



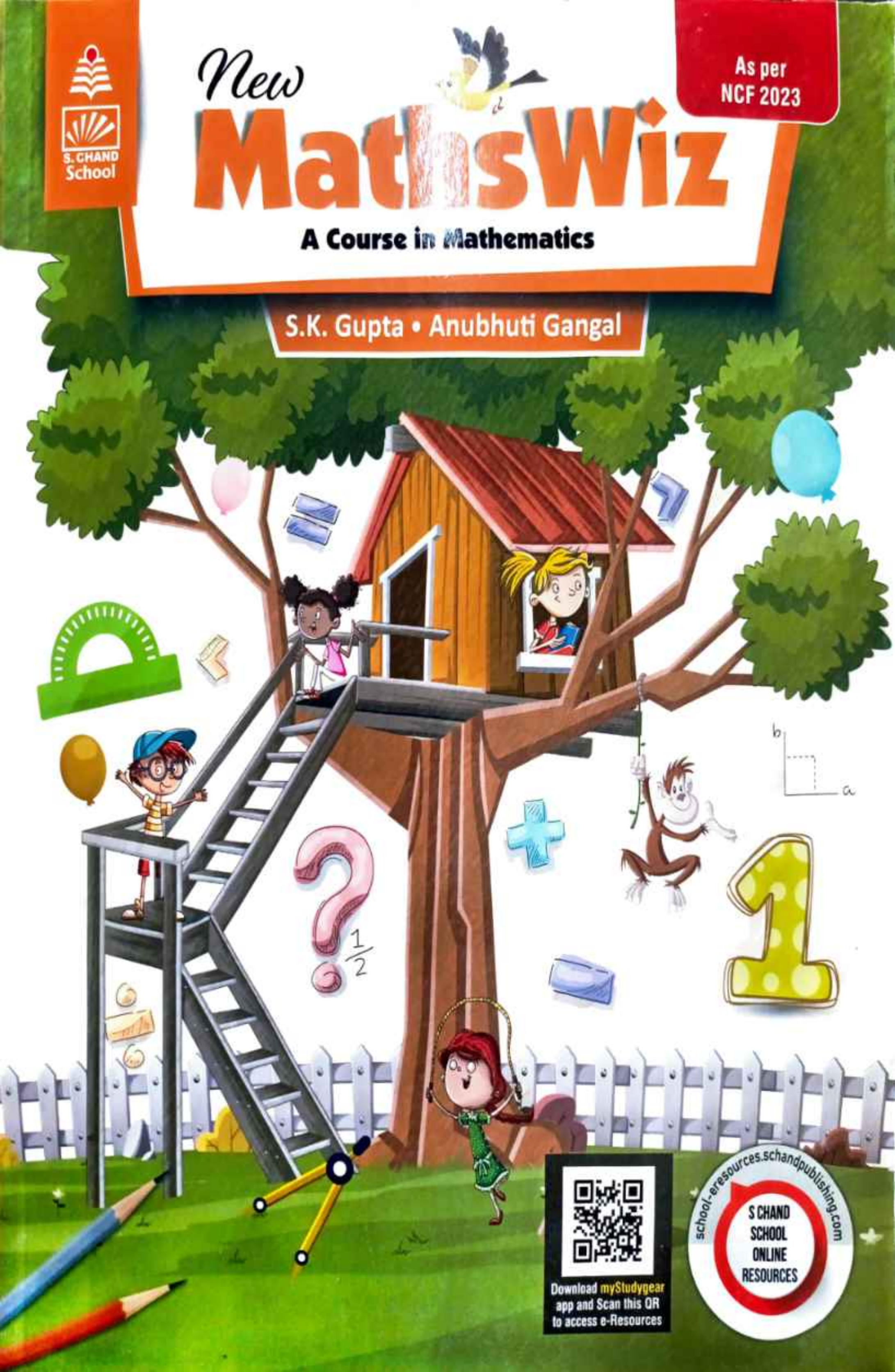
New

MathsWiz

A Course in Mathematics

As per
NCF 2023

S.K. Gupta • Anubhuti Gangal



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1

Looking Back



Warm up



Numbers from 1 to 10

Complete each sentence of the given rhyme by filling in the blanks with the correct number name. You can choose from the number names given at the bottom.

Vocabulary



- ❖ Before
- ❖ Between
- ❖ After
- ❖ Number line
- ❖ Ordinals
- ❖ Greater than
- ❖ Smaller than
- ❖ Equal to

Subject Link → English



1, 2

One, two, buckle my shoe.



5, 6

three, Four, shut the door.



3, 4

Five, six, pick up the sticks.



7, 8

seven, Eight, lay them straight.



9, 10

Nine, ten, a big fat hen.

Ten, Six, Three,
Seven, Two

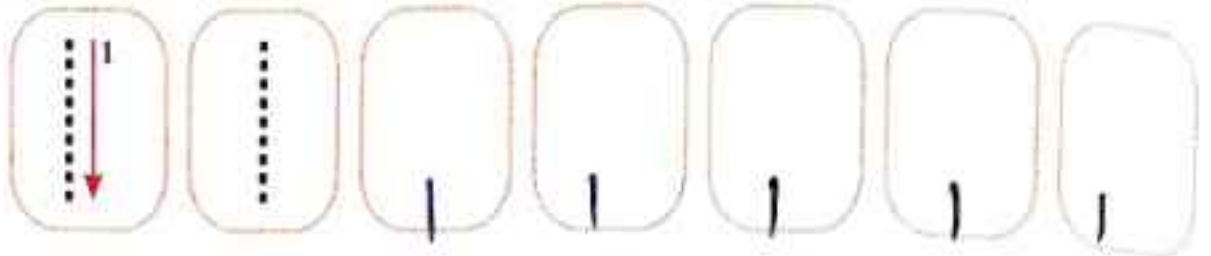
Exercise 1A



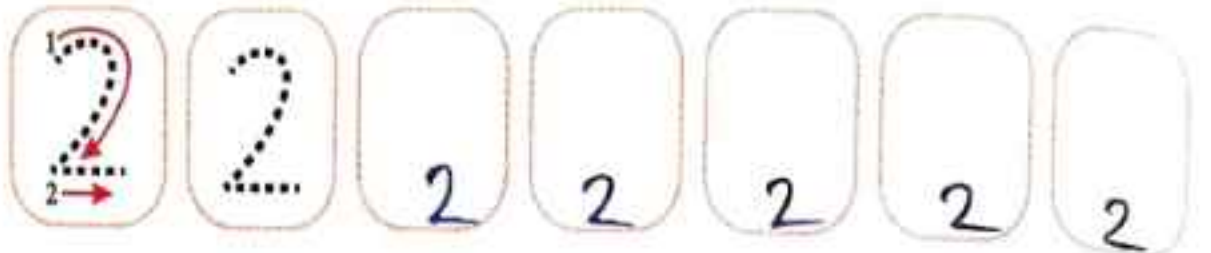
1. Count and write the numbers from 1 to 10.



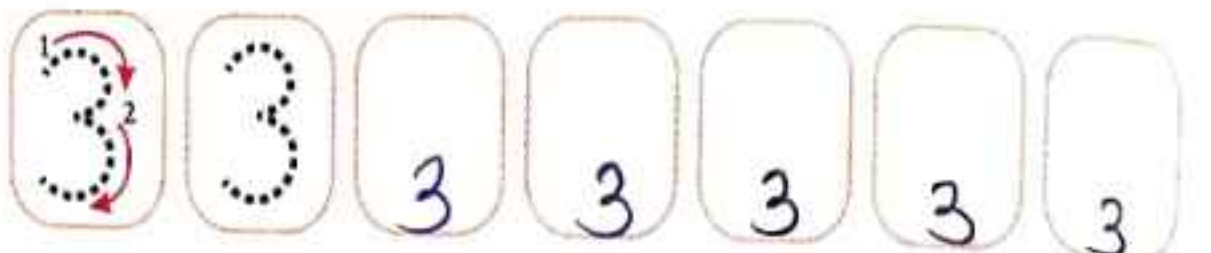
1
One



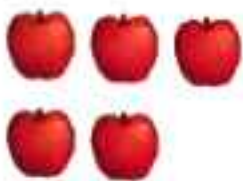
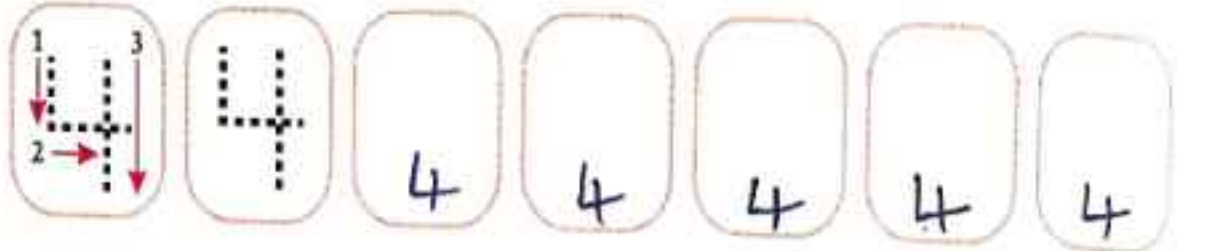
2
Two



