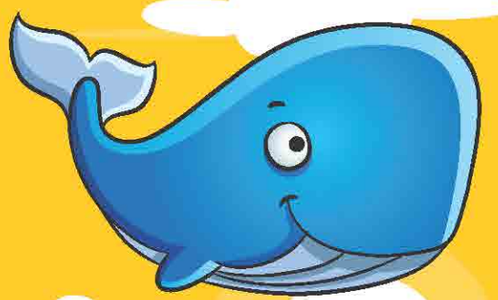
Budding Stars
A Great Beginning...

Primer

Maths for Juniors



Big

Small

Rahul Deo
M.Sc. (Mathematics)

EDUCATION LEADS

PETERSON PRESS
Behind Silver Line School, Laxmipuram, Rajpur Chungi, AGRA - 282001
A Unit of
NAMAN PUBLISHING (INDIA) PVT. LTD.

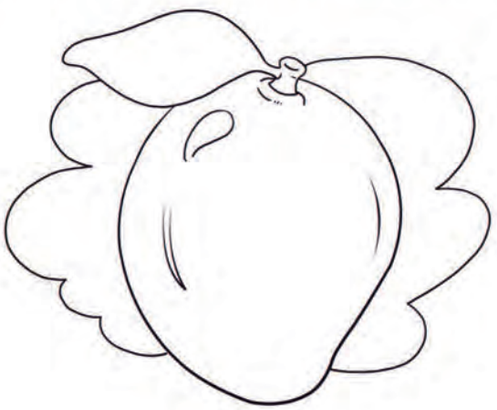
Contents

1 Pre-number Concepts

LEFT AND RIGHT

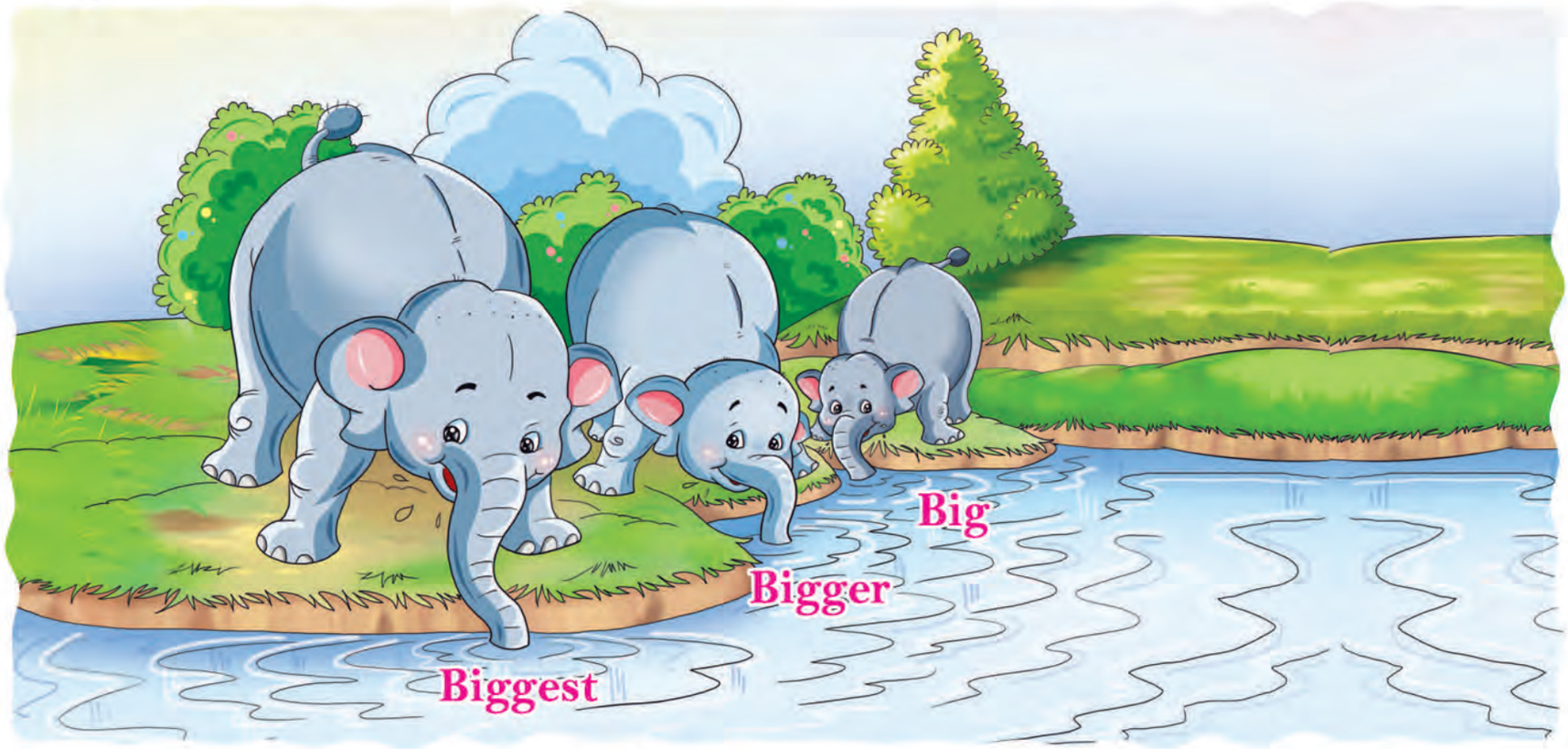
Practice Time

✦ **Colour the object 'Yellow' to your left and 'Red' to your right :**

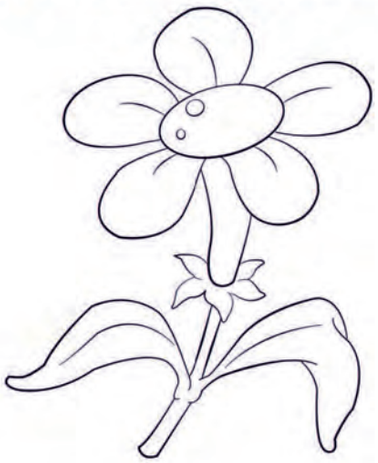


BIG AND SMALL

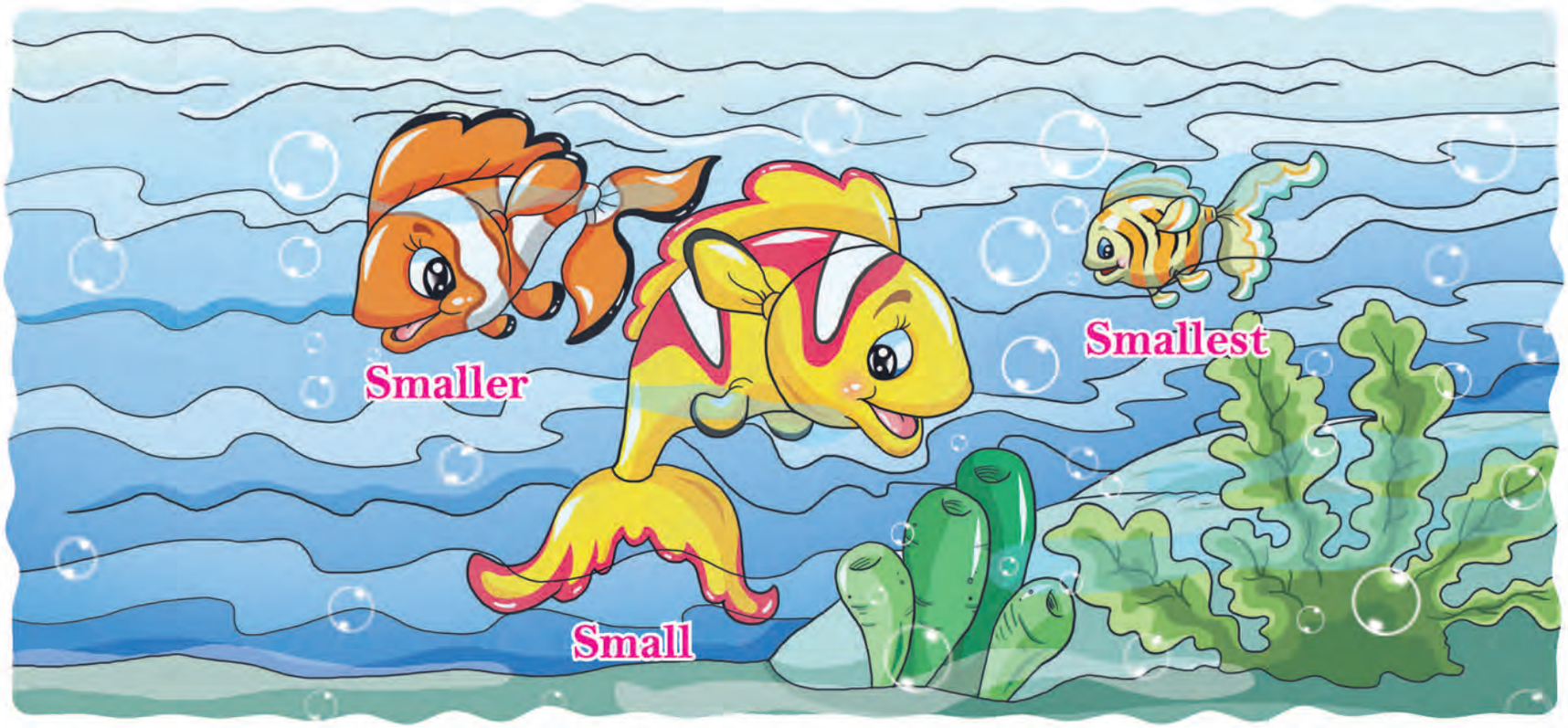
Big



✦ **Colour the biggest flower 'Yellow' and the bigger flower 'Pink':**



Small



✦ **Colour the smaller butterfly 'Red' and the smallest butterfly 'Orange':**

TALL AND SHORT

Tall

Tallest Taller Tall

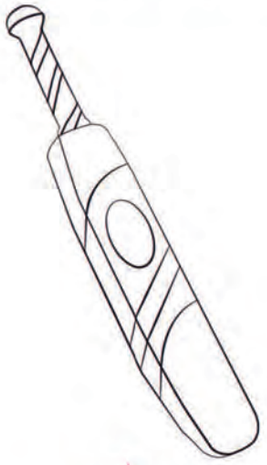
✦ **Colour the giraffes as per the colour code :**

Colour Code	
	Tall
	Taller
	Tallest

Short

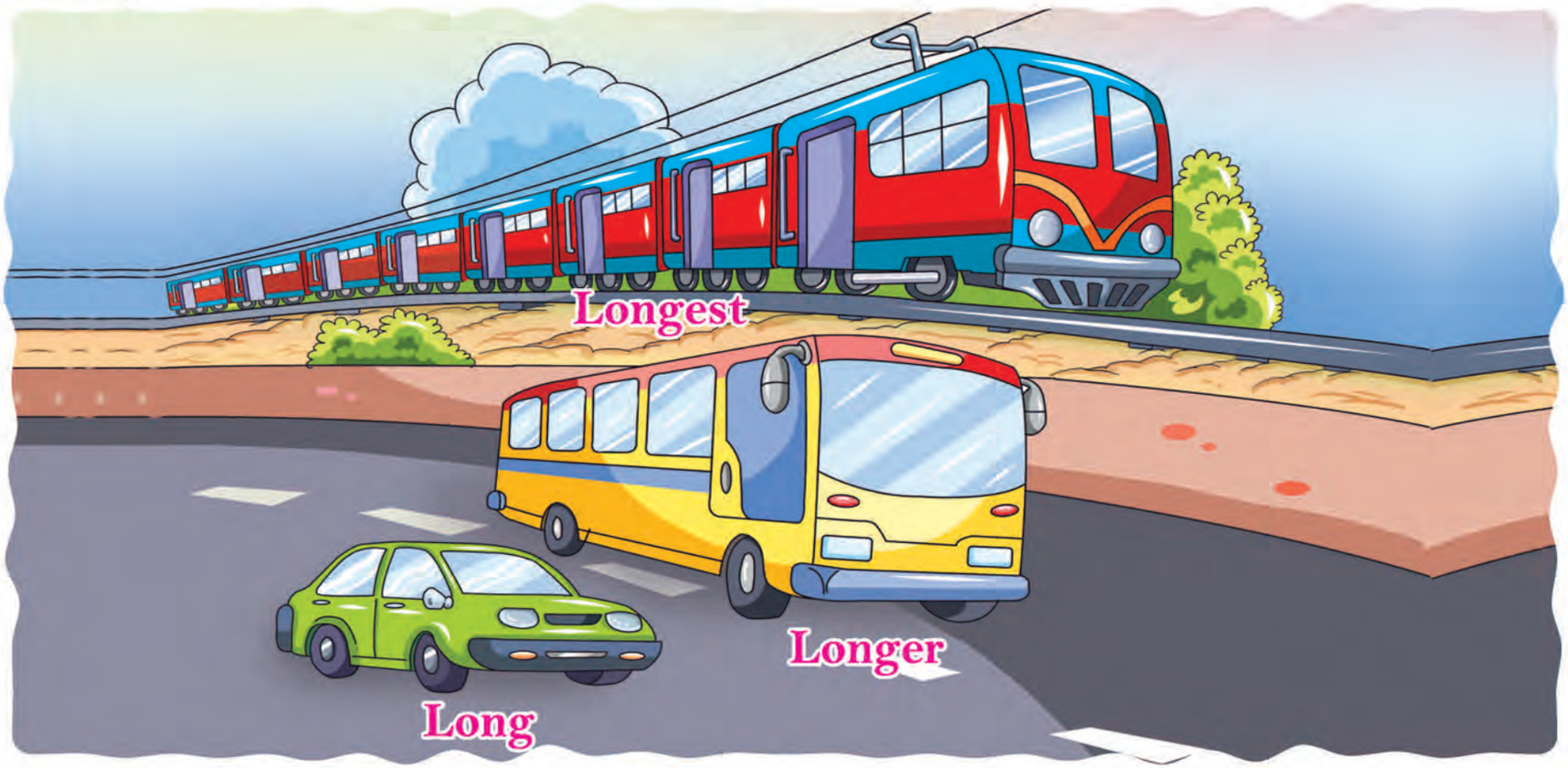
Short **Shorter** **Shortest**

✦ **Colour the shorter bat 'Blue' and the shortest bat 'Green':**



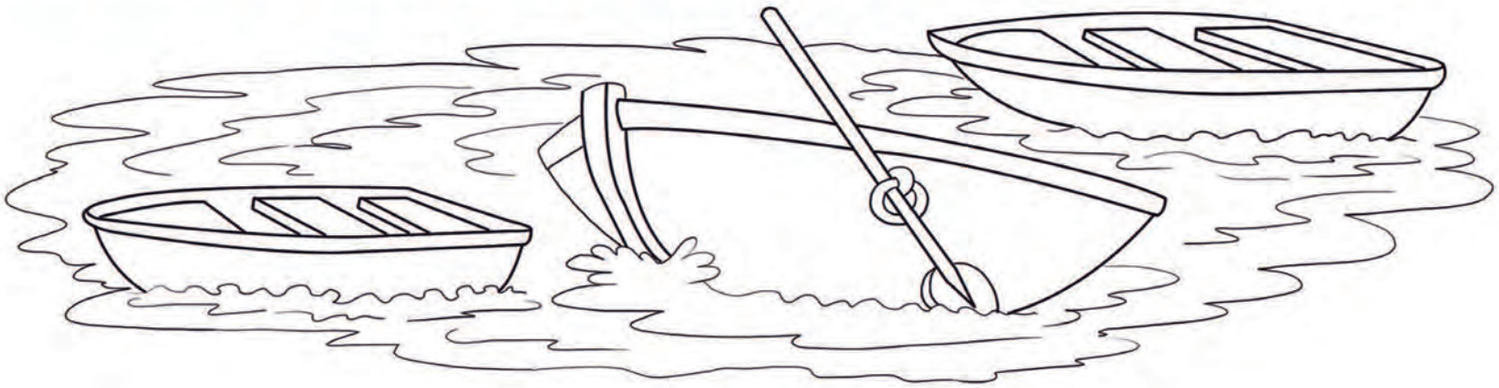
LONG AND SHORT

Long

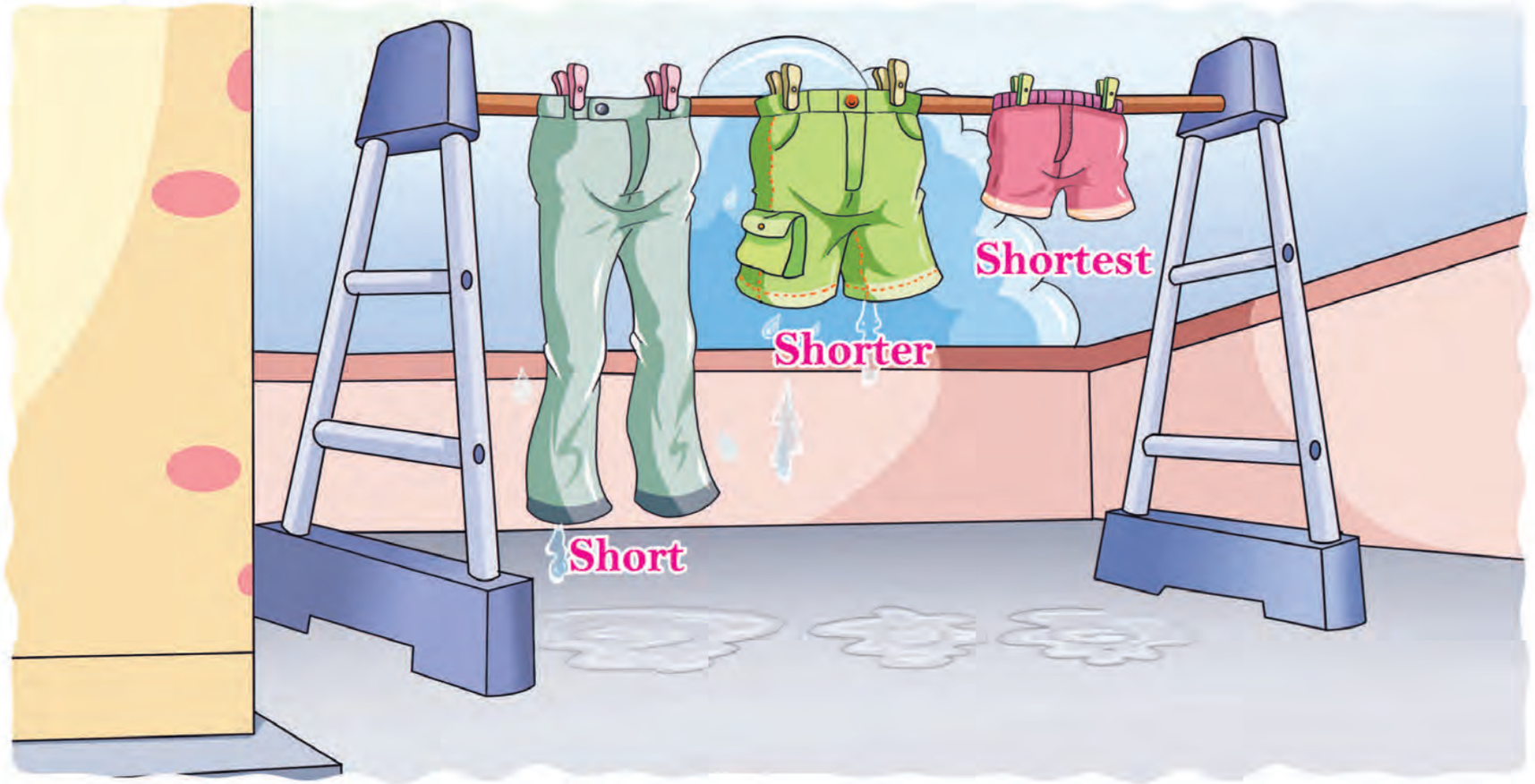


Practice Time

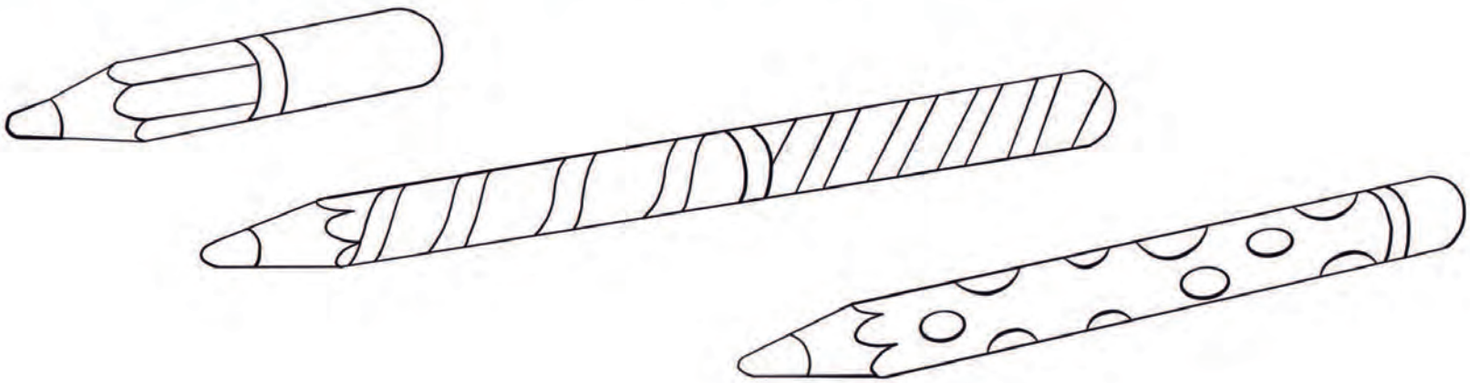
✦ **Colour the longer boat 'Green' and the longest boat 'Yellow':**



Short

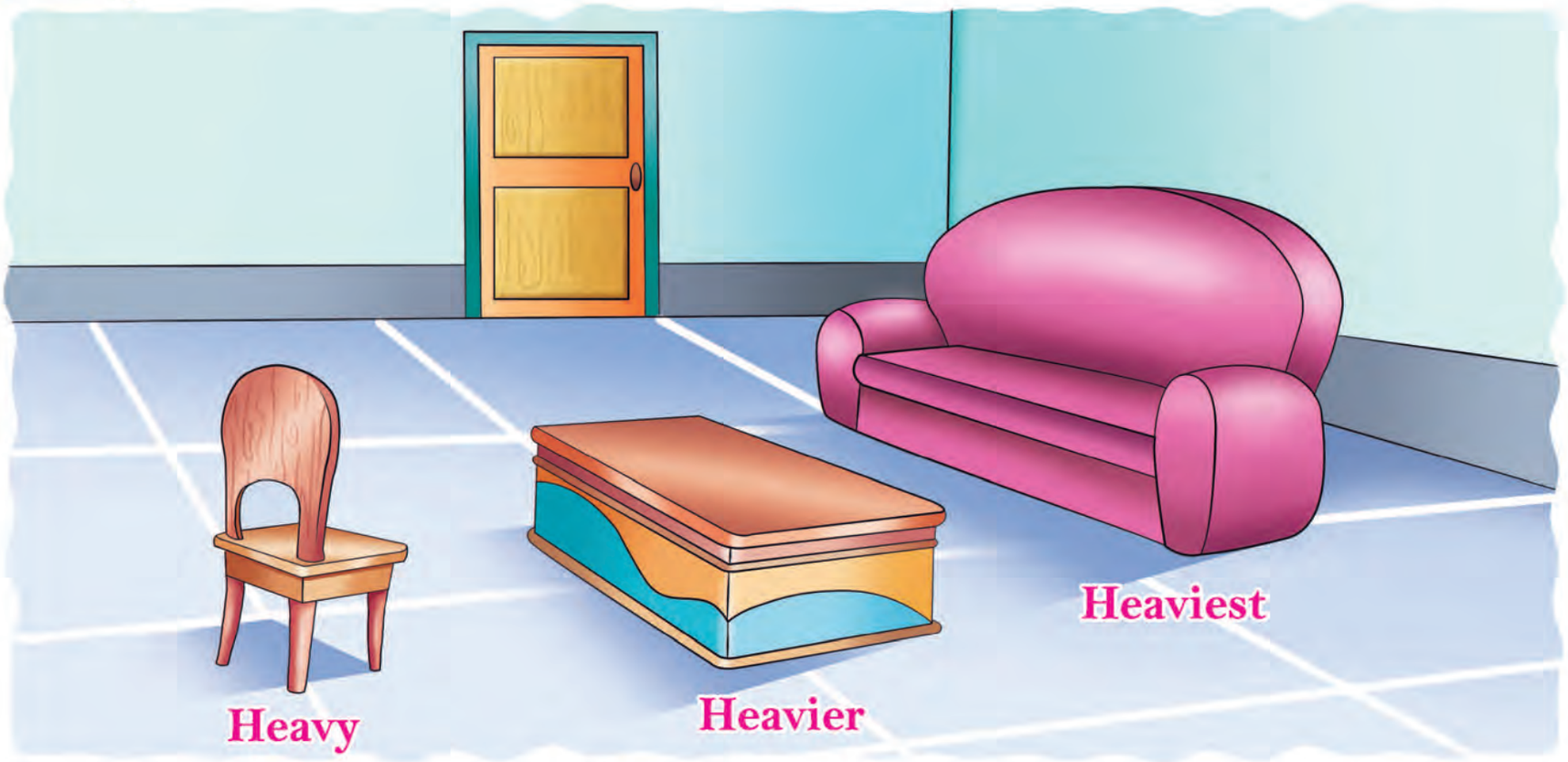


✦ **Colour the shortest pencil 'Red' and the shorter pencil 'Green':**

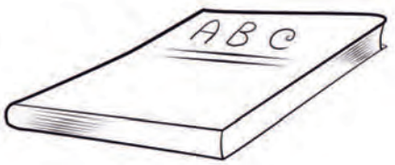


HEAVY AND LIGHT

Heavy



✦ **Colour the heaviest object 'Pink':**



Light

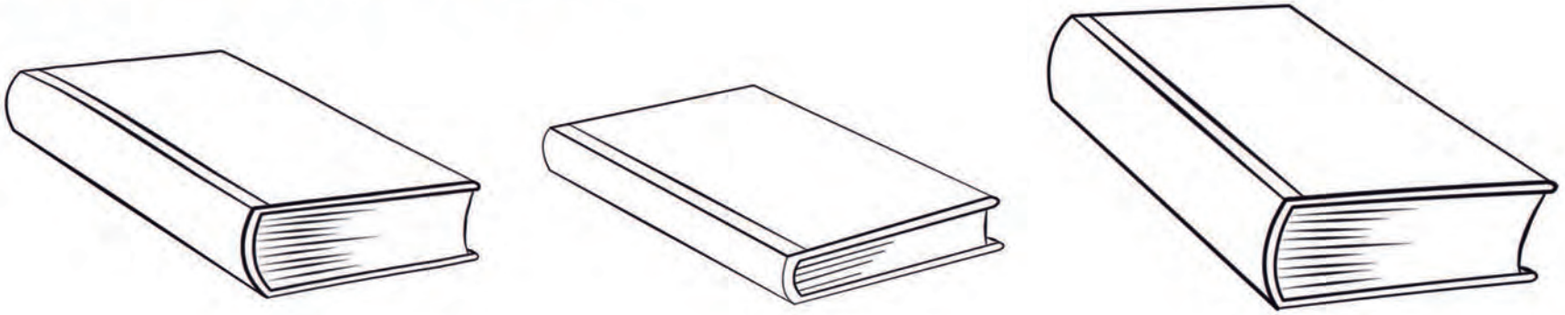
Practice Time

✦ **Colour the lighter object 'Yellow':**

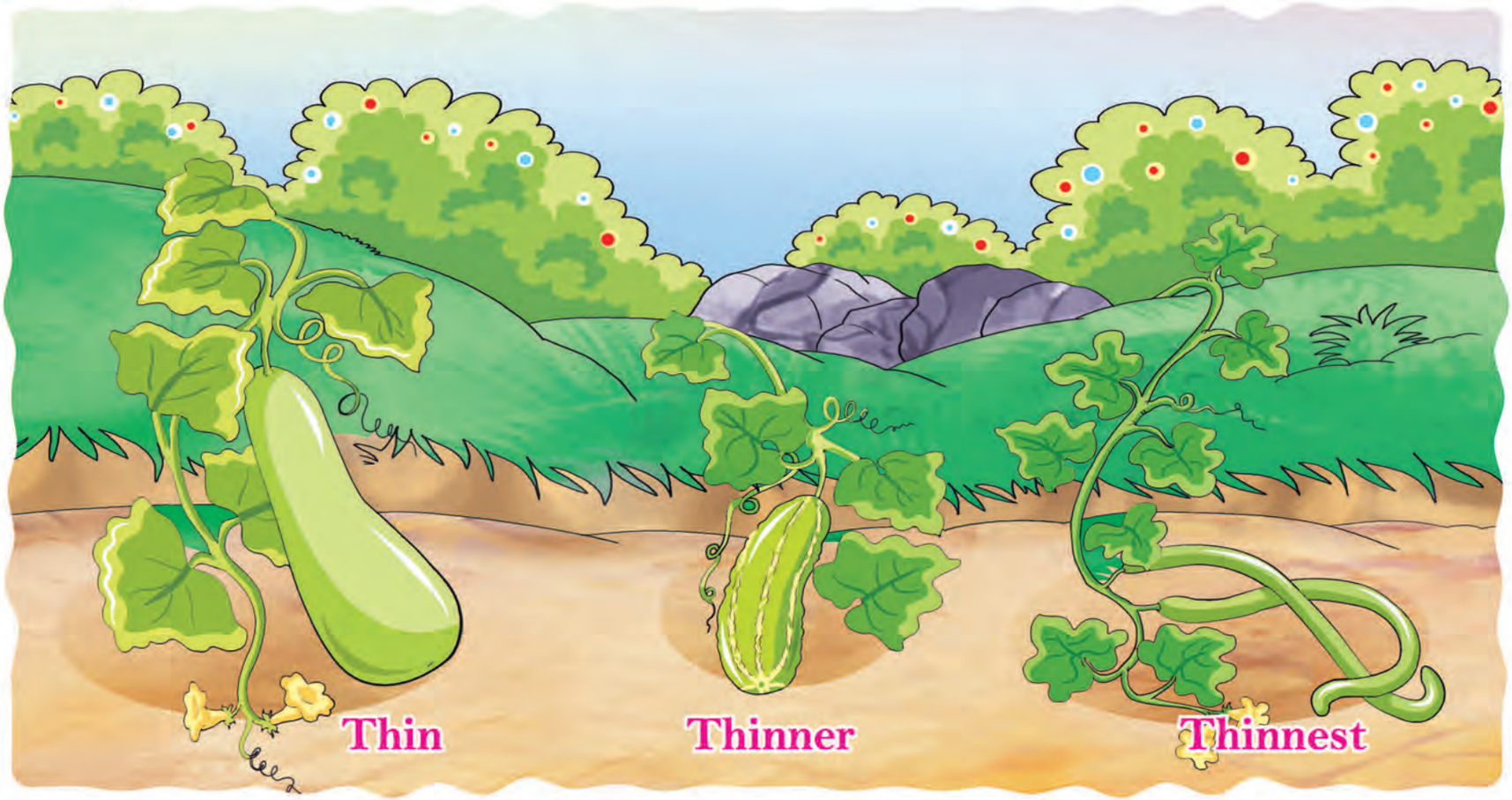
THICK AND THIN

Thick

✦ **Colour the thickest book 'Red':**

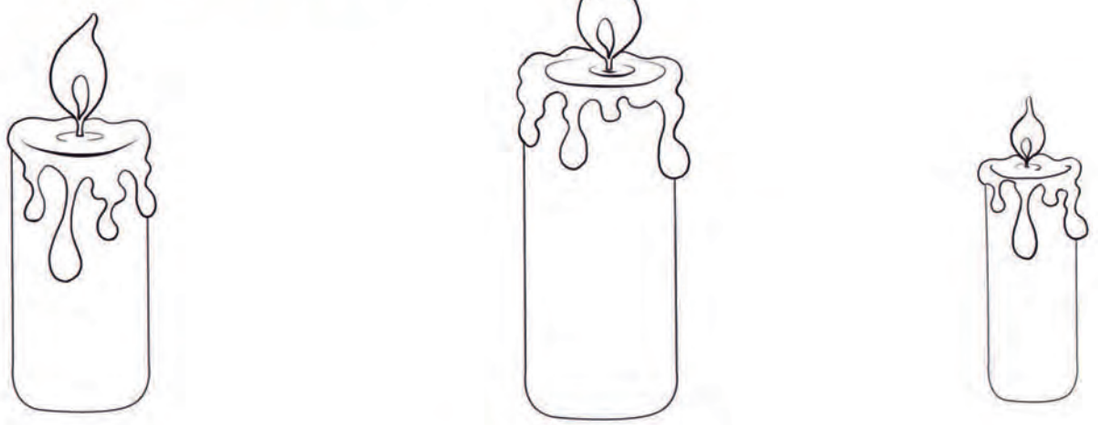


THIN



Practice Time

✦ **Colour the thinner candle 'Pink':**



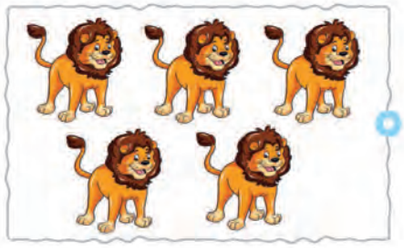
2 Numbers (1 to 10)

Read and Trace :

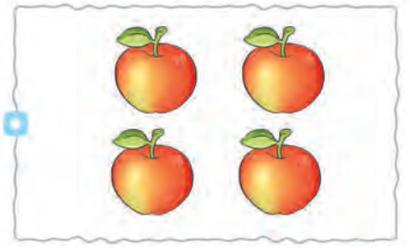
1	ONE	1	1	1	1	1	1	1	1	1	1
2	TWO	2	2	2	2	2	2	2	2	2	2
3	THREE	3	3	3	3	3	3	3	3	3	3
4	FOUR	4	4	4	4	4	4	4	4	4	4
5	FIVE	5	5	5	5	5	5	5	5	5	5
6	SIX	6	6	6	6	6	6	6	6	6	6
7	SEVEN	7	7	7	7	7	7	7	7	7	7
8	EIGHT	8	8	8	8	8	8	8	8	8	8
9	NINE	9	9	9	9	9	9	9	9	9	9
10	TEN	10	10	10	10	10	10	10	10	10	10

Practice Time

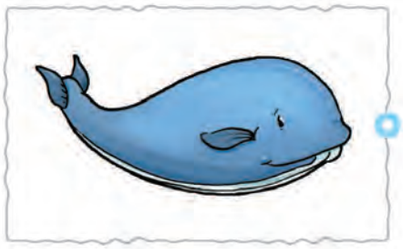
1. Match the figures with number names :



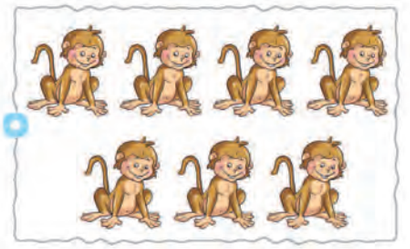
ONE



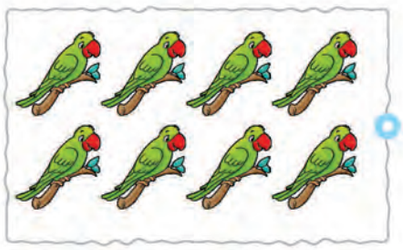
TWO



THREE

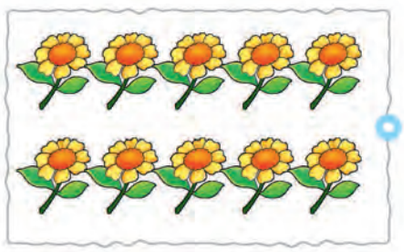


FOUR

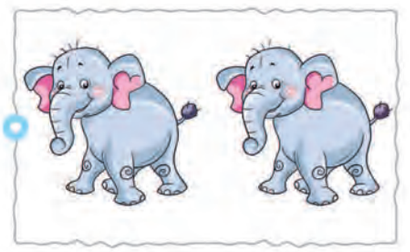


FIVE

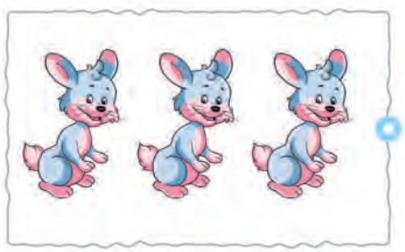
SIX



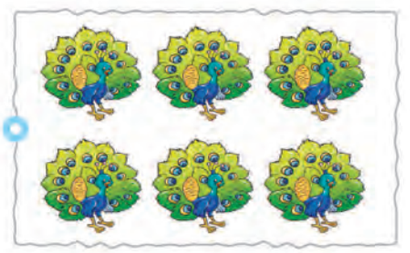
SEVEN



EIGHT



NINE



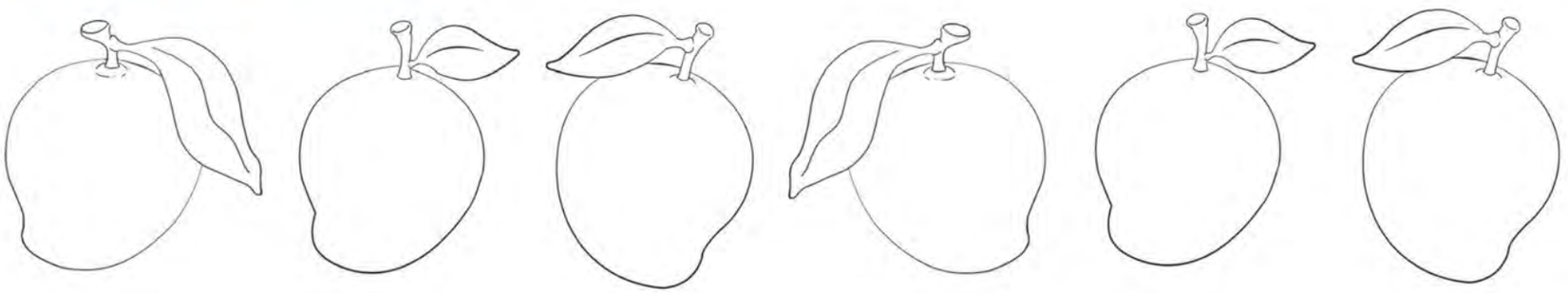
TEN

2. Write the missing numbers :

1		3		5		7		9	

3. Count the objects and write the numerals in the boxes :

4. Colour the 5 mangoes :



HOW MANY ?

Practice Time

✦ **Look at