S LEARN

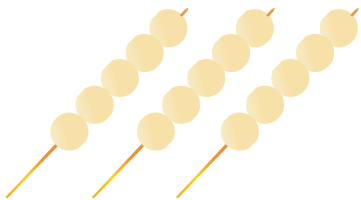
1. 1 stick has 5 fish balls.



1 group of 5  
 $1 \times 5 = 5$



2 groups of 5  
 $2 \times 5 = 10$



3 groups of 5  
 $3 \times 5 = 15$

There are 15 fish balls altogether.

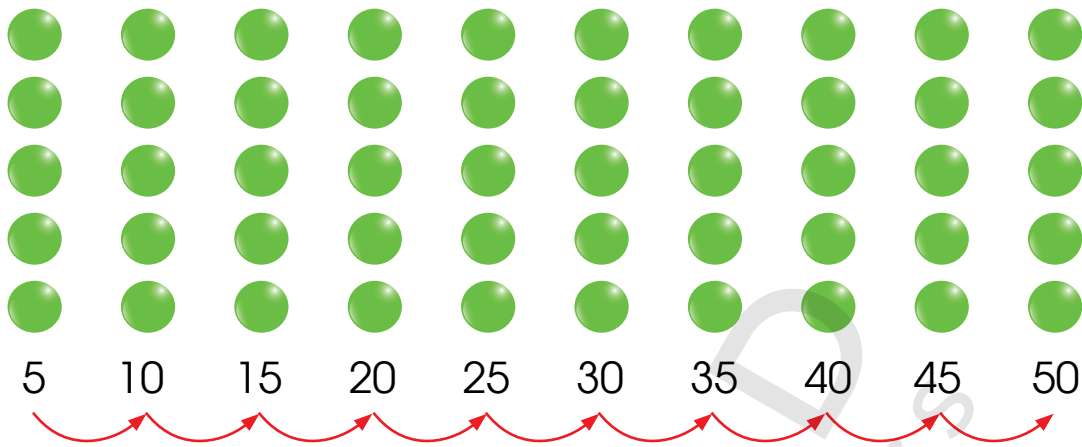
2.

Use dot cards to show groups of 5.



	$1 \times 5 = 5$
	$2 \times 5 = 10$
	$3 \times 5 = 15$
	$4 \times 5 = 20$
	$5 \times 5 = 25$
	$6 \times 5 = 30$
	$7 \times 5 = 35$
	$8 \times 5 = 40$
	$9 \times 5 = 45$
	$10 \times 5 = 50$

3. Count in fives.



5, 10, 15, 20, 25, 30, 35, 40, 45, 50



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	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

What number pattern do you see?



4.  $9 \times 5 = ?$

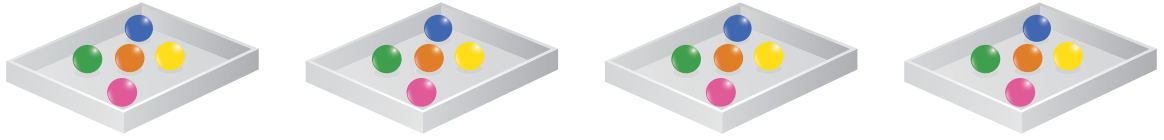
$$\begin{aligned} 9 \times 5 &= 50 - 5 \\ &= 45 \end{aligned}$$

$10 \times 5 = 50$   
 $9 \times 5$  is 5 less than 50.





1. Complete the multiplication fact.



$$\square \times \square = \square$$

There are  $\square$  marbles.

2. Complete the multiplication table.

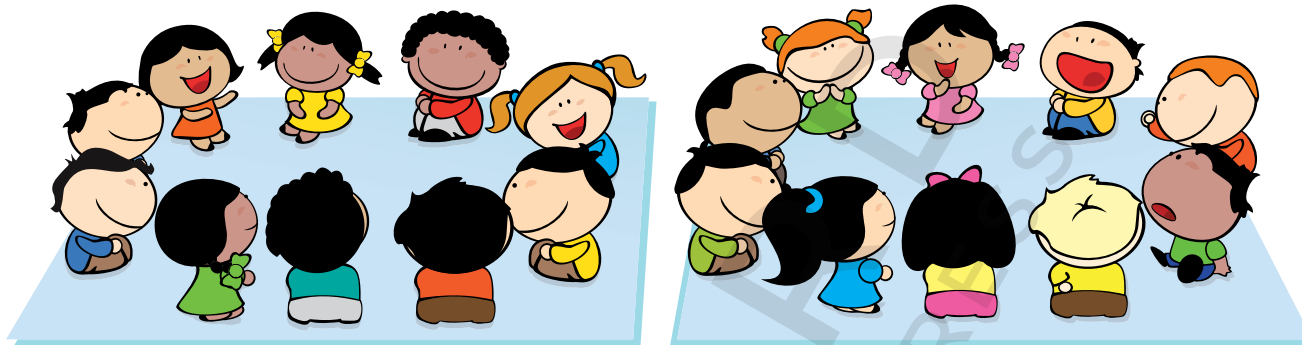
$1 \times 5 = 5$	$5 \times 1 = \square$
$2 \times 5 = 10$	$5 \times 2 = \square$
$3 \times 5 = 15$	$5 \times 3 = \square$
$4 \times 5 = 20$	$5 \times 4 = \square$
$5 \times 5 = 25$	$5 \times 5 = \square$
$6 \times 5 = 30$	$5 \times 6 = \square$
$7 \times 5 = 35$	$5 \times 7 = \square$
$8 \times 5 = 40$	$5 \times 8 = \square$
$9 \times 5 = 45$	$5 \times 9 = \square$
$10 \times 5 = 50$	$5 \times 10 = \square$

# MULTIPLICATION TABLE OF 10

IN



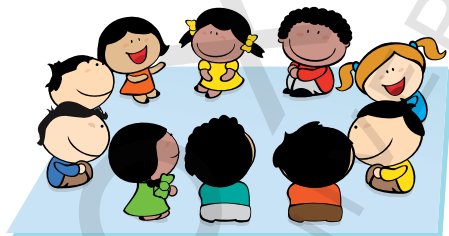
FOCUS



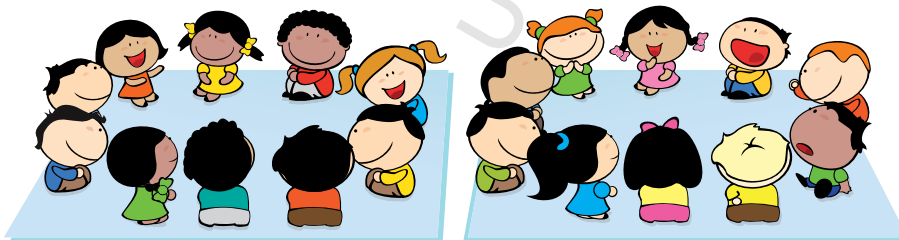
How many children are there?

LET'S LEARN

1. 1 group has 10 children.



1 group of 10  
 $1 \times 10 = 10$



2 groups of 10  
 $2 \times 10 = 20$

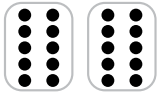
There are 20 children.

2.

Use dot cards to show groups of 10.



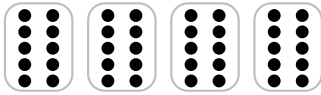
$1 \times 10 = 10$



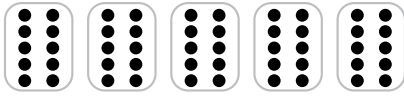
$2 \times 10 = 20$



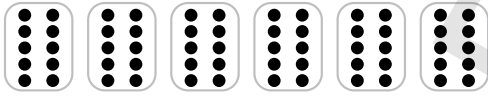
$3 \times 10 = 30$



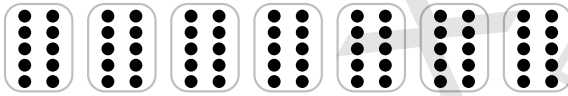
$4 \times 10 = 40$



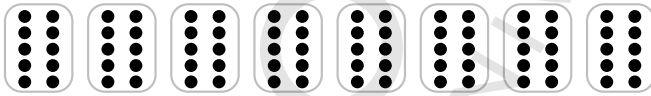
$5 \times 10 = 50$



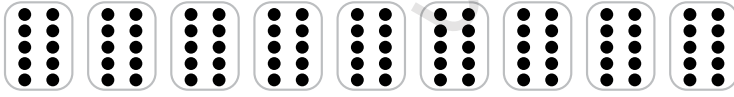
$6 \times 10 = 60$



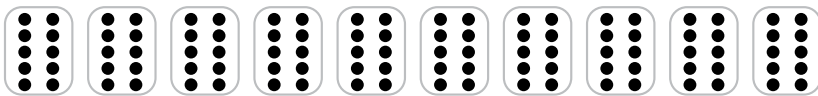
$7 \times 10 = 70$



$8 \times 10 = 80$



$9 \times 10 = 90$



$10 \times 10 = 100$




Do you know how to skip count in tens?





## ACTIVITY TIME

Play in groups of 3.

- 1 Shuffle   .  
Put them face down on the table.
- 2 Open a card.
- 3 The first player to say the correct answer keeps the card.
- 4 Repeat 2 and 3 until no cards are left.  
The player with the most cards wins!

What you need:



## PRACTICE

1. Complete the multiplication fact.



$$\square \times \square = \square$$

2. Complete the multiplication table.

$1 \times 10 = 10$	$10 \times 1 = \square$	$6 \times 10 = 60$	$10 \times 6 = \square$
$2 \times 10 = 20$	$10 \times 2 = \square$	$7 \times 10 = 70$	$10 \times 7 = \square$
$3 \times 10 = 30$	$10 \times 3 = \square$	$8 \times 10 = 80$	$10 \times 8 = \square$
$4 \times 10 = 40$	$10 \times 4 = \square$	$9 \times 10 = 90$	$10 \times 9 = \square$
$5 \times 10 = 50$	$10 \times 5 = \square$	$10 \times 10 = 100$	$10 \times 10 = \square$

# SOLVING REAL-LIFE STORIES

IN



FOCUS



Sara buys 3 boxes of chicken wings.  
How many chicken wings does she buy altogether?

## LET'S LEARN

1.

$$3 \times 2 = 6$$

Sara buys 6 chicken wings altogether.

How many chicken wings are there in each box?

There are 3 groups of 2.



2. Hassan uses 5 toothpicks to form each shape as shown. He forms 6 such shapes.



How many toothpicks does Hassan use in all?

$$5 \times 6 = \square$$

Hassan uses  $\square$  toothpicks in all.

'Each' means 'one'. Each shape has 5 toothpicks.

Multiply 5 by 6.





Solve.

1. A bicycle has 2 wheels.  
How many wheels do 4 bicycles have?



2. Farwa has 7 pies.  
She cuts each pie into 5 slices.  
How many slices of pie are there in all?

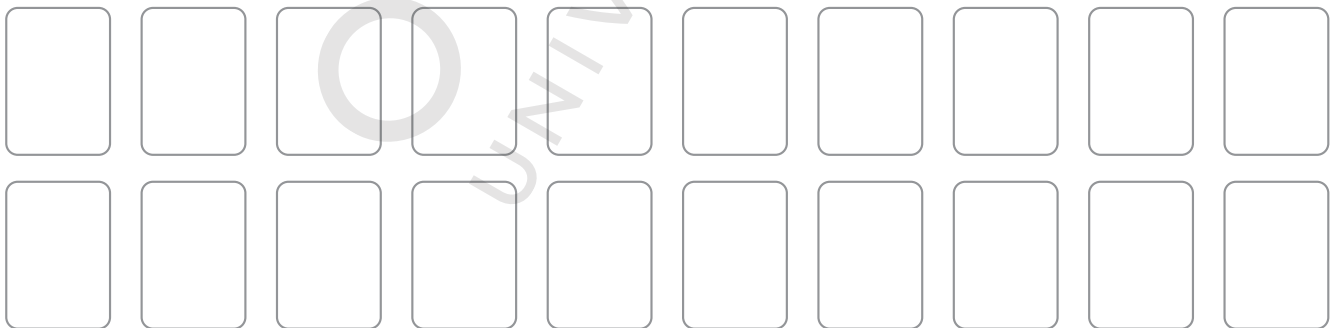


3. One bag can hold 3 apples.  
How many apples can Ali put in 5 bags?



### MIND WORKOUT

Nora wants to arrange 20 cards for a memory game.  
Each row should have the same number of cards.  
This is one way she can arrange the cards.



2 rows of 10

Draw another way that she can arrange the cards.

You may use  to help you.

### Students' Learning Outcomes:

- Recognise division as repeated subtraction using concrete objects and pictorial representation (groups, arrays, and sharing).
- Recognise using concrete objects and pictorial representation that the division of one number by another number cannot be done in any order.
- Solve simple real-world problems involving division using any method (materials, repeated addition, groups, and arrays, mental methods, and known multiplication tables).

How many bags of chocolate can Mrs Zia pack altogether?



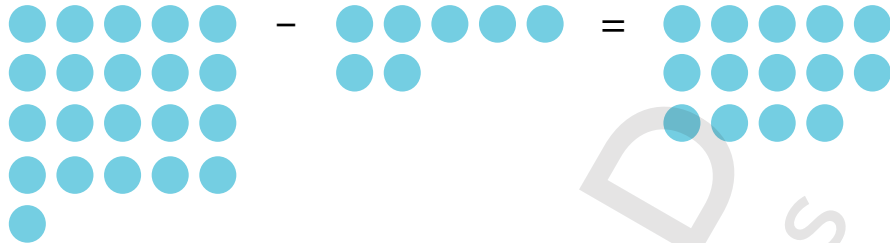
## DIVISION AS SUCCESSIVE SUBTRACTION

Repeated subtraction is a method of subtracting the equal number of items from a larger number. It is also known as division.

## LET'S LEARN

1. There are 21 marbles. Divide them equally among 7 boys.

Distributing 1 marble to each boy, 7 marbles are taken away each time.



$$21 - 7 = 14$$



$$14 - 7 = 7$$



$$7 - 7 = 0$$

Hence, 7 marbles are taken away each time until no marbles are left.

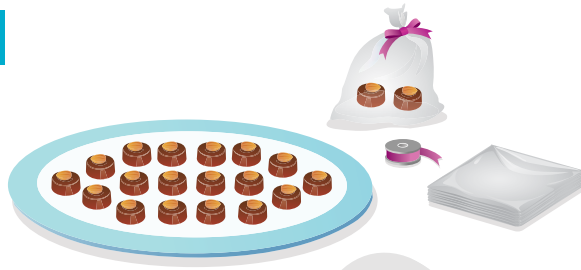
	Boy 1	Boy 2	Boy 3	Boy 4	Boy 5	Boy 6	Boy 7
	1	1	1	1	1	1	1
	1	1	1	1	1	1	1
	1	1	1	1	1	1	1
Total	3	3	3	3	3	3	3

$$21 - 7 - 7 - 7 = 0$$

$$21 \div 7 = 3 \text{ leaving no remainder.}$$

Each boy will get 3 marbles.

# GROUPING AND SHARING

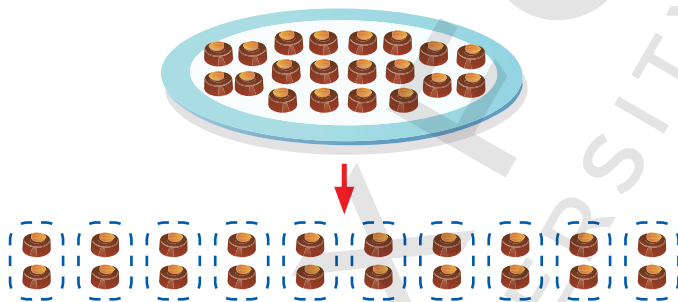


How many bags of chocolate can Mrs Zia pack?

## LET'S LEARN

1. There are 20 chocolates.  
Put 2 chocolates in each bag.

Divide 20 by 2 to find the number of groups. There are 10 groups of 2.



÷ is to divide.  
 $20 \div 2$  is the same as 10.



$$20 \div 2 = 10$$

$20 \div 2 = 10$  is a **division fact**.

$20 \div 2 = 10$  is read as twenty **divided by** two **equals** ten.

2. Put 18 sausages equally on 2 plates.



$$9 \times 2 = 18$$


$$18 \div 2 = 9$$

There are 9 sausages on each plate.



ACTIVITY  TIME

Work in groups of 4.

- 1 Write three division stories.  
Draw to show your stories.
- 2 Use  to show how to divide.

What you need:

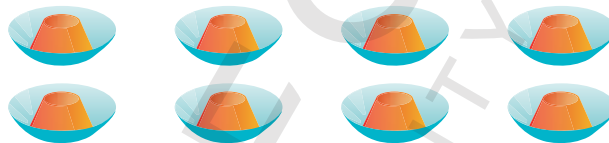


What is the meaning of '='?



PRACTICE 

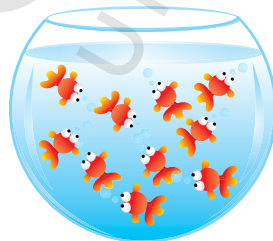
1. Circle to show groups of 2.  
How many groups are there?



$$\square \div \square = \square$$

There are  groups.

2. Farhan has 10 fish.  
He puts them equally into 5 bowls.



$$\square \times 5 = 10$$



$$\square \div \square = \square$$

There are  fish in each bowl.

# DIVIDING BY 2, 5 AND 10

IN



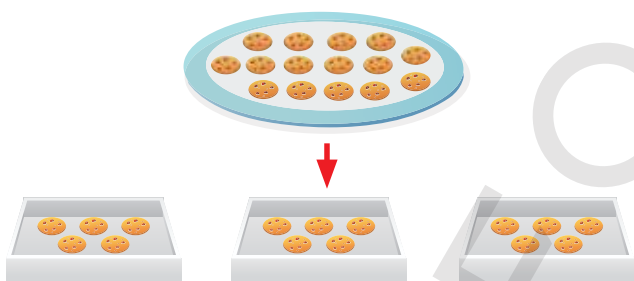
FOCUS

Ali puts 5 cookies on each tray.  
How many trays of cookies are there?



## LET'S LEARN

1. There are 15 cookies.  
Put 5 cookies on each tray.



$15 \div 5 = 3$   
There are 3 trays of cookies.

Divide 15 by 5 to  
find the number of  
trays of cookies.

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

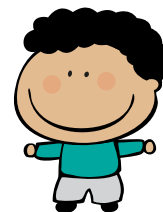


2. 5 children share 10 tarts equally.



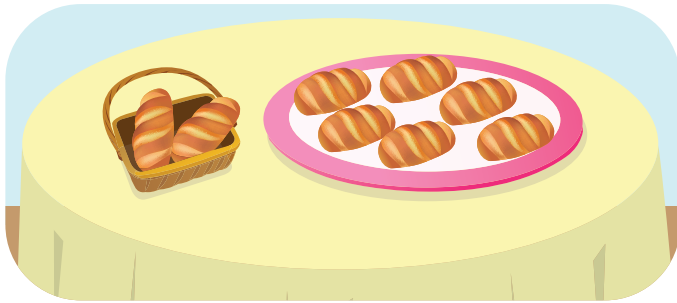
$10 \div 5 = \square$   
Each child gets  $\square$  tarts.

$$\square \times 5 = 10$$
$$10 \div 5 = \square$$





3. Mrs Salim packs 8 bread rolls in some baskets. Each basket has 2 bread rolls.



$$8 \div 2 = \square$$

Mrs Salim needs  $\square$  baskets.

$$\square \times 2 = 8$$
$$8 \div 2 = \square$$



4. Ain has 20 beads. She uses 10 beads to make a bracelet.



$$20 \div 10 = \square$$

Ain can make  $\square$  bracelets.

$$\square \times 10 = 20$$
$$20 \div 10 = \square$$



5. 60 sweets are packed into jars. Each jar contains 10 sweets.



$$60 \div 10 = \square$$




There are  $\square$  jars of sweets.

$$\square \times 10 = 60$$
$$60 \div 10 = \square$$



ACTIVITY  TIME

Play in pairs.

- 1 Shuffle   .
- 2 Put the cards face up on the table.
- 3 Answer as quickly as you can.  
Turn over the card to check your answer.  
The first player to answer correctly gets to keep the card.
- 4 After 10 rounds, the player with more cards wins!

What you need:



PRACTICE 

1. Farhan puts 20 stamps in groups of 5.



$$\square \div \square = \square$$

There are  $\square$  groups of stamps.

2. Sara has 10 balloons.  
She divides the balloons equally between her 2 friends.



$$\square \div \square = \square$$

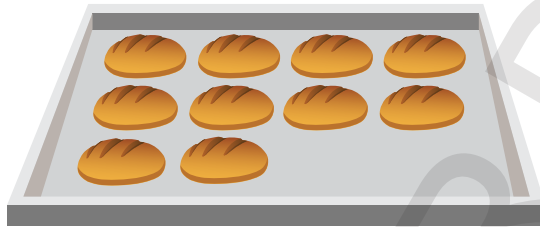
Each friend gets  $\square$  balloons.

# MULTIPLICATION AND DIVISION

IN



FOCUS



How can we put the buns in equal groups?

LET'S LEARN

1. Put 10 buns in groups of 2.  
How many plates are there?



$$10 \div 2 = 5$$

There are 5 plates.

There are 5 plates.  
There are 2 buns on each plate.  
 $5 \times 2 = 10$



Put 10 buns equally on 5 plates.  
How many buns are there on each plate?



$$10 \div 5 = 2$$

There are 2 buns on each plate.

There are 2 buns on each plate.  
There are 5 plates.  
 $2 \times 5 = 10$



We can make a family of multiplication and division facts.

$$\begin{array}{l} 5 \times 2 = 10 \quad \text{---} \quad 10 \div 2 = 5 \\ 2 \times 5 = 10 \quad \text{---} \quad 10 \div 5 = 2 \end{array}$$

$5 \times 2$  gives the same value as  $2 \times 5$ ,  
but  $10 \div 2$  is not the same as  $2 \div 10$ .



2. Look at the picture.  
Make a family of multiplication and division facts.






$$\begin{array}{l} 2 \times 10 = 20 \quad \text{---} \quad 20 \div 10 = \square \\ 10 \times 2 = 20 \quad \text{---} \quad 20 \div 2 = \square \end{array}$$

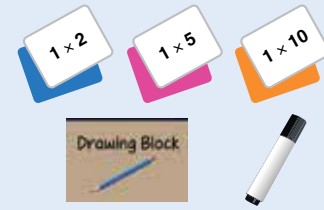
## ACTIVITY TIME



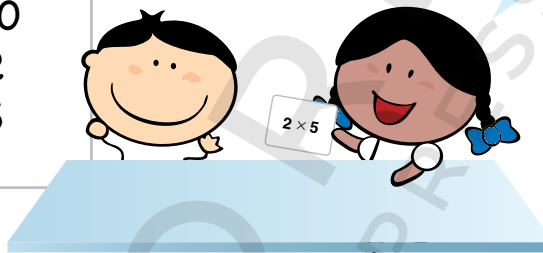
Work in pairs.

- 1 Shuffle   .  
Put them face down on the table.
- 2 Open a card.  
Write the family of multiplication and division facts.

What you need:



$$\begin{aligned} 5 \times 2 &= 10 \\ 10 \div 5 &= 2 \\ 10 \div 2 &= 5 \end{aligned}$$



- 3 Get your partner to check your answers.
- 4 Take turns and repeat **2** and **3**.

## PRACTICE



Make a family of multiplication and division facts.



$$\begin{aligned} \square \times \square &= \square & \text{---} & \square \div \square = \square \\ \square \times \square &= \square & \text{---} & \square \div \square = \square \end{aligned}$$

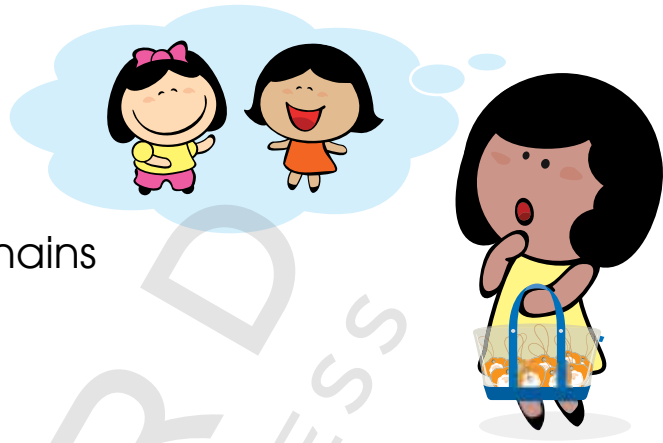
# SOLVING REAL-LIFE STORIES

IN



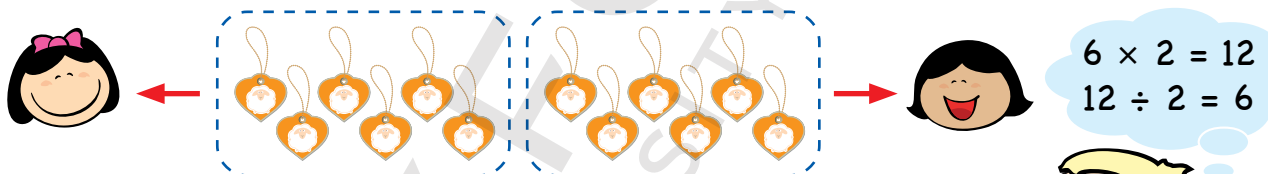
FOCUS

How can Mrs Ali divide 12 key chains between 2 children?



## LET'S LEARN

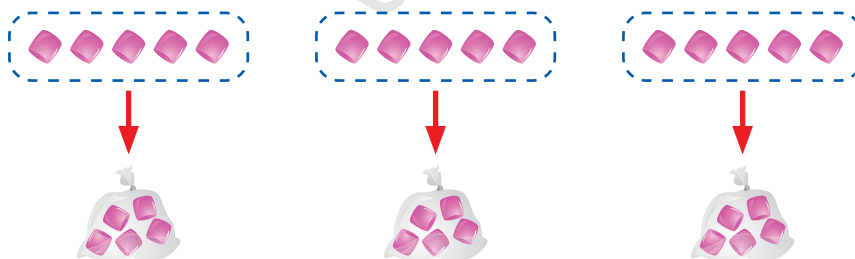
1. Mrs Ali has 12 key chains. She divides the key chains equally between 2 children. How many key chains does each child get?



$$12 \div 2 = 6$$

Each child gets 6 key chains.

2. Iman has 15 marshmallows. She packs 5 marshmallows into each bag. How many bags does Iman need?



$$5 \times \square = 15$$

$$15 \div 5 = 3$$

Iman needs 3 bags.

3. Mrs Aun has 50 paper clips.  
She gives 10 paper clips to each of her children.  
How many children does Mrs Aun have?

$$50 \div 10 = \square$$

Mrs Aun has  $\square$  children.

$$10 \times \square = 50$$

You can draw pictures to help you.

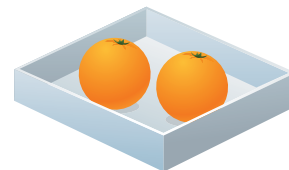


## PRACTICE



Solve.

1. Saim needs to pack 16 oranges into boxes.  
He puts 2 oranges in each box.  
How many boxes does he need?



2. Asad arranges 100 chairs into rows.  
There are 10 chairs in each row.  
How many rows are there?

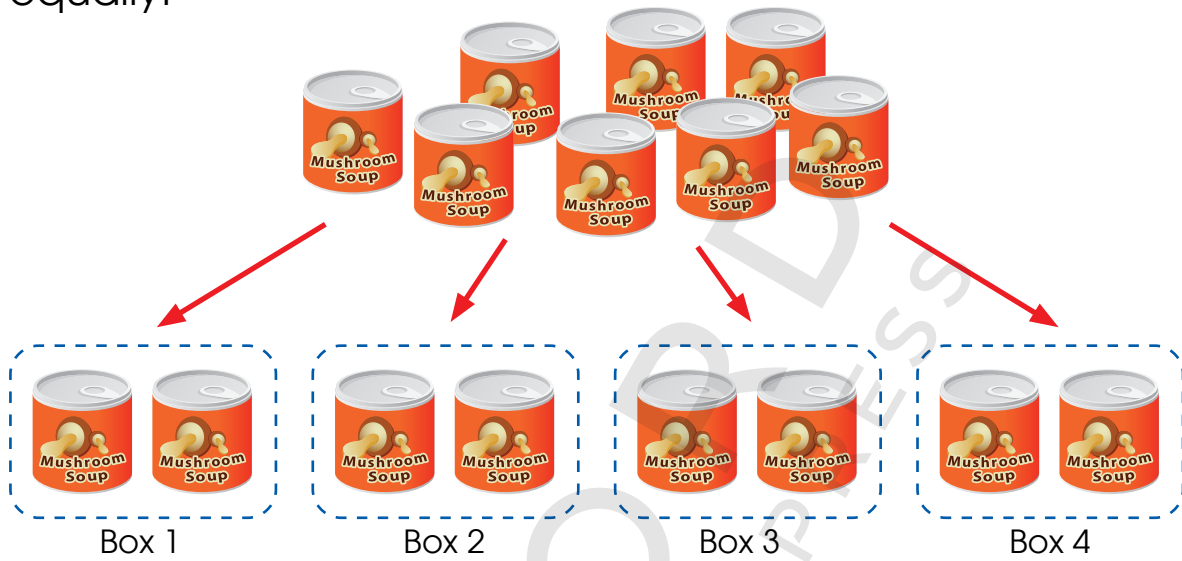


3. Asma has 35 pebbles.  
She puts them equally into 5 boxes.  
How many pebbles are there in each box?

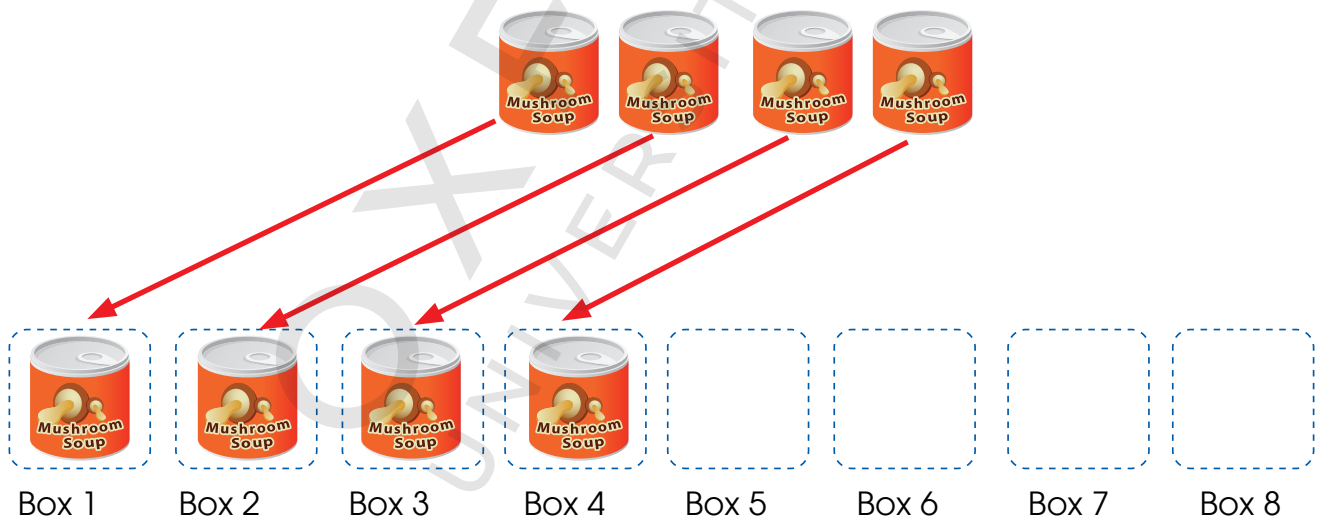


## LET'S LEARN

1. There are 8 cans. These **8** cans can be placed in **4** boxes equally.



2. There are 4 cans. Can you place these **4** cans in **8** boxes equally?



Division of one number by another number cannot be done in any order

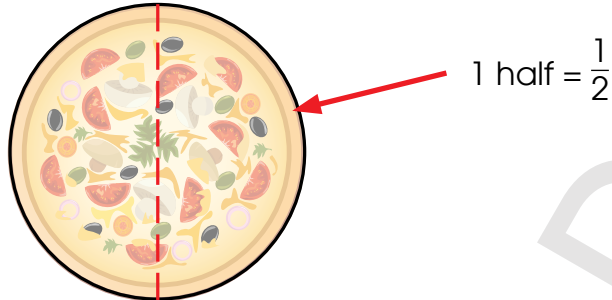




### Students' Learning Outcome:

- Recognise, find, name, and write fractions: half( $\frac{1}{2}$ ), quarter( $\frac{1}{4}$ ), two-quarters ( $\frac{2}{4}$ ), and three-quarters ( $\frac{3}{4}$ ) of a length, shape, set of objects, or quantity using pictorial representations.

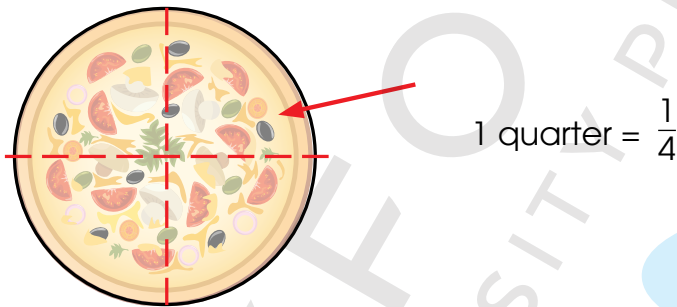
1.



Each part of the pizza is **1 half** of the whole pizza.  
We write it as  $\frac{1}{2}$ .

This pizza is cut into 4 quarters.

2.

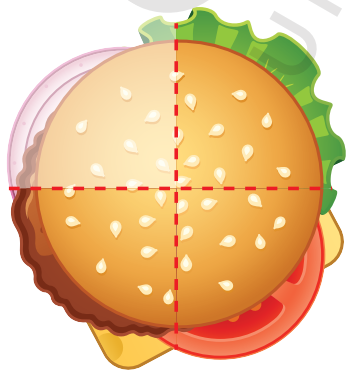


Each part of the pizza is **1 quarter** of the whole pizza.  
We write it as  $\frac{1}{4}$ .

2 quarters give us 1 half.

3.

Nora eats 1 quarter ( $\frac{1}{4}$ ) of a burger.  
How many quarters of the burger are left?



4 quarters make up one whole burger.

4 quarters - 1 quarter  
= 3 quarters ( $\frac{3}{4}$ )

There are 3 quarters ( $\frac{3}{4}$ ) of the burger left.



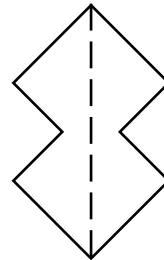
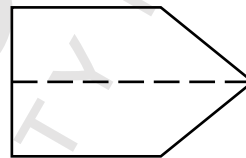
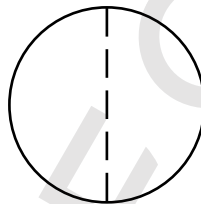
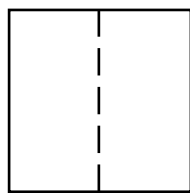
1. Cut the following into:

(a) 2 halves

(b) 4 quarters



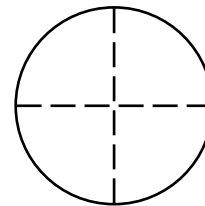
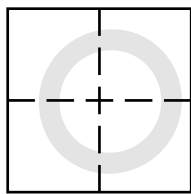
2. Colour  $\frac{1}{2}$  of each shape.



3. For each of the following shapes, colour

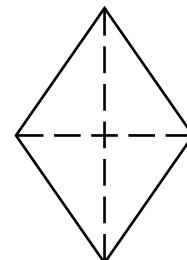
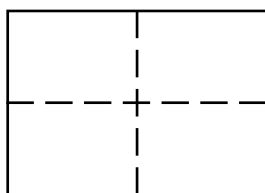
(a)  $\frac{1}{4}$

(b) two quarters



(c)  $\frac{3}{4}$

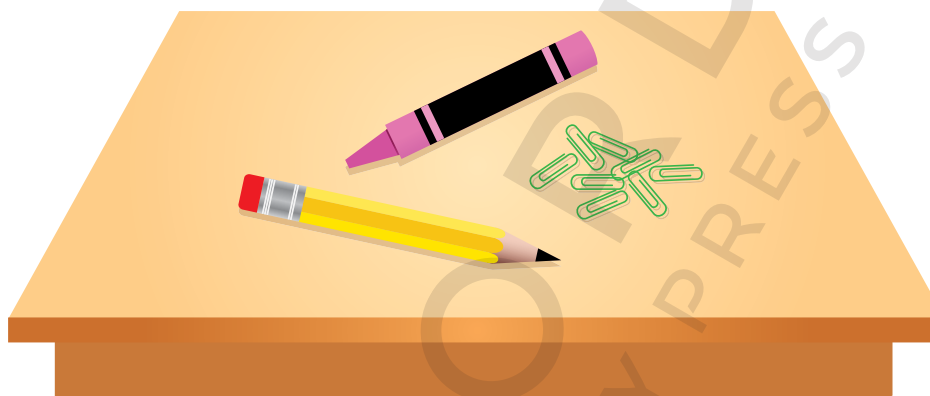
(d) four quarters



**Students' Learning Outcome:**

- Measure and compare the length of objects using non-standard units.


# FINDING THE LENGTHS OF OBJECTS



Which is longer, the pencil or the crayon?

**LET'S LEARN**



We can use 1  to show 1 unit.



The pencil is about 6  long.  
The crayon is about 5  long.


What other objects can we use to measure lengths?

The length of the pencil is about 6 units.  
The length of the crayon is about 5 units.  
The pencil is longer than the crayon.



**ACTIVITY**  **TIME**




Work in pairs.

- 1 Look at objects around you.
- 2 Guess the length of each object.
- 3 Use  to measure the length.

What you need:



**Example**


<p>Your pencil case</p> 	<p>I guess my pencil case is about <input type="text"/>  long.</p>
	<p>My pencil case is about <input type="text"/>  long.</p>

**PRACTICE** 

Count.

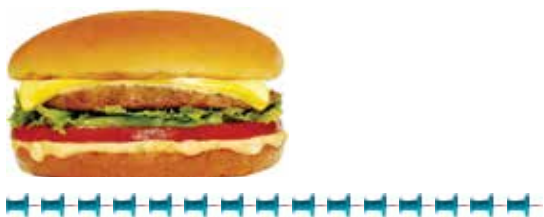
(a) 1  shows 1 unit.




The whiteboard is about 12  long.

The length of the whiteboard is about  units.

(b) 1  shows 1 unit.



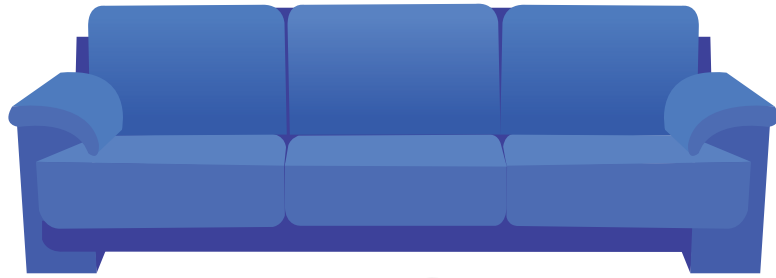
The burger is about   long.

The length of the burger is about  units.

IN

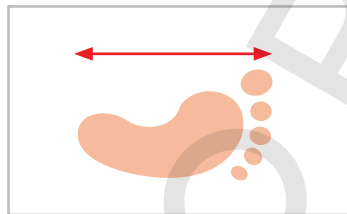


FOCUS

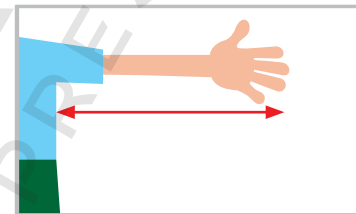


How long is the sofa?

Which parts of our body can we use to find out?



foot

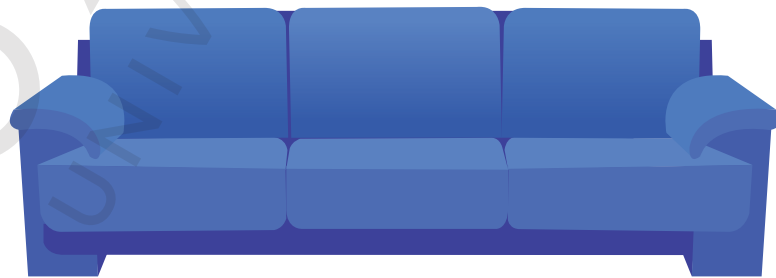


arm

LET'S LEARN



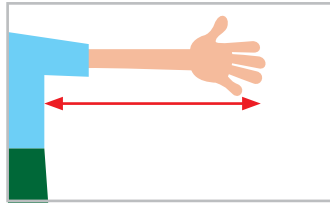
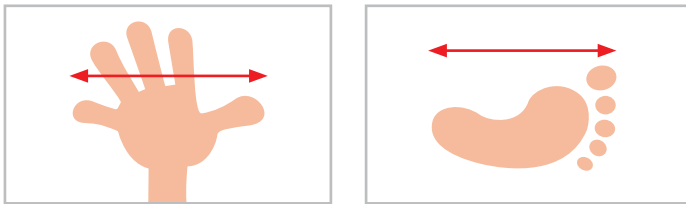
We can use parts of our body to measure lengths.



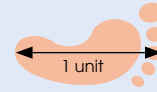
The sofa is about 10  long.




We can also say that the length of the sofa is about 10 units.



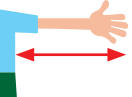



Work in pairs.



What you need:



- 1 Look at the parts of the body.
- 2 Use these to measure the length of each object.
- 3 How many ,  or  do you use?

Object			
Your desk 			
A pencil case 			
The whiteboard 			

Which part of the body will you choose to measure the length of each object?

Why do you choose that part of the body to measure?



# 1. Count.



(a) The carpet is about   long.

(b) The length of the carpet is about  units.

# 2. Use to measure the length of your desk.



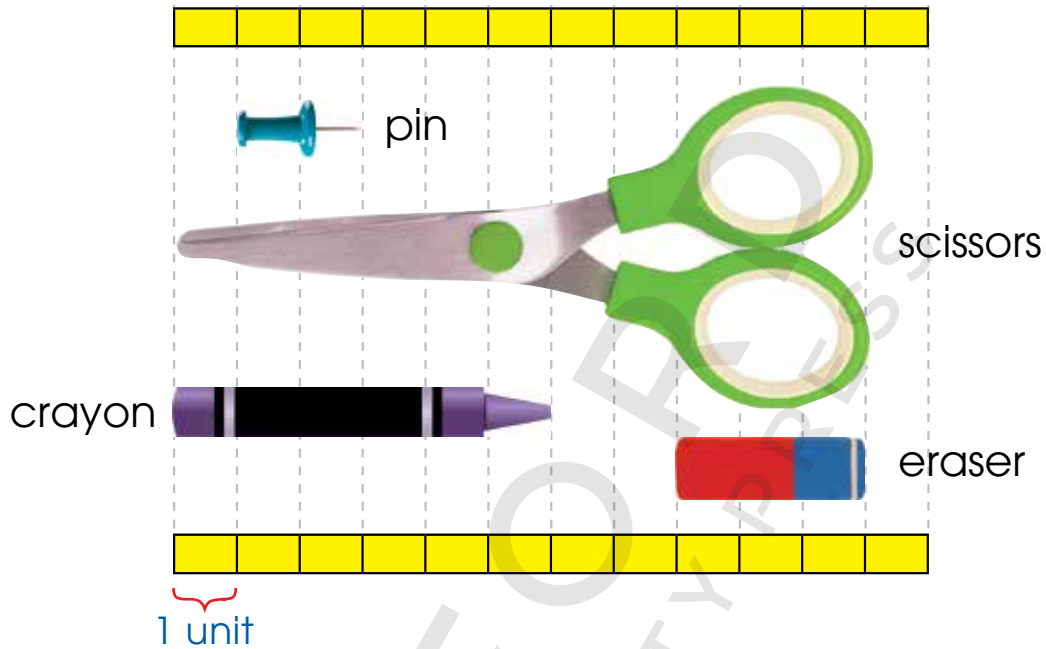
(a) My desk is about   long.

(b) The length of my desk is about  units.



## MIND WORKOUT

Compare the lengths of the objects.



(a) The  is shorter than the eraser.

(b) The  is the shortest.



The length of the pen is about  units.



**Students' Learning Outcome:**

- Measure and compare the mass of objects using non-standard units.

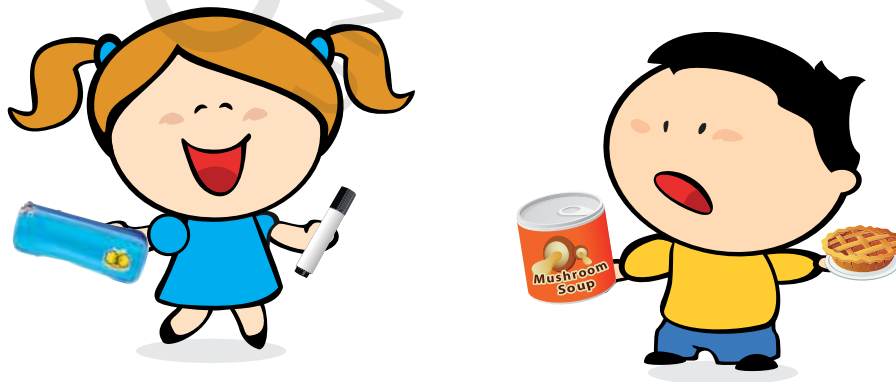
# COMPARING MASS



How can we tell which box is heavier?

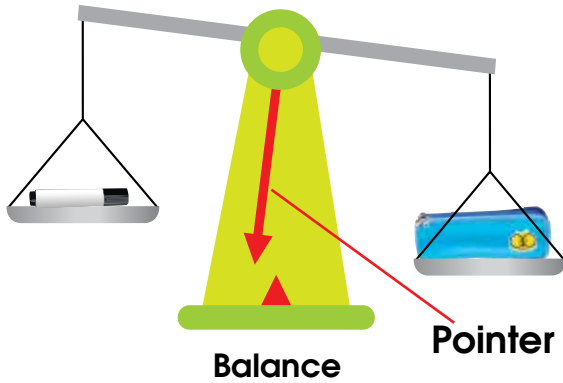
**LET'S LEARN**

1. We can hold objects to feel how heavy they are.



We use measuring scales to measure mass of objects.

2.

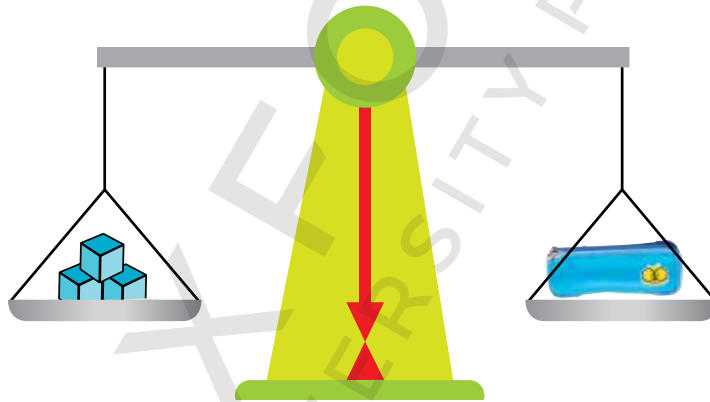


How do we know which object is lighter?

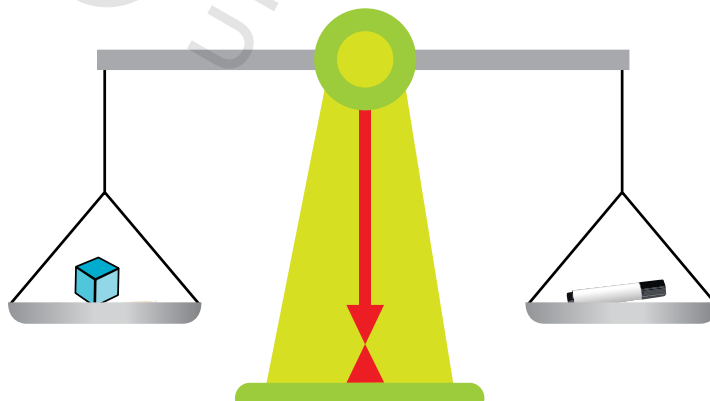


The marker is **lighter than** the pencil box.  
The pencil box is **heavier than** the marker.

3.



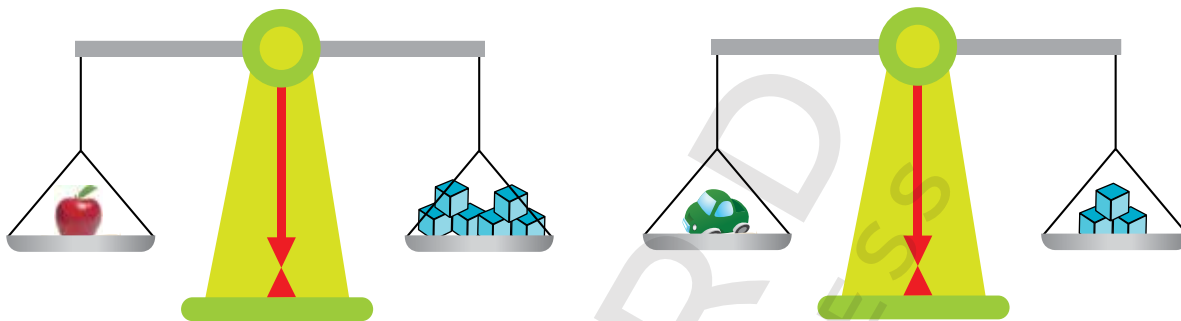
The mass of the pencil box is same as the mass of 3 cubes.



The mass of the marker is same as the mass of 1 cube.



1. Choose the correct option.



- (a) The mass of apple/toy car is same as the mass of 6 cubes.
- (b) The mass of toy car is same as the mass of 3/6 cubes.
- (c) Apple/toy car is heavier.

**Students' Learning Outcome:**

- Measure and compare the capacity of objects using non-standard units

What can we fill the different containers with?



## COMPARING CAPACITIES

IN



FOCUS



We can fill each container with water.  
What else can we use to fill the containers?

## LET'S LEARN

Each container is filled with water.

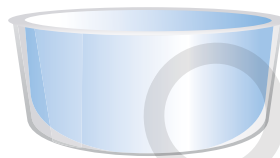


The amount of water in a container is called the capacity of the container.

1.



A



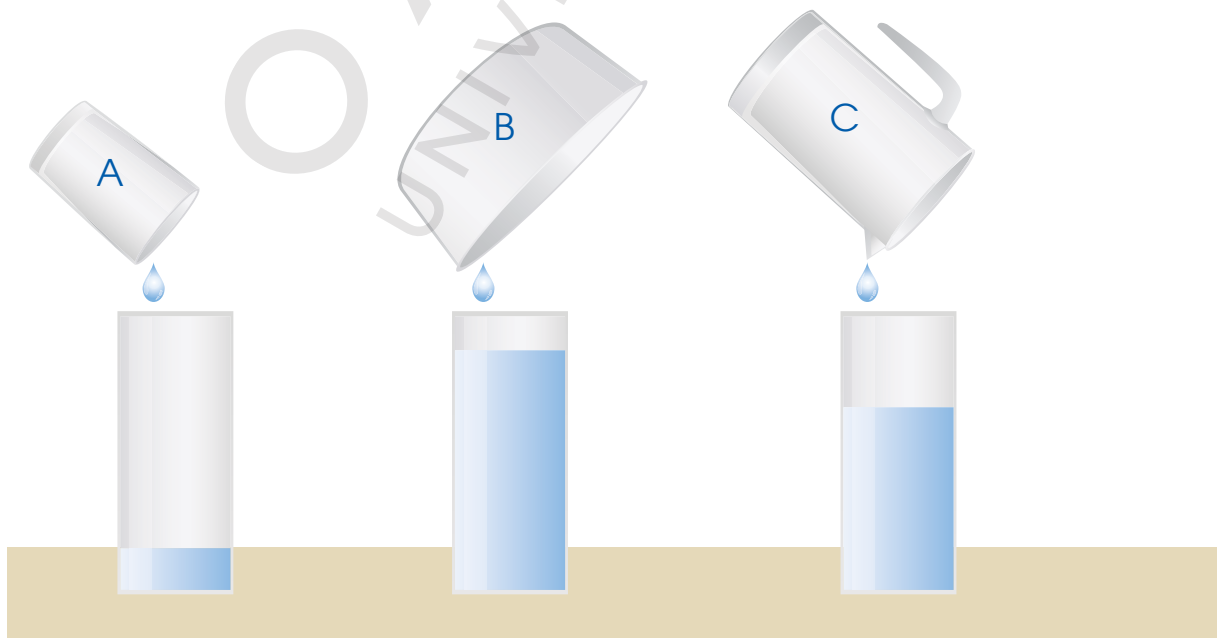
B



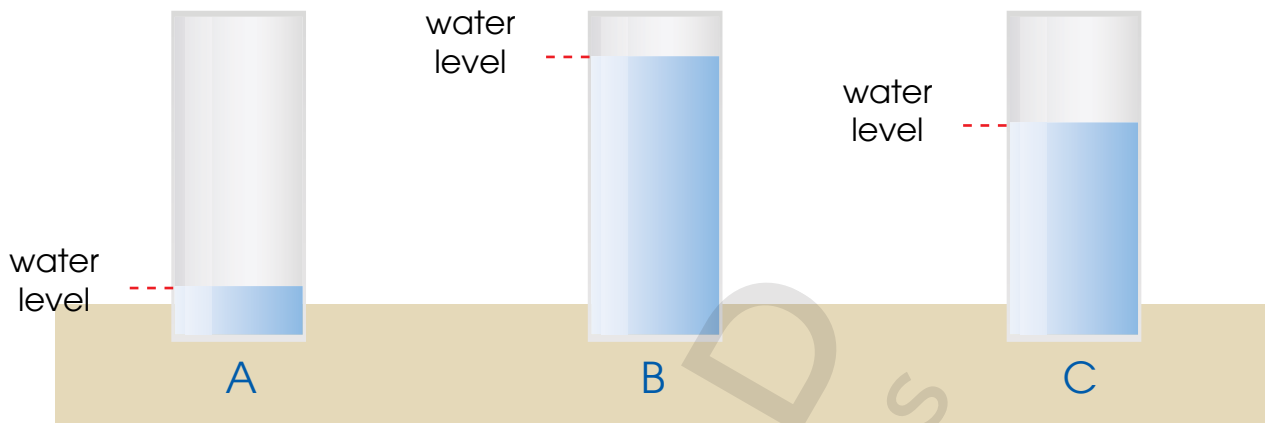
C

Compare the capacities of the three containers.  
Which container has the greatest amount of water?

Pour the water into containers of the same size.



Look at the water levels and compare.



The capacity of Container A is **less than** the capacity of Container B.

The capacity of Container B is **greater than** the capacity of Container C.

Container A has the **least** capacity.

Container B has the **greatest** capacity.

Arrange in order.  
Start with the container with the greatest capacity of.

Container B, Container C, Container A  
greatest  $\longrightarrow$  least

Container A has less water than Container B.

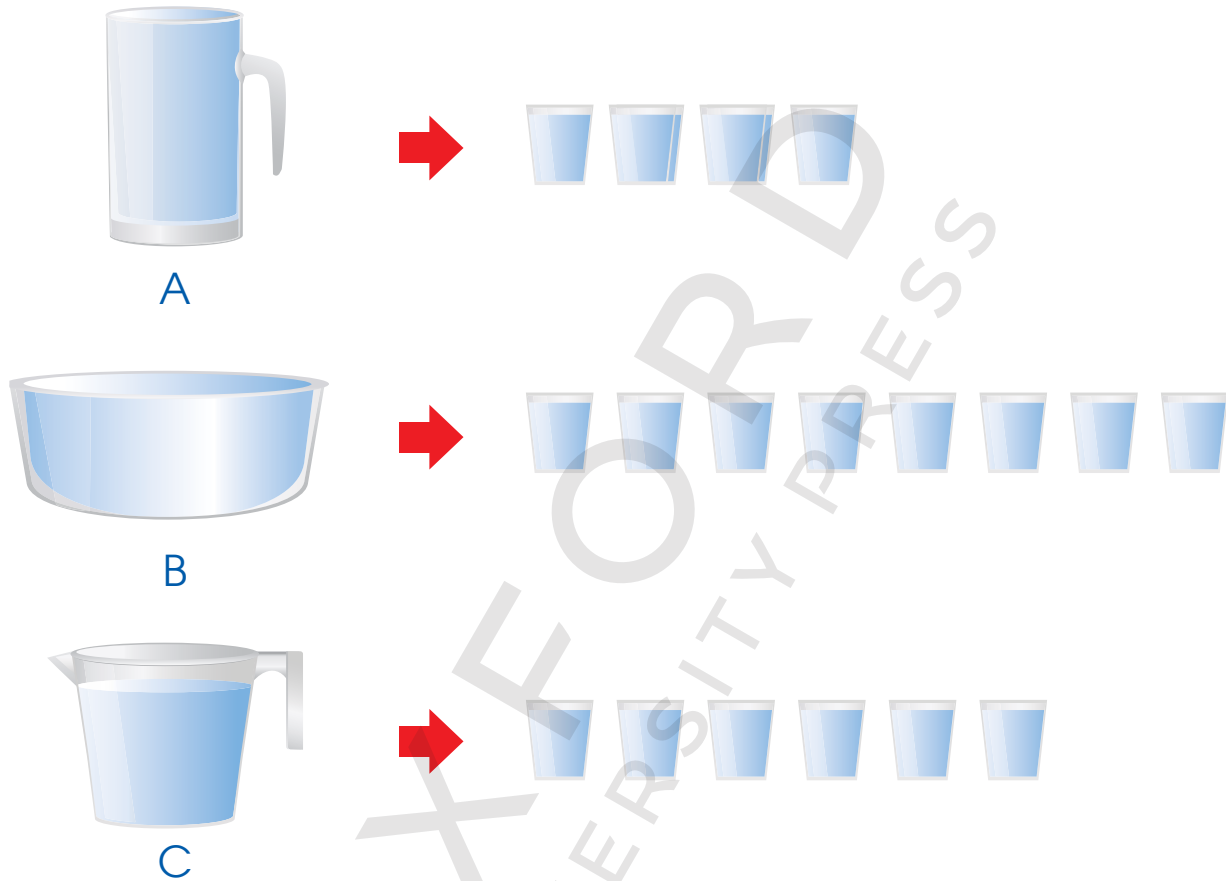
Container B has more water than Container C.

Container B has the most water.



1. The water in Containers A, B, and C is poured into cups of the same size.

Compare the capacity of each container.



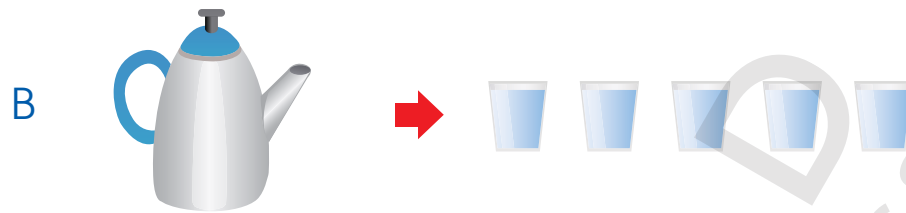
- (a) Container  has the greatest capacity.
- (b) Container  has more capacity than Container C.
- (c) Arrange in order.

Start with the container with the least capacity.

Container  , Container  , Container

least greatest

2. All the water in the kettles is used to fill up the cups.



- (a) Kettle  has less capacity than Kettle .
- (b) Which kettle has a greater capacity?

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### Students' Learning Outcome:

- Read and write temperature to the nearest appropriate unit i.e., ( $^{\circ}\text{C}$ ) using pictorial representations and relating temperature scale to number line.

# TEMPERATURE

IN



FOCUS



Hot



Cold

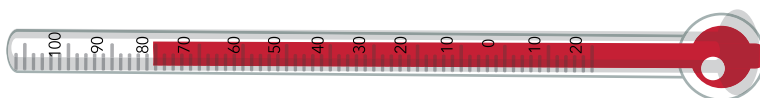
LET'S LEARN



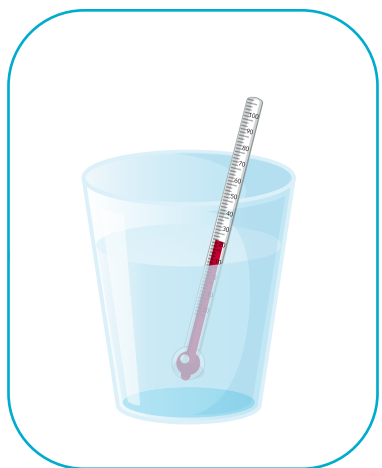
The temperature of hot soup is  $80^{\circ}\text{C}$ .



We use thermometer to know the hotness or coldness of a body or an object.



The temperature of tap water is 22°C.



The average normal temperature of a human body is 37°C.

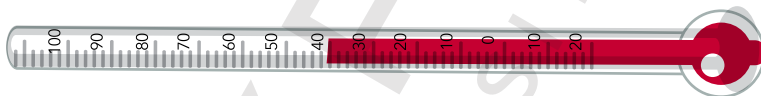


**PRACTICE**

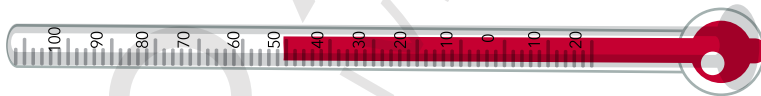


Read and write the temperature in the box.

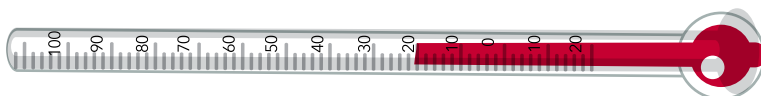
1.

 °C

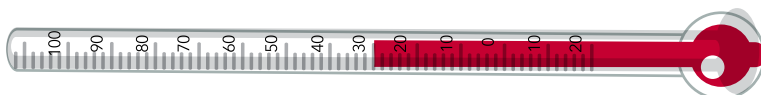
2.

 °C

3.

 °C

4.

 °C

**Students' Learning Outcome:**

- Name days of the week and months of the Solar year.

# SOLAR CALENDAR

1. There are 12 months in a year.

January	31
February	28 or 29
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31



Numbers of days



Names of the months



2. There are 7 days in a week.



**PRACTICE**



1. Choose the correct option.

(a) The first month of a solar calendar is \_\_\_\_\_.

June

January

(b) \_\_\_\_\_ comes after March.

February

April

(c) \_\_\_\_\_ is the last month of solar calendar.

December

May

(c) \_\_\_\_\_ comes before November.

December

October

2. Tick (✓) the correct answers in the boxes.

(a) Which day comes after Monday?

Sunday

Tuesday

(b) Which day comes before Wednesday?

Tuesday

Thursday

(c) Which day comes after Thursday?

Sunday

Friday

(d) Which day comes after Friday?

Thursday

Saturday

(e) Which day comes before Tuesday?

Monday

Friday

(f) Which day comes after Saturday?

Sunday

Friday

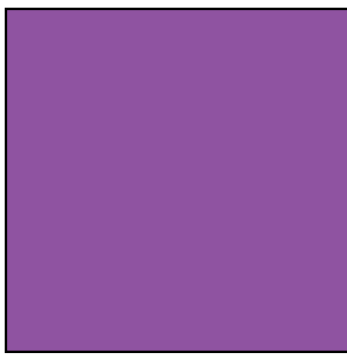
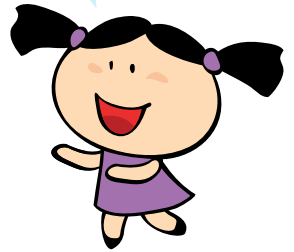
**Students' Learning Outcome:**

- Recognise and identify 2-D Shapes (rectangle, square, circle, and triangle) with respect to their characteristics (i.e., sides and corners).

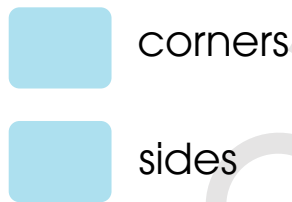
# RECOGNISING TWO-DIMENSIONAL SHAPES

Write down the number of sides and corners of each shape.

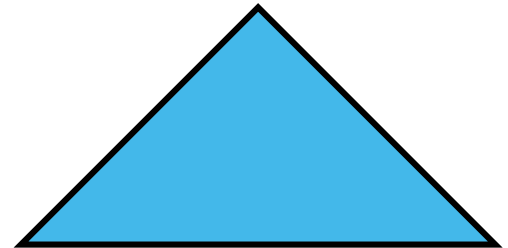
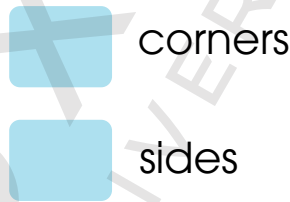
All these shapes are 2-D shapes.



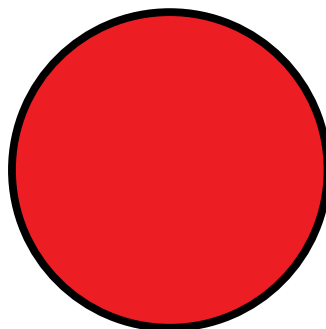
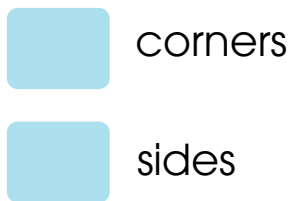
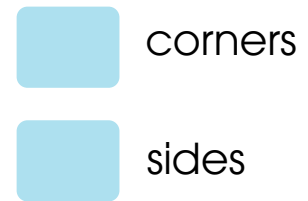
square



rectangle



triangle



circle

**Students' Learning Outcome:**

- Recognise and identify 3-D Shapes (cube, cuboid, cone, cylinder, and sphere) with respect to their characteristics.



# RECOGNISING THREE-DIMENSIONAL SHAPES

IN



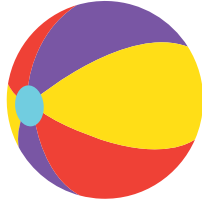
FOCUS



Move your hand over these objects.  
Are the surfaces flat or curved?

## LET'S LEARN

1.

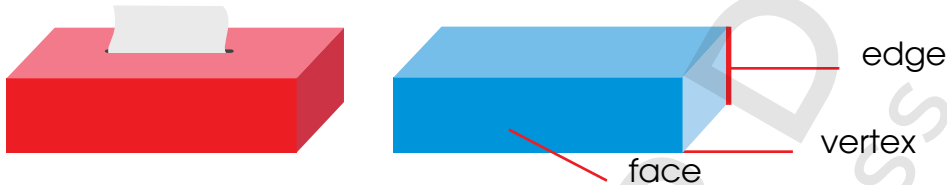


A sphere has no **flat faces**. It can roll.



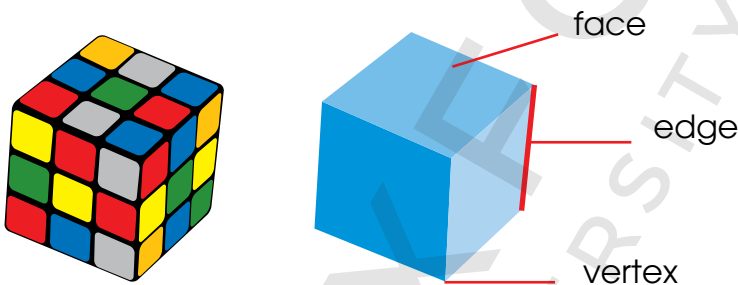
A ball is shaped like a **sphere**. The surface of a sphere is **curved**.

2.



A tissue box is shaped like a **cuboid**. A cuboid has flat faces. The flat faces are squares or rectangles.

3.



A cuboid and a cube both have 6 flat faces. How are they different?



The object is shaped like a **cube**. A cube has flat faces. The flat faces are squares.

4.



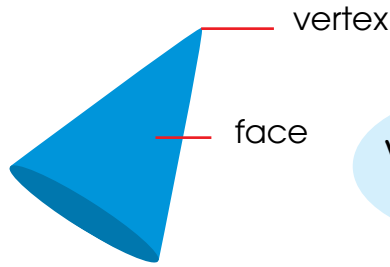
A cylinder has 2 flat faces.



The object is shaped like a **cylinder**. A cylinder has flat faces and a curved surface. The flat faces are circles.



5.






Which objects can roll?



The object is shaped like a **cone**.  
A cone has a flat face and a curved surface.  
The flat face is a circle.

**ACTIVITY**  **TIME**

Work in pairs.

- 1 Put the  in the bag.
- 2 Cover your eyes with a .  
Pick a solid from the .
- 3 Feel the solid and describe it to your partner.  
Guess the shape and check your answer.
- 4 Take turns and repeat **2** to **3**.
- 5 Look at the solids that your partner picked.  
How are they similar? How are they different?

What you need:





1. Which object has both flat faces and curved surfaces?



2. Match the objects and the shapes.



cube



cone



sphere

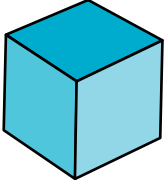
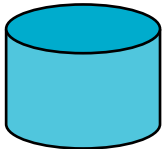
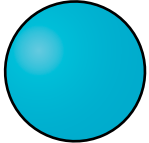
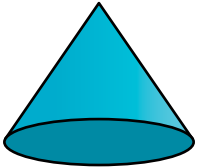



cylinder



cuboid

3. Complete the table.

Object	Name of object	Number of edges	Number of faces	Number of vertex/ vertices
				
				
				
				
				

**Students' Learning Outcome:**

- Read and interpret data using pictographs, block graphs, and tally charts (including real-world problems).

# READING PICTURE GRAPHS WITH SCALES

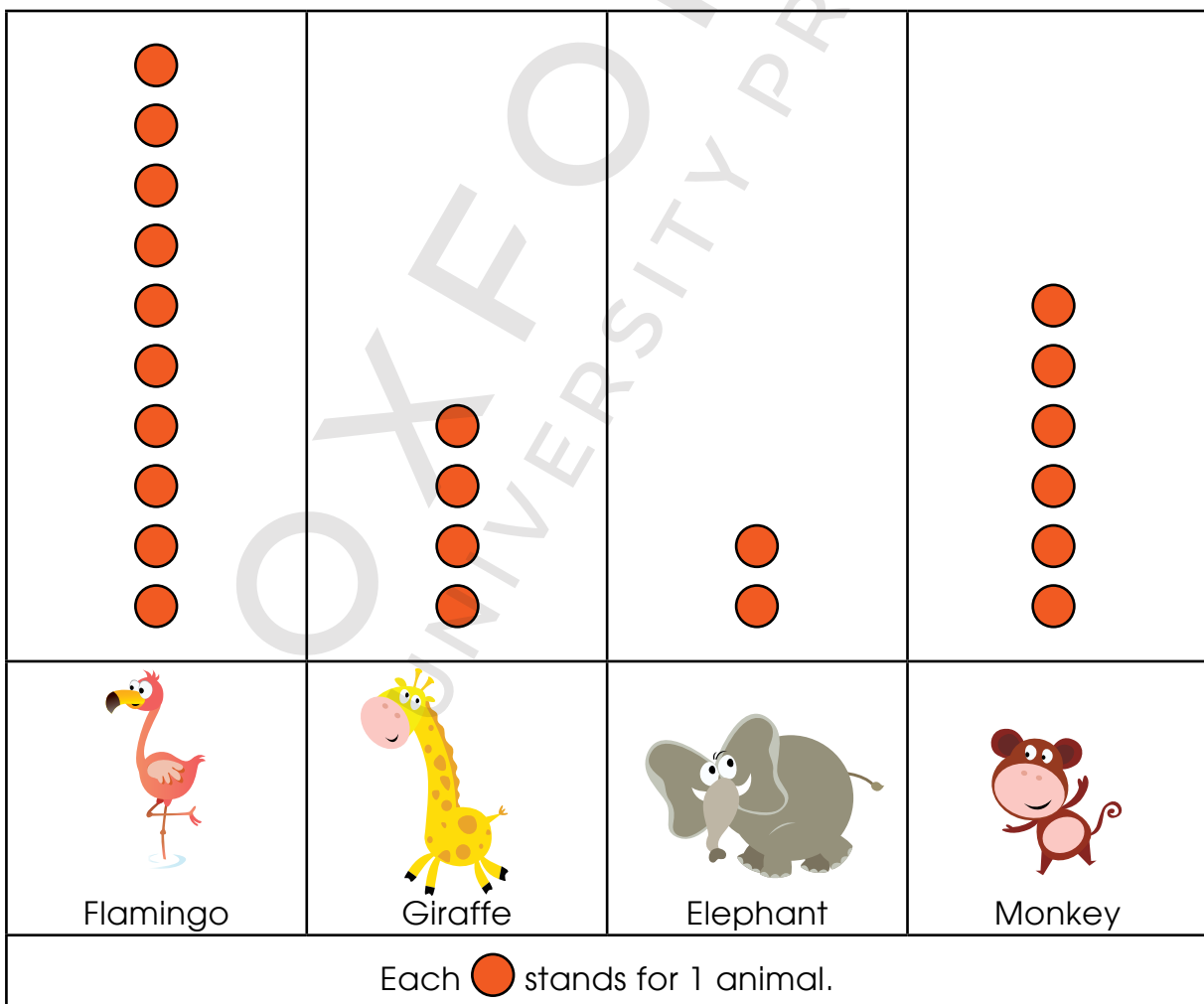
IN



FOCUS

The picture graph shows the number of each type of animal in the zoo.

**Animals in the Zoo**



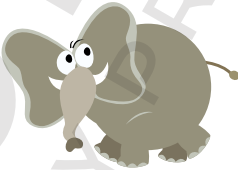



Farhan says there are 10 flamingos in the zoo.

Is he correct?

1. We can also use one ● to stand for 2 animals.

## Animals in the Zoo

● ● ● ● ●	● ●	●	● ● ●
 Flamingo	 Giraffe	 Elephant	 Monkey
Each ● stands for 2 animals.			

Most of the animals in the zoo are flamingos.

We can also tell the number of each type of animal.

- (a) How many flamingos are there?

$$5 \times 2 = 10$$

There are 10 flamingos.

How are the two graphs different?



(b) How many monkeys are there?

1 ● stands  
for 2 animals.



$$3 \times 2 = \square$$

There are  $\square$  monkeys.

(c) How many **more** flamingos than giraffes are there?

**Method 1:**

There are 5 ● for flamingos.

There are 2 ● for giraffes.

There are 10 flamingos  
and 4 giraffes.

$$10 - 4 = 6$$

There are 6 more flamingos than giraffes.



**Method 2:**

There are 3 more ● for flamingos than for giraffes.

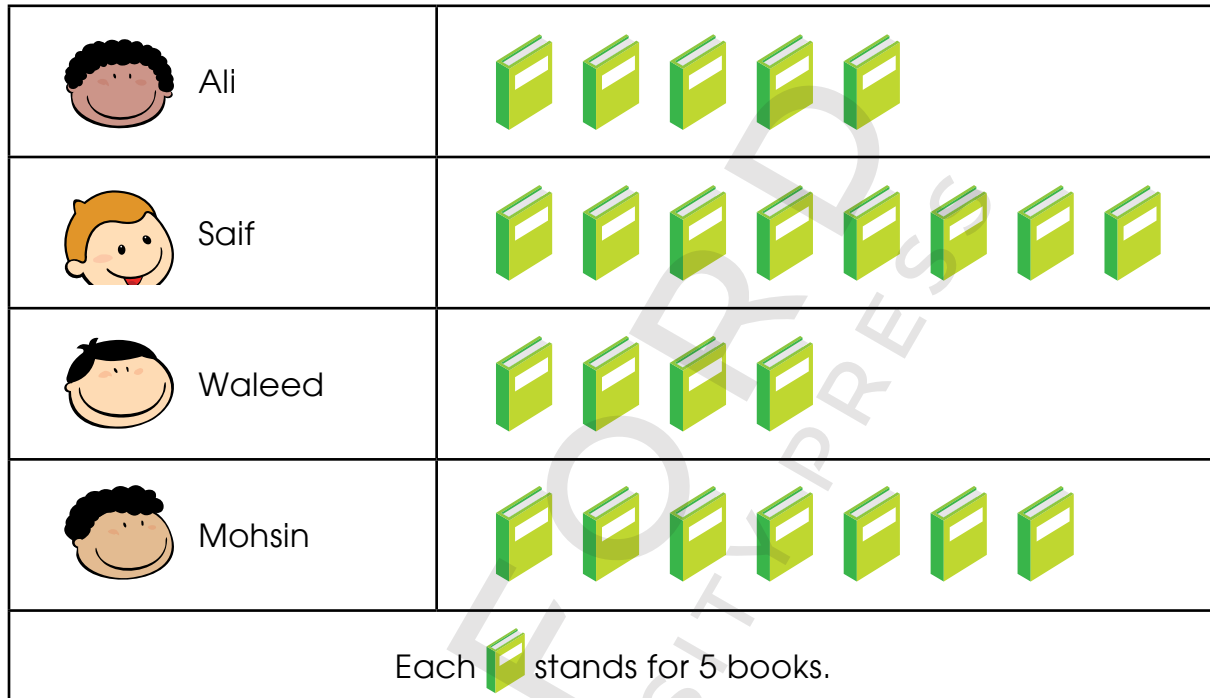
$$3 \times 2 = 6$$

There are 6 more flamingos than giraffes.



The picture graph shows the number of books each boy read in one year.

Books We Read



Use the picture graph to answer the questions.

- (a) How many books did Mohsin read?
- (b) How many fewer books did Ali read than Saif?
- (c) How many more books did Saif read than Waleed?
- (d) How many books did Ali and Waleed read altogether?

# READING TALLY CHARTS





IN



FOCUS

The tally chart shows the number of each type of snack in a bakery.

Snack in a Bakery

Snack	Tally Marks
 Cupcake	///
 Sandwich	### /
 Doughnut	### ###
 Cake	### ///

How can we use the chart to tell the number of each snack?

## LET'S LEARN

1. (a) How many sandwiches are there?



### /

$$5 + 1 = 6$$

There are 6 sandwiches.

- (b) How many doughnuts are there?



### ###

$$5 + 5 = \square$$

There are  $\square$  doughnuts.

Each '/' is a tally mark.  
Each '###' is a group of 5 tally marks.





(c) How many fewer cupcakes than cakes are there?



There are 3 cupcakes and 8 cakes.



$8 - 3 = \square$

There are  $\square$  fewer cupcakes than cakes.

**PRACTICE**



The tally chart shows the number of glasses of water each girl drinks in one day.

Girl	Tally Marks
	### //
	###
	### ###
	////

Use the tally chart to answer the questions.

- (a) How many glasses of water did Nora drink?
- (b) How many more glasses of water did Ain drink than Asma?
- (c) How many fewer glasses of water did Asma drink than Bina?
- (d) How many glasses of water did Bina and Nora drink altogether?

# READING BLOCK GRAPHS

IN



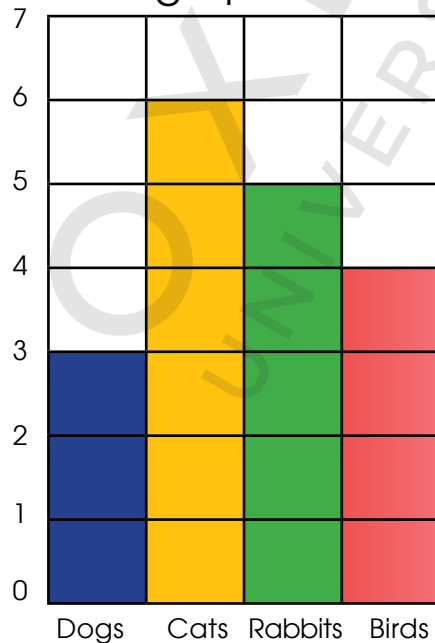
FOCUS

1. The tally chart shows the number of pets owned by the children in a class.

Pets owned by the children in a class

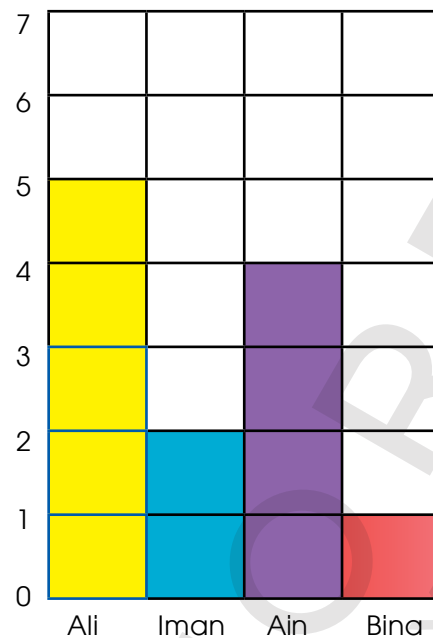
Pets	Tally Marks
Dogs	///
Cats	### /
Rabbits	###
Birds	////

We can use a block graph to show the above information.



Each block represents 1 pet.

2. The block graph shows the number of cookies eaten by each child.



Use the block graph to complete the following sentences.

- (a) Ali ate  cookies.
- (b) Iman ate  cookies.
- (c)  ate the most cookies.
- (d) The children ate  cookies altogether.

### Students' Learning Outcome:

- Describe the likelihood that everyday events will occur, using mathematical language (i.e., impossible, less likely, and more likely).

# PROBABILITY

IN



FOCUS

Answer with 'Yes' or 'No'.

- Have you seen a cat with 5 legs?
- Can the roads be made with jelly?
- Is the Sun always hot?
- Does a pair of socks have 3 socks?

## LET'S LEARN

The chance of occurring an event is the likelihood that the event will occur.

- The chance of seeing a flying elephant is **impossible**.
- It is **more likely** to drink hot chocolate in cold season.
- It is **less likely** to see a giraffe walking on the road.



Write the correct likelihood.

1. The chance of getting apples from a mango tree is \_\_\_\_\_.
2. It is \_\_\_\_\_ to have a cold breeze on a sunny day.
3. The chance of having rain without clouds is \_\_\_\_\_.
4. It is \_\_\_\_\_ likely to travel to moon.
5. It is \_\_\_\_\_ likely to wear warm clothes in winters.
6. It is \_\_\_\_\_ to go outside alone when you are small kid.
7. It is \_\_\_\_\_ for a whale to climb a tree.