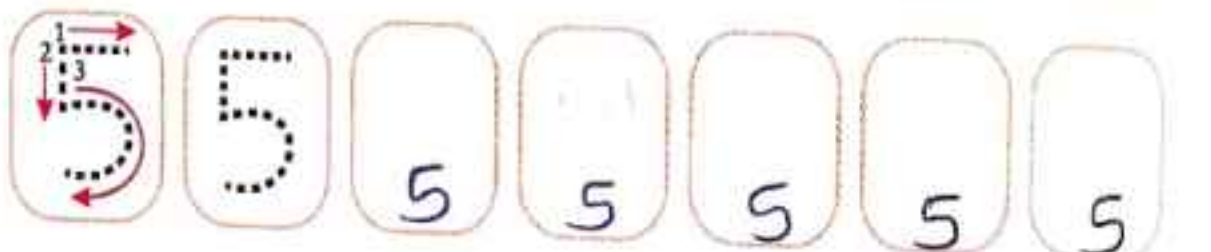
3
Three



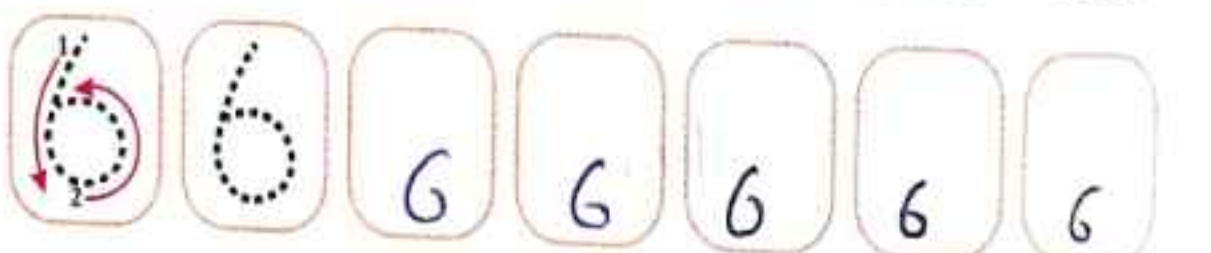
4
Four



5
Five



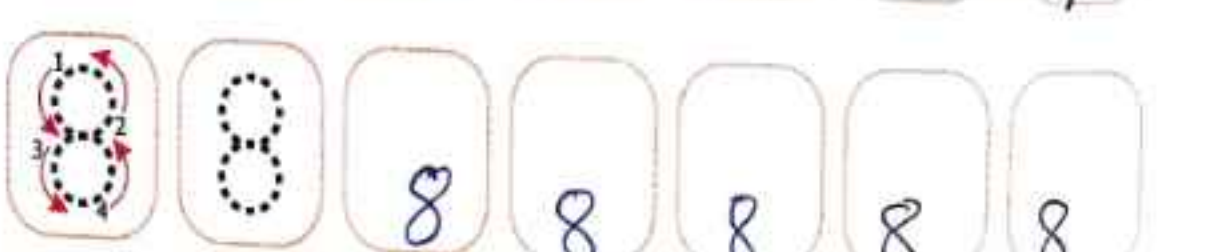
6
Six



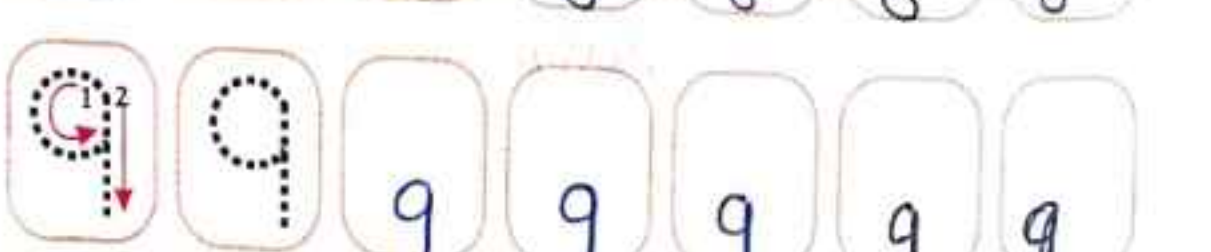
7
Seven



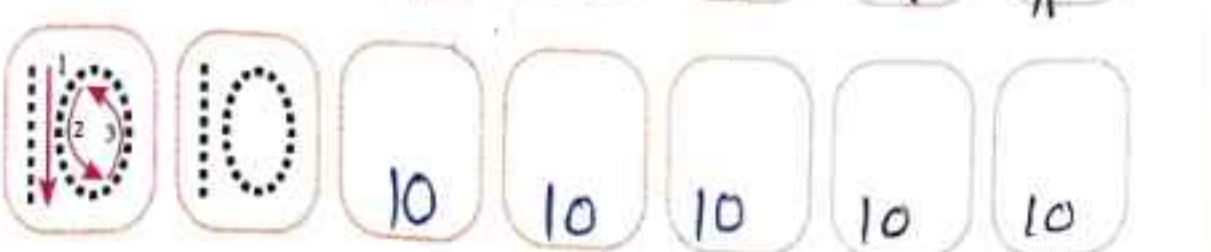
8
Eight



9
Nine



10
Ten



2. Count the fruits in each row and match with the correct number and number name. One has been done for you.

Row 1: 6 strawberries, 6

Row 2: 4 pineapples, 4

Row 3: 5 lemons, 5

Row 4: 3 apples, 3

Row 5: 7 mangoes, 7

Row 6: 10 guavas, 10

Row 7: 8 pears, 8

Row 8: 9 watermelons, 9

Row 9: 2 bananas, 2

5

3

4

6

10

8

9

2

7

Four

Five

Eight

Three

Six

Ten

Two

Seven

Nine

3. Count the fingers. Circle the correct number. Write the number name. Then colour that number of boxes in the ten-frame. One has been done for you.

Number

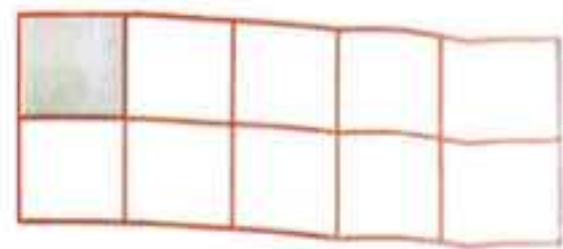
Number name

Ten-frame



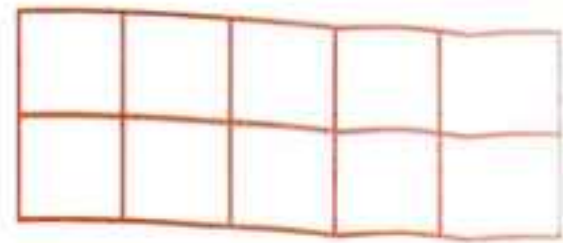
4
①
2

One



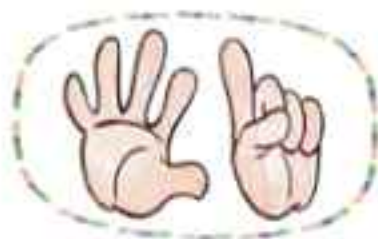
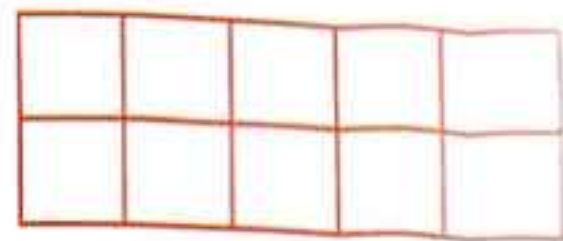
6
5
④

Four



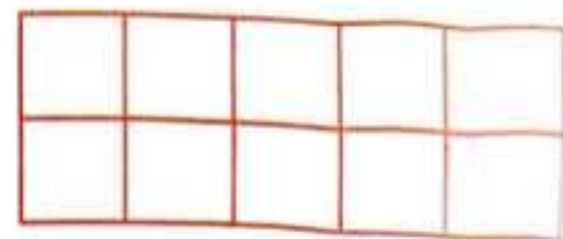
③
5
2

Three



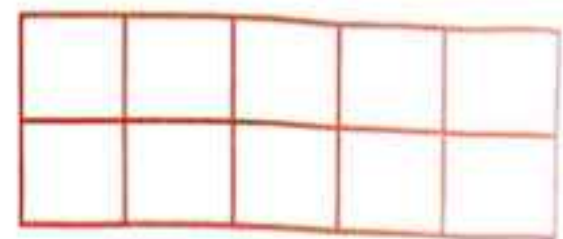
7
⑥
8

Six



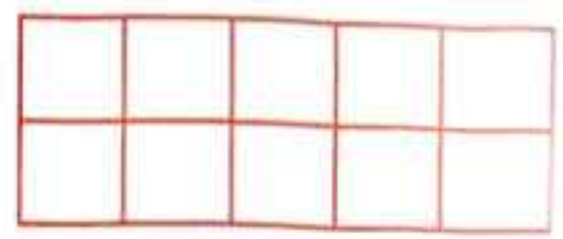
4
10
⑤

Five



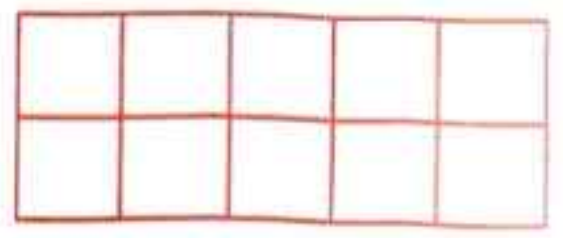
9
8
⑩

Ten



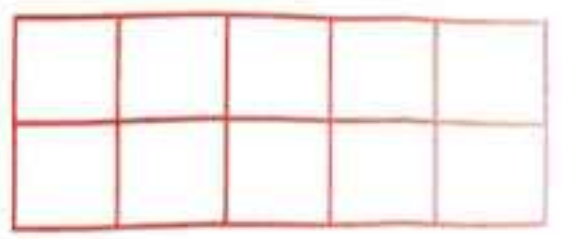
⑦
8
6

Seven



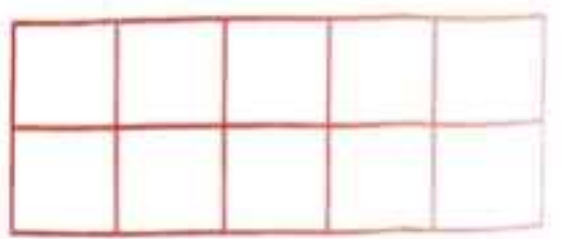
1
②
3

Two



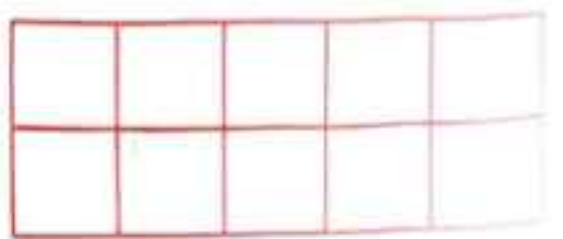
7
8
⑨

Nine



9
⑧
10

Eight



Activity



Read the number in each balloon and colour the balloons as asked.

1 = Yellow

2 = Red

3 = Pink

4 = Green

5 = Blue

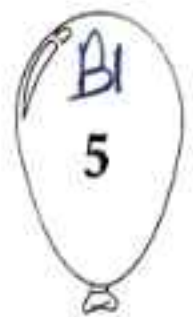
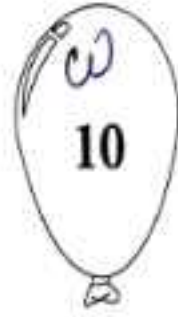
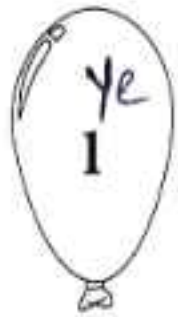
6 = Purple

7 = Orange

8 = Brown

9 = Black

10 = White



Class Work

1. How many noses do you have?



1 One

2. How many legs does a table have?



4 Four

3. How many arms does an octopus have?



8 Eight

THE NUMBER ZERO



Archana has
5 pencils.



She gives one pencil each to
5 children in her class.

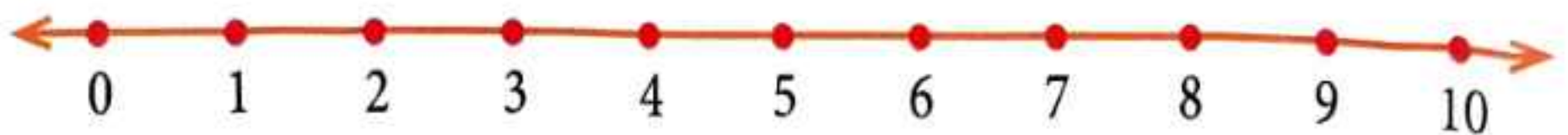


Now, Archana is left with
no pencil or **zero** pencil.

Thus, **zero** means *absence of something* or simply **nothing**. We represent the number zero by **0**.

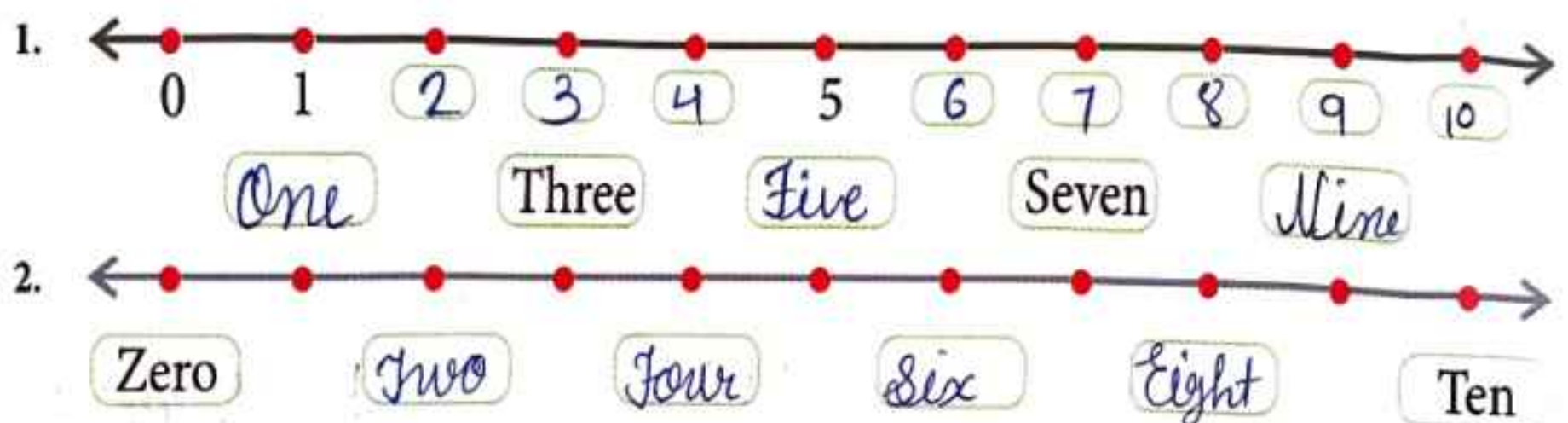
THE NUMBER LINE

A line with numbers placed in order is called a **number line**. The starting point (number) of the number line shown below is 0 and it shows numbers from 0 to 10.



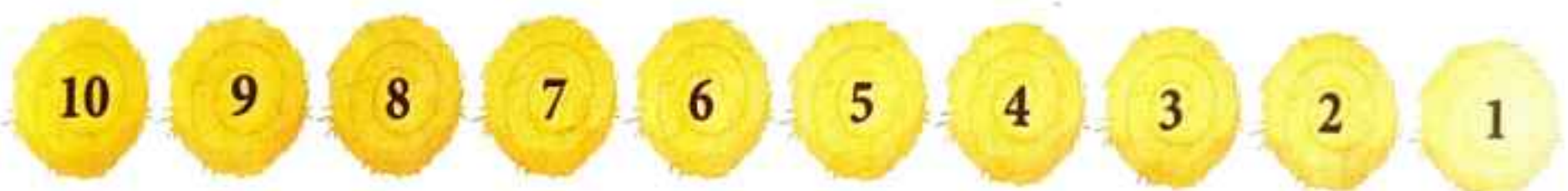
As we move from left to right on the number line, the numbers become bigger. Numbers to the left of a given number are smaller. Numbers to the right of a given number are bigger.

Fill in the boxes for the following number lines.

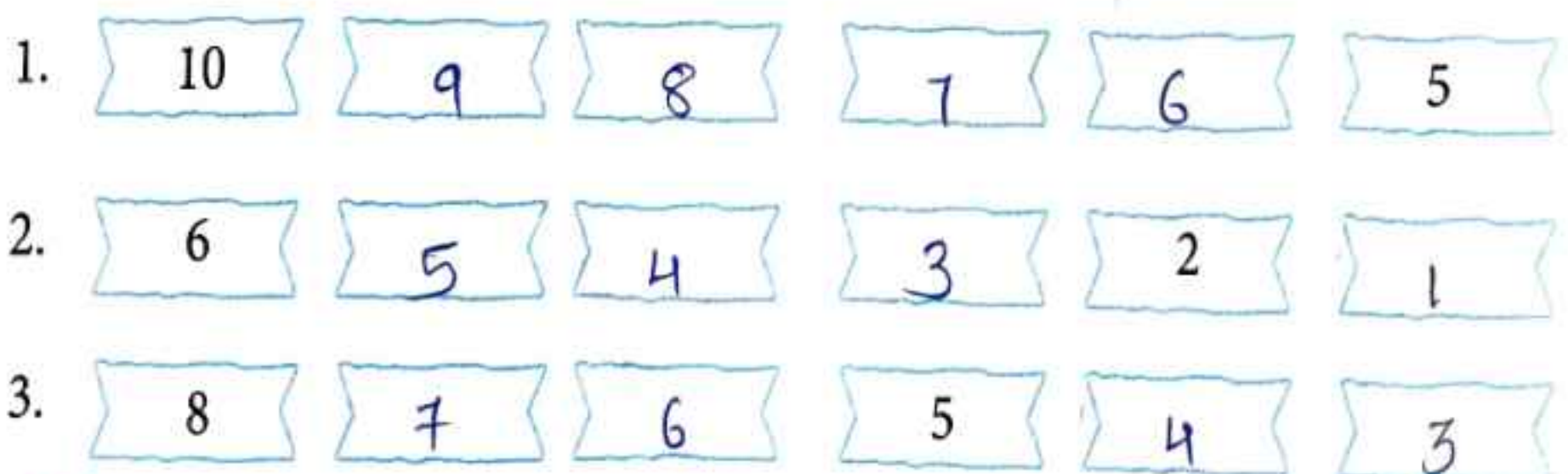


COUNTING BACK

Read the numbers from 10 to 1.



Now, count backwards from the given numbers in each of the following.



BEFORE, BETWEEN AND AFTER

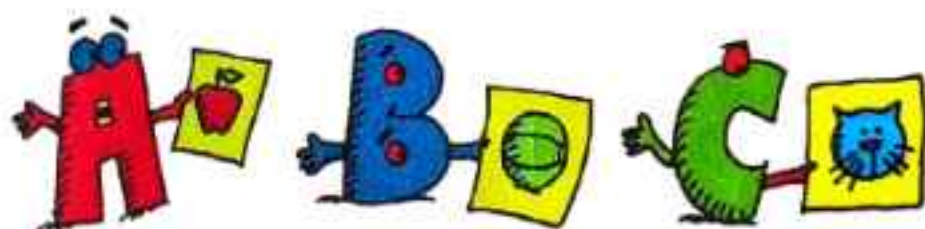
Look at the picture given below.



- ❖ The red plane is **before** the blue plane.
- ❖ The blue plane is **between** the red plane and green plane.
- ❖ The green plane is **after** the blue plane.

Now, look at the following letters.

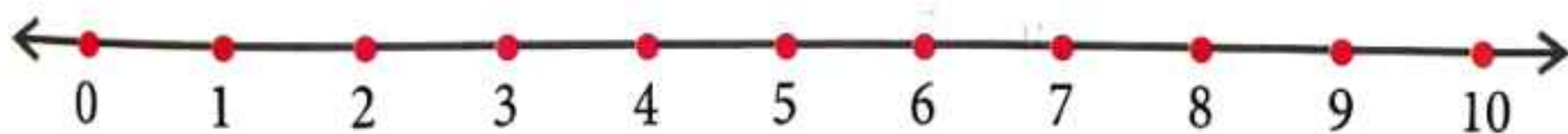
- ❖ The letter B is **between** the letters A and C.



- ❖ The letter A is **before** the letter B and the letter C is **after** the letter B.

The same concept can be applied for numbers.

Look at the number line given below.



- ❖ The number 2 is just **before** the number 3.
- ❖ The number 4 is just **after** the number 3.



Before Between After

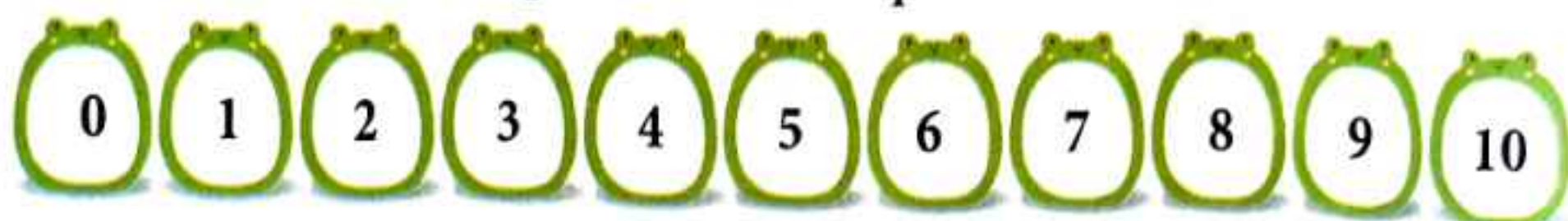
So, to get a number **just before** a given number, we **move** in the **backward direction** or **to the left** of the given number and to get a number **just after** a given number, we **move** in the **forward direction** or **to the right** of the given number.

- ❖ The number 3 is between the numbers 2 and 4.

Exercise 1B



Look at this number strip and answer the questions.



1. Write the number just before the given number in each of the following.

- (a) 0 1 (b) 6 7 (c) 3 4 (d) 9 10

2. Write the number just after the given number in each of the following.

- (a) 5 6 (b) 2 3 (c) 6 7 (d) 8 9

3. Write the number between the given numbers.

- (a) 2 3 4 (b) 7 8 9 (c) 8 9 10 (d) 5 6 7

4. Fill in the blanks.

- (a) 7 is between 6 and 8. (b) 1 is between 0 and 2.
 (c) 8 is just after 7. (d) 2 is just before 3.

5. Write all the numbers between:

- (a) 3 and 6 4 5
 (b) 5 and 9 6 7 8
 (c) 3 and 10 4 5 6 7 8 9





6. Write the missing numbers on the number line.

- (a) (b) 8
 (c) (d) 10

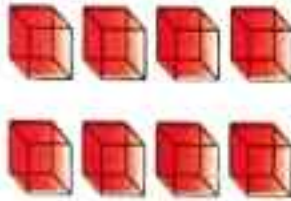

COMPARING NUMBERS

More, Less and Equal

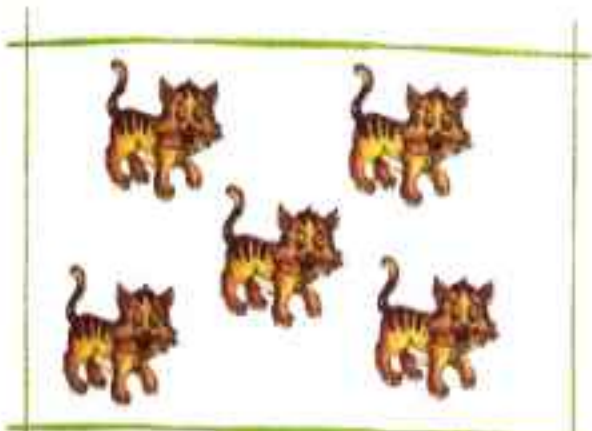
1. Tick (✓) the set that has more objects.

	
<input type="checkbox"/>	<input checked="" type="checkbox"/>

2. Tick (✓) the set that has less objects.

	
<input type="checkbox"/>	<input checked="" type="checkbox"/>

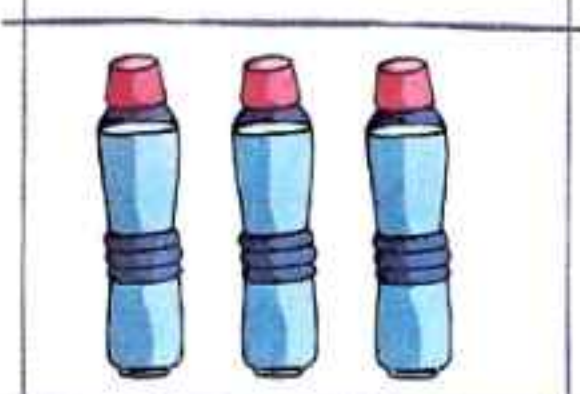
3. Do the following sets have the same number of objects?
Tick (✓) Yes or No.



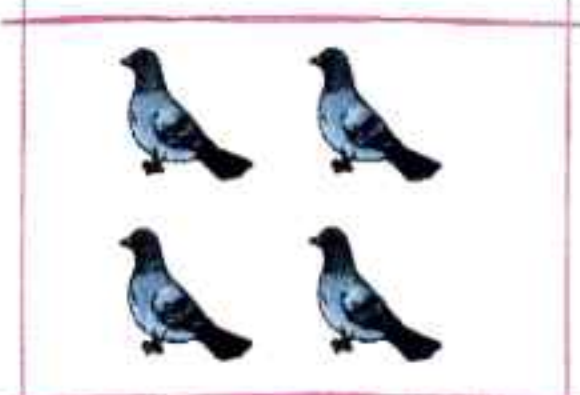
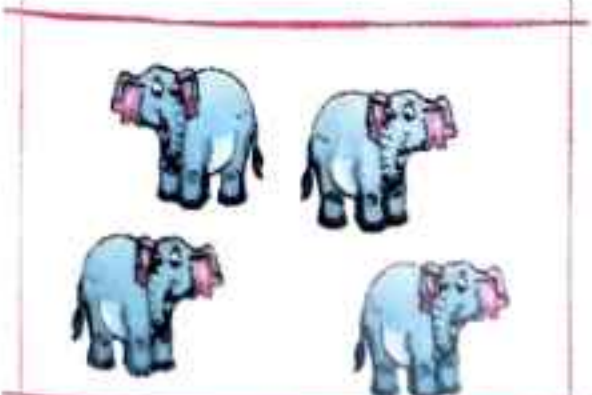
<input checked="" type="checkbox"/>	<input type="checkbox"/>
Yes	No



<input type="checkbox"/>	<input checked="" type="checkbox"/>
Yes	No



<input type="checkbox"/>	<input checked="" type="checkbox"/>
Yes	No



<input checked="" type="checkbox"/>	<input type="checkbox"/>
Yes	No

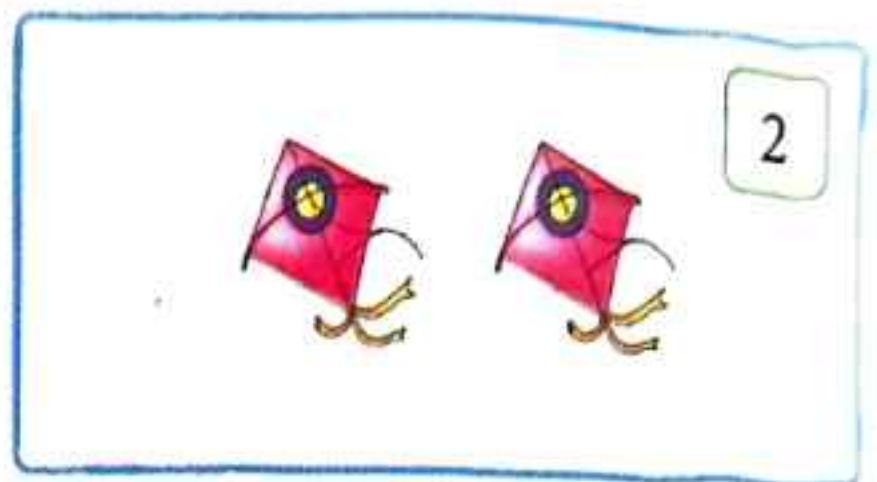
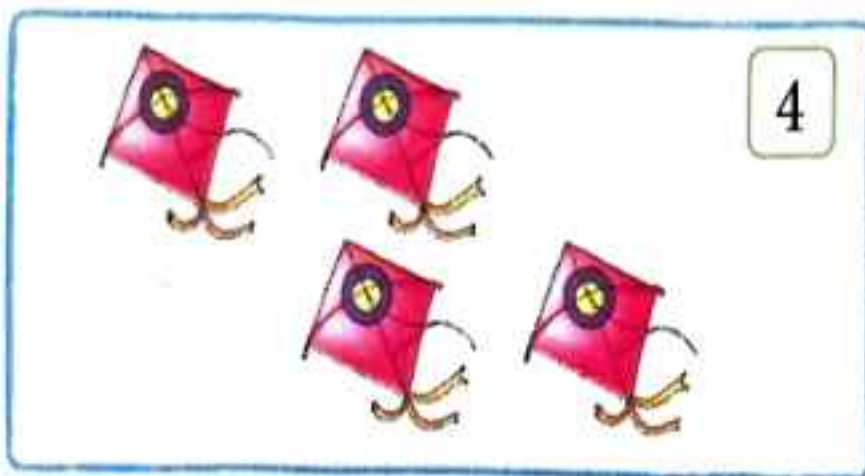


Less than, Equal to or Greater than

When we compare two numbers, we count the number of objects in each set and then three cases arise:

- * The first set has more objects than the second set. We use the words **more than** or **greater than** to describe it. **Greater than** is represented by $>$.

For example:



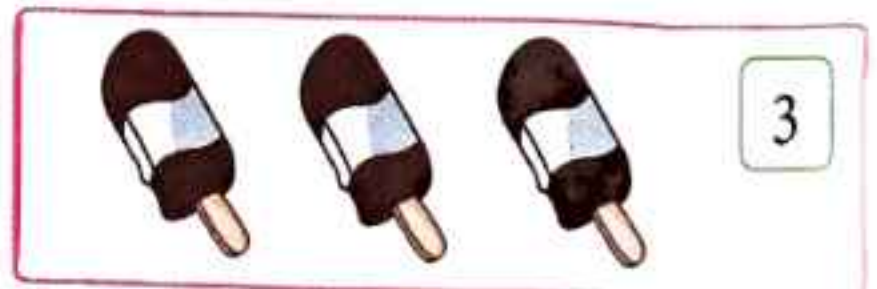
4 is greater than 2.

In short, we write $4 > 2$.

Greater than
 $>$

- * The first set has less number of objects than the second set. We use the words **less than** or **fewer than** to describe it. **Less than** is represented by $<$.

For example:



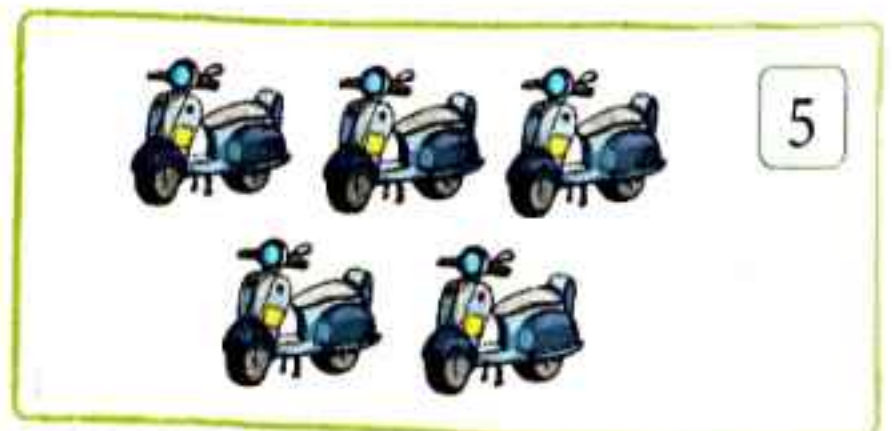
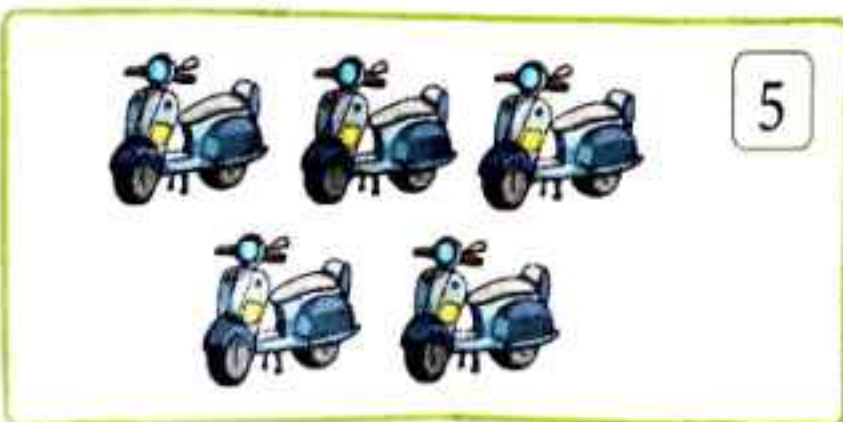
2 is less than 3.

In short, we write $2 < 3$.

Less than
 $<$

- * The two sets have same number of objects. We use the words **equal to** to describe this. **Equal to** is represented by $=$.

For example:



5 is equal to 5.

In short, we write $5 = 5$.

Equal to
 $=$

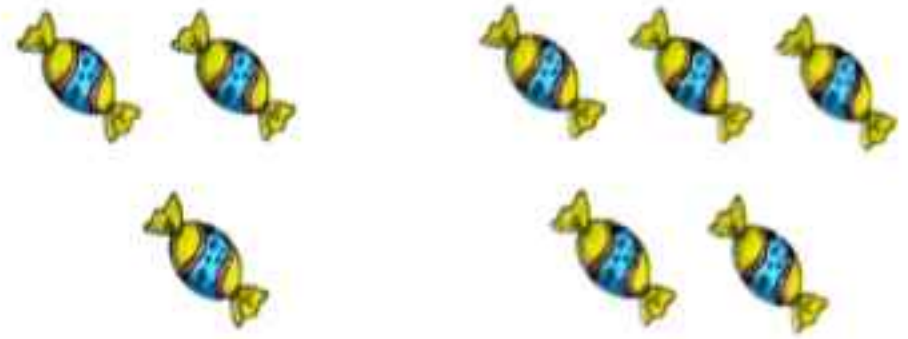
Exercise 1C



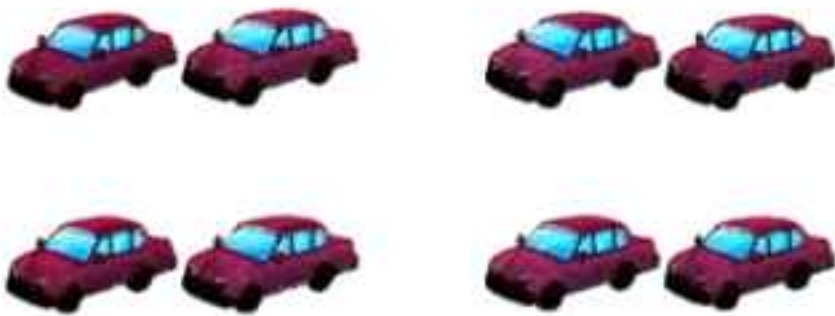
1. Write the correct symbol =, > or < to make each sentence true. One has been done for you.



$$4 > 1$$



$$3 < 5$$



$$4 = 4$$



$$4 > 3$$

2. Fill in the blank shapes with the correct sign =, > or <.

$$9 < 10$$

$$6 = 6$$

$$9 > 5$$

$$7 > 6$$

$$1 > 0$$

$$0 < 4$$

$$5 = 5$$

$$4 < 9$$

$$6 > 4$$

3. Tick (✓) the smallest number.

$$3 \quad 5 \quad \checkmark$$

$$\cancel{0} \quad 3 \quad 7$$

$$10 \quad \cancel{4} \quad 9$$

4. Tick (✓) the largest number.

$$\checkmark \quad 6 \quad 5$$

$$\checkmark \quad 6 \quad 4$$

$$2 \quad 0 \quad \checkmark$$

INCREASING AND DECREASING ORDERS

Increasing Order

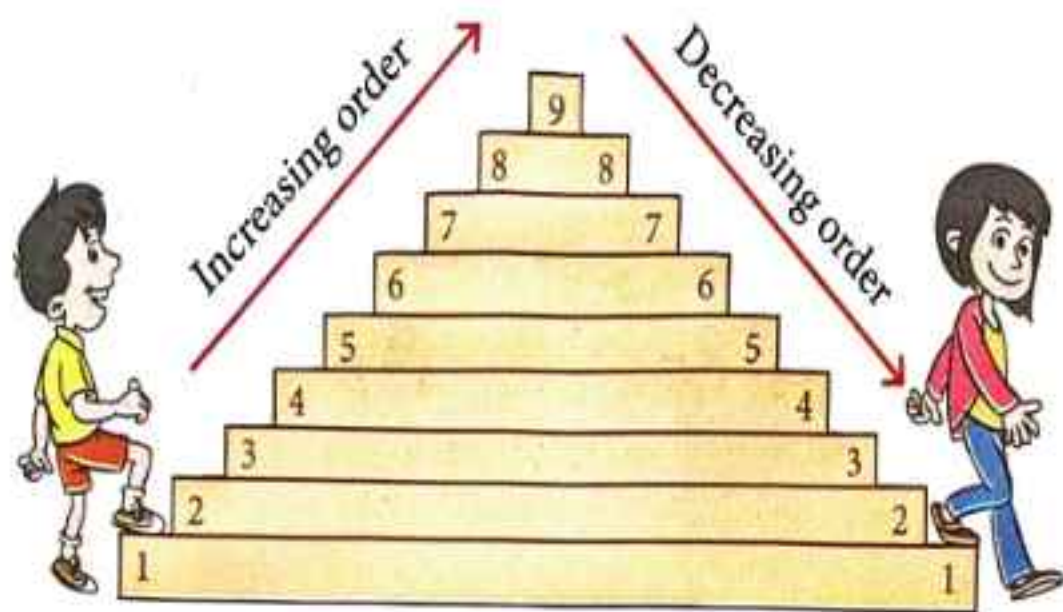
Numbers in increasing order means arranging them from the smallest to the greatest.

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 are in increasing order.

Decreasing Order

Numbers in decreasing order means arranging them from the greatest to the smallest.

10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0 are in decreasing order.



Exercise 1D

1. Write in increasing order.

(a) 1, 5, 0, 8, 7, 10



0 1 5 8 7 10

(b) 3, 9, 6, 8, 5, 2



2 3 5 6 8 9

(c) 4, 8, 7, 9, 2, 1



1 2 4 8 7 9

2. Write in decreasing order.

(a) 2, 5, 8, 1, 10, 6



10 8 6 5 2 1

(b) 9, 4, 7, 3, 8, 0



9 8 7 4 3 0

(c) 5, 8, 1, 9, 6, 3



9 8 6 5 3 1

KNOWING ORDINALS

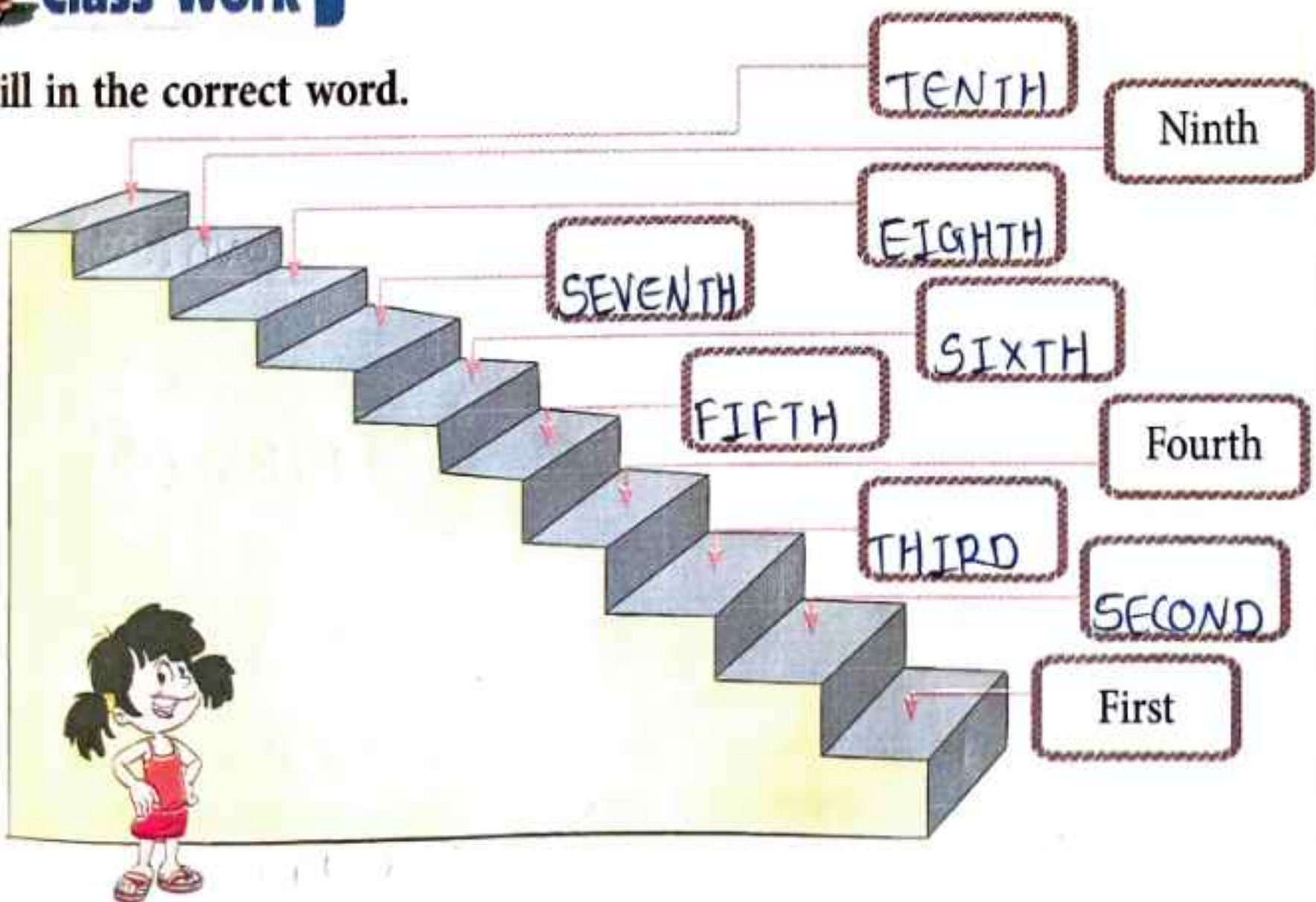
Numbers that tell the position of something are called **ordinal numbers** or simply **ordinals**.

Look at the scene of car racing. The red car is first (1st), the green car is second (2nd) and the black car is third (3rd) and so on.



Class Work

Fill in the correct word.



Exercise 1E



1. Match the letters of the alphabet to their ordinals. A is the first letter, B is the second letter and so on. *One has been done for you.*

2. Start from the left and tick (✓) the correct picture.

(a)

(b)

3. Start from the left and write the word for the position of the picture marked ✗.

(a) Fourth (4th)

(b) SECOND (2nd)

(c) FIRST (1st)

Challenge! 21st CS

There are 8 planets that move around the Sun in our Solar System. Earth is the third planet from the Sun and Saturn is the sixth planet from the Sun. How many planets are there between the Earth and Saturn? 2 (MARS, JUPITER)

ADDITION WITHIN TEN

Addition means **combining** or **joining** things.

There are 3 boys playing ball.

There are 4 girls jumping rope.

How many children are playing in all?

We can represent 3 boys and 4 girls as:

B **B** **B** **G** **G** **G** **G**

Counting together, we have 7 children in all.

In short, we write this as: $3 + 4 = 7$ and read as

3 plus 4 equals 7 or **3 and 4 are seven.**

Note: '+' is the sign of addition and $3 + 4 = 7$ is an **addition fact**.

Example: There are 6 red flags and there are 2 blue flags. How many flags are there altogether?

Solution: Pictorially this can be represented as:



$$6 + 2 = 8$$

There are 8 flags in all.



Class Work



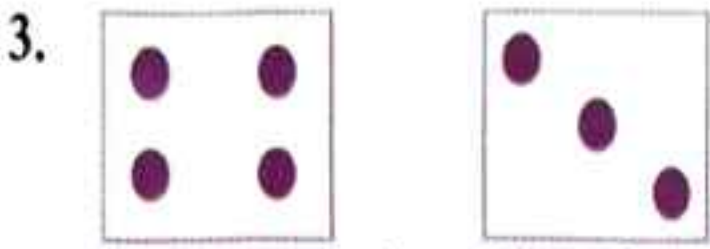
How many dots altogether?

$$1 + 2 = 3$$



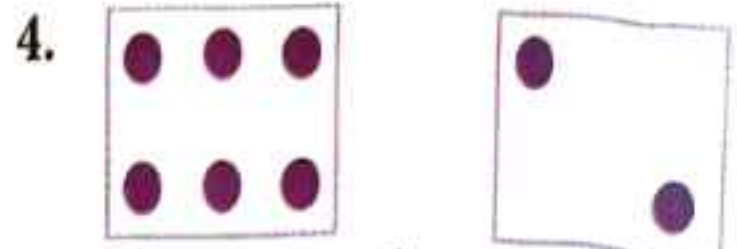
How many dots altogether?

$$3 + 2 = 5$$



How many dots altogether?

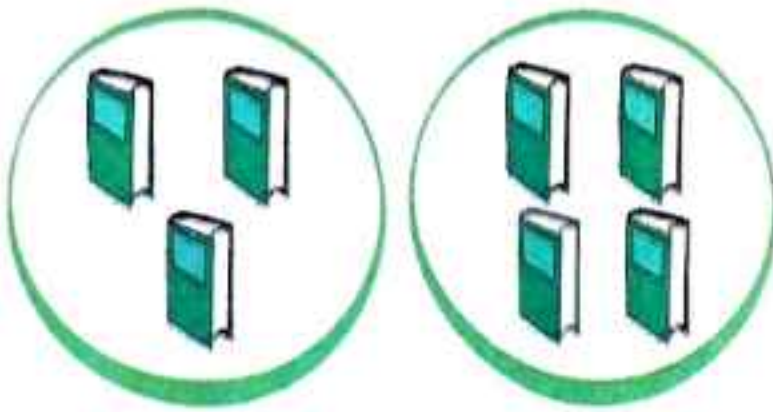
4 + 3 = 7



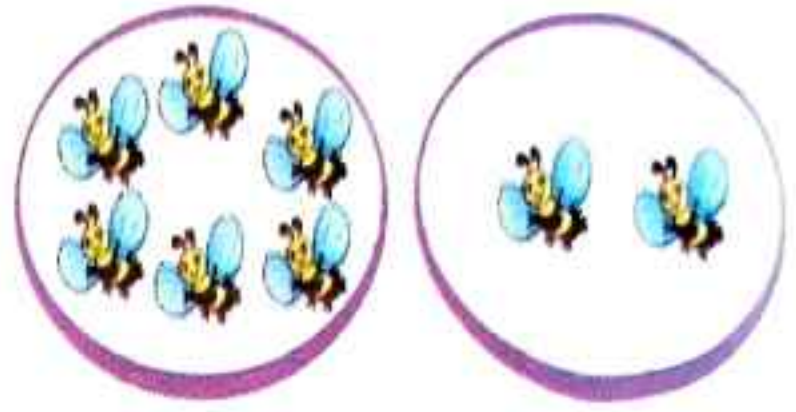
How many dots altogether?

6 + 2 = 8

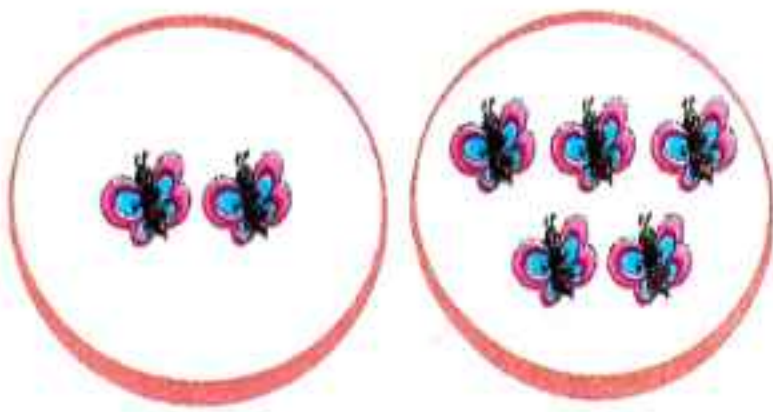
5. Count and complete the addition fact.



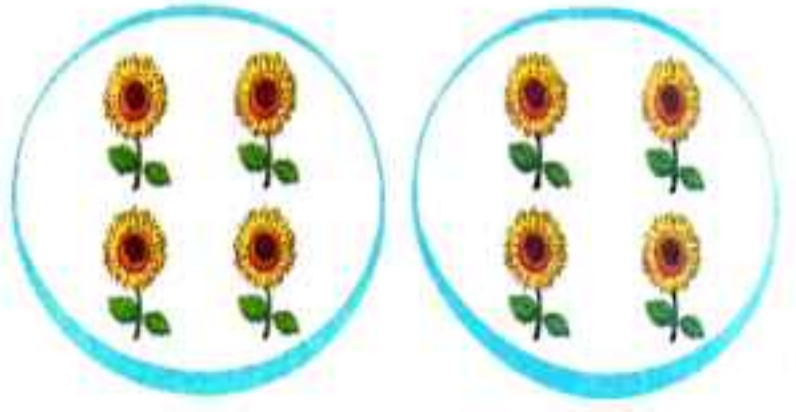
3 + 4 = 7



6 + 2 = 8



2 + 5 = 7



4 + 4 = 8

VERTICAL ADDITION

Count and add. One has been done for you.

1.

3
+ 2
5

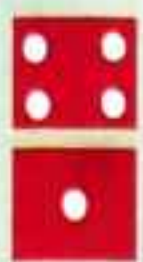
3 plus 2 equals 5.
3 and 2 are 5.

2.

6
+ 4
10

6 plus 4 equals 10.
6 and 4 are 10.

3.



$$\begin{array}{r} 4 \\ + 1 \\ \hline \end{array}$$

4 plus 1 equals 5.

4 and 1 are 5.

4.



$$\begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array}$$

5 plus 3 equals 8.

5 and 3 are 8.

Class Work

Count the objects and complete the addition facts.

1.



$$4 + 2 = \boxed{6}$$

2.



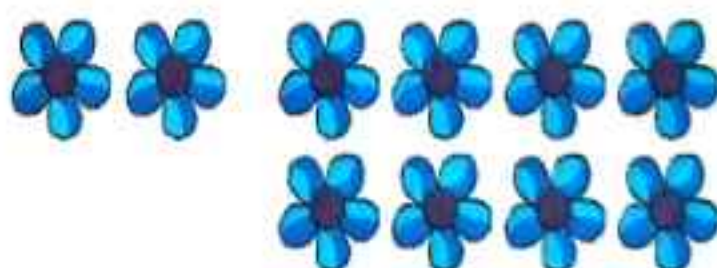
$$3 + 5 = \boxed{8}$$

3.



$$\boxed{7} + \boxed{2} = \boxed{9}$$

4.



$$\boxed{2} + \boxed{8} = \boxed{10}$$

5.



3



+

4

$$\boxed{7}$$

6.





4

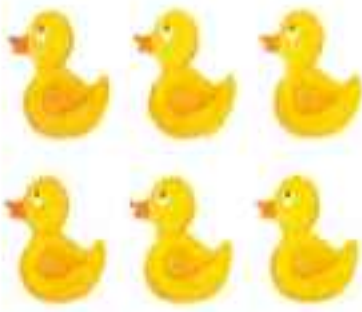



+




4




$$\boxed{8}$$

7.   +
$$\begin{array}{r} \boxed{1} \\ \boxed{7} \\ \hline \boxed{8} \end{array}$$

8.   +
$$\begin{array}{r} \boxed{6} \\ \boxed{2} \\ \hline \boxed{8} \end{array}$$

ZERO IN ADDITION

 +  \rightarrow  $5 + 0 = 5$

 +  \rightarrow  $0 + 5 = 5$

The sum of zero and any other number is that number itself.

Class Work

1. $3 + 0 = \underline{\quad 3 \quad}$

2. $0 + 7 = \underline{\quad 7 \quad}$

3. $1 + 0 = \underline{\quad 1 \quad}$

4. $0 + 4 = \underline{\quad 4 \quad}$

Exercise 1F



1. Add by drawing lines. One has been done for you.

(a) $8 + 1 = 9$

(b) $5 + 3 = 8$

(c) $4 + 0 = 4$

(d) $5 + 5 = 10$

(e) $1 + 9 = 10$

(f) $3 + 4 = 7$

2. Add vertically. One has been done for you.

(a)
$$\begin{array}{r} 4 \quad |||| \\ + 4 \quad |||| \\ \hline 8 \end{array}$$

(b)
$$\begin{array}{r} 4 \quad |||| \\ + 3 \quad ||| \\ \hline 7 \end{array}$$

(c)
$$\begin{array}{r} 2 \quad || \\ + 7 \quad ||||| \\ \hline 9 \end{array}$$

(d)
$$\begin{array}{r} 5 \quad |||| \\ + 2 \quad || \\ \hline 7 \end{array}$$

(e)
$$\begin{array}{r} 7 \quad ||||| \\ + 3 \quad ||| \\ \hline 10 \end{array}$$

(f)
$$\begin{array}{r} 2 \quad || \\ + 0 \\ \hline 2 \end{array}$$

(g)
$$\begin{array}{r} 5 \quad |||| \\ + 4 \quad |||| \\ \hline 9 \end{array}$$

(h)
$$\begin{array}{r} 1 \quad | \\ + 0 \\ \hline 1 \end{array}$$

(i)
$$\begin{array}{r} 3 \quad ||| \\ + 6 \quad ||||| \\ \hline 9 \end{array}$$

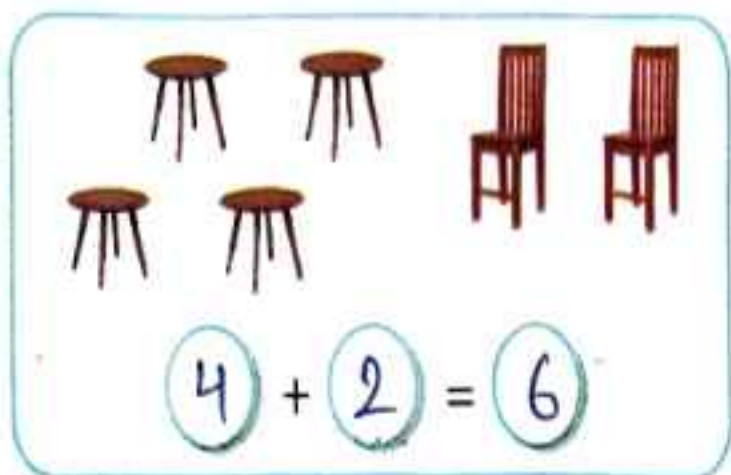
3. Look at the pictures and fill in the blanks with the correct numbers. Also, complete the addition facts.

(a) There are 4 red umbrellas.

There are 3 yellow umbrellas.

There are 7 umbrellas altogether.

$4 + 3 = 7$



(b) There are 4 tables.

There are 2 chairs.

There are 6 pieces of furniture altogether.

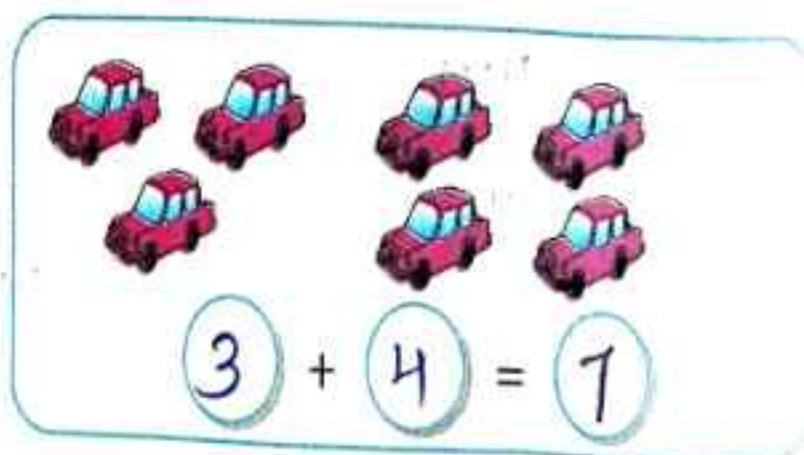
(c) Jack and Jill went up the hill.
Kathy and Lucy join them.



How many children altogether are there on the hill now?

There are 4 children altogether on the hill now.

(d) Tony gives 3 toy cars to his brother. He has 4 toy cars left. How many toy cars did he have at first?



Mental Maths 21st CS

1. The sign for addition is +
2. How many do five and two make?
3. What number is six more than three?
4. What number is 8 more than 2?
5. What is $4 + 0$?

- (+)
- (7)
- (9)
- (10)
- (4)



SUBTRACTION WITHIN TEN

Subtraction means **taking away**.

Observe the following.

8 little birds were sitting on a tree. 5 flew away. How many birds were left on the tree?

Counting the remaining birds on the tree, we see that 3 birds are left on the tree.

In short, we write this as:



$8 - 5 = 3$ and read as **8 minus 5 is equal to 3.**

Draw 8 lines to represent 8 birds. Cross out 5 lines to represent the birds that flew away. How many remain?



In vertical notation, we can write the above fact as

$$\begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array}$$

Note: '-' is the sign of subtraction and $8 - 5 = 3$ is a **subtraction fact**.

Class Work

Look, read and fill in the blanks.



6 balloons



3 flew away



How many are left?

$6 - 3 =$

3



4 puppies in a basket.



All jumped out



How many puppies are left in the basket?


$4 - 4 =$


0

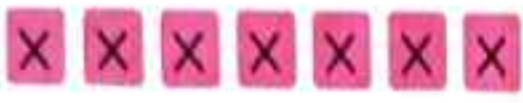
Exercise 1G




1. Complete the following subtraction facts.


(a) 
 $6 - 4 = 2$


(b) 
 $5 - 1 = 4$


(c) 
 $7 - 7 = 0$

2. Cross out (X) the correct number of things in each set and complete the subtraction fact.


(a) 
 $6 - 3 = 3$


(b) 
 $8 - 2 = 6$


(c) 
 $7 - 4 = 3$


(d) 
 $9 - 5 = 4$

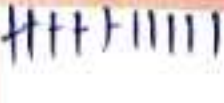
3. Subtract the following. One has been done for you.

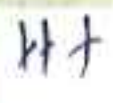
(a)
$$\begin{array}{r} 6 \\ - 1 \\ \hline 5 \end{array}$$
 

(b)
$$\begin{array}{r} 9 \\ - 8 \\ \hline 1 \end{array}$$
 

(c)
$$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$$
 

(d)
$$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array}$$
 

(e)
$$\begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array}$$
 

(f)
$$\begin{array}{r} 3 \\ - 3 \\ \hline 0 \end{array}$$
 

4. Find the difference.

(a) $8 - 4 = 4$

(b) $10 - 8 = 2$

(c) $9 - 9 = 0$

(d) $6 - 0 = 6$

(e) $5 - 2 = 3$

(f) $4 - 3 = 1$

5. Fill in the boxes.

(a) From take away leaves

(b) From take away leaves



6. Solve the following.

- (a) There are 4 ducks in the park. 3 have gone swimming. How many ducks are left outside?

$$\textcircled{4} - \textcircled{3} = \textcircled{1}$$

$\textcircled{1}$ duck is left outside.



- (b) There were 8 children in the amusement park.

3 of them were wearing hats.
How many children were not wearing hats?

$$\textcircled{8} - \textcircled{3} = \textcircled{5}$$

$\textcircled{5}$ children were not wearing hats.



MIXED WORD PROBLEMS

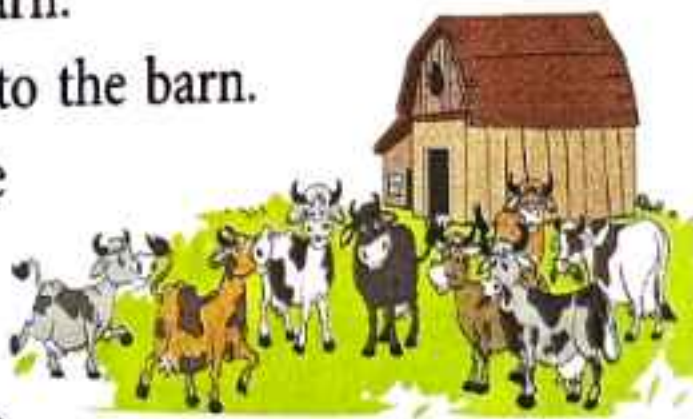


Exercise 1H



Read the word problems carefully and decide if we have to add or subtract to solve them. One has been done for you.

1. 6 cows were in the barn.
2 more cows came into the barn.
How many cows were in the barn then?
There were _____ cows in the barn then.



Workspace

We have to find total number of cows in barn. So, we have to add.

$$\begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array}$$



2. 7 balls were on the table.
2 balls fell off the table.
How many balls were left on the table?
5 balls were left on the table.

$$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array}$$

3. There were 5 birds in the pond.
3 more birds joined them.

How many birds were there altogether?

There were 8 birds altogether.



Workspace

$$\begin{array}{r} 5 \\ + 3 \\ \hline 8 \end{array}$$



4. 8 toy cars were in the box.
Rita took 5 cars out of the box.
How many cars were left in the box?

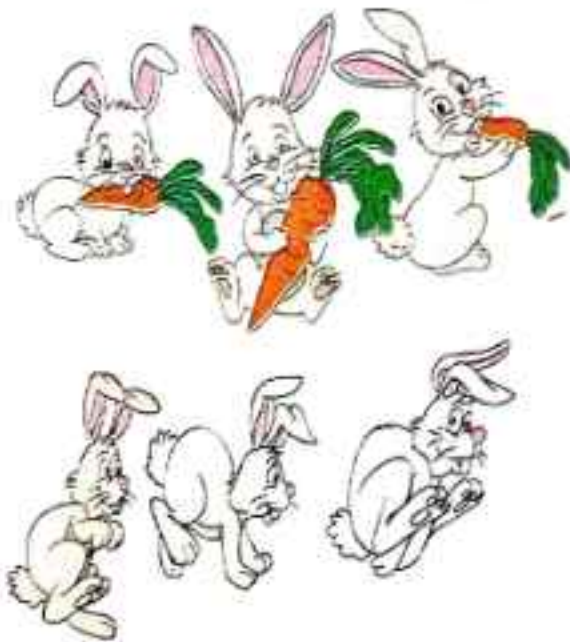
3 cars were left in the box.

$$\begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array}$$

5. 6 rabbits were eating.
3 rabbits ran away.

How many rabbits were left eating?

3 rabbits were left eating.



$$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$$

Challenge!

21st CS

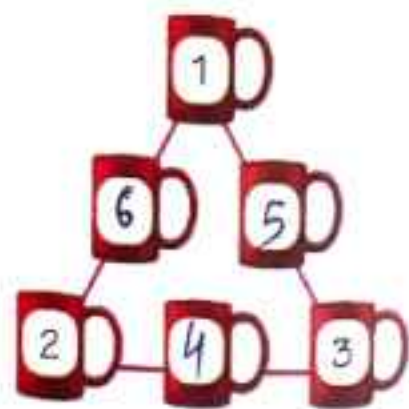
1. Use addition and subtraction to make number 7. Do not repeat the numbers.

$$\textcircled{6} + \textcircled{1} = 7$$

$$\textcircled{4} + \textcircled{3} = 7$$

$$\textcircled{10} - \textcircled{3} = 7$$

2. Write the numbers 4, 5 and 6 on the cups so that the sum of each side is 9.



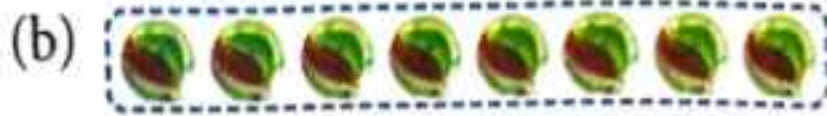


Tick (✓) the correct answer in each of the following.

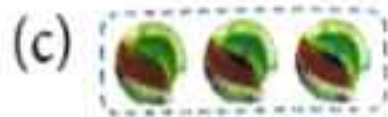
1. Who has the greatest number of marbles?



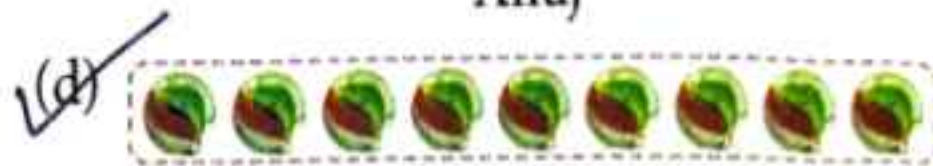
Manoj



Anuj



Priti



Honey

2. The number just before 10 is

(a) 0

(b) 9

(c) 8

(d) 7

3. Which of the following sets of numbers is arranged in increasing order?

(a) 0, 1, 6, 3

(b) 2, 3, 7, 6

(c) 7, 5, 1, 2

(d) 1, 4, 7, 9

4. Which apple is in the third position from the right?

A

B

C

D

E

F

G



(a) C

(b) E

(c) F

(d) B

5. Which of the following pairs of numbers, when added make the number 8?

(a) 1, 7

(b) 2, 5

(c) 6, 3

(d) 4, 5

6. Which of the following subtraction facts does not give an answer as 2?

(a) $6 - 4$

(b) $5 - 3$

(c) $4 - 1$

(d) $7 - 5$

7. Which of the following number sentences gives an answer smaller than 6?

(a) $5 + 3$

(b) $7 - 2$

(c) $2 + 6$

(d) $9 - 1$

Challenge! 21st CS

8. Fill in each blank with '+' or '-'.

(a) $6 + 4 = 10$

(b) $8 - 4 = 4$

9. Which of the following will make the number sentence $6 + 1 = 9 - \underline{\quad}$ true?

(a) 1

(b) 2

(c) 3

(d) 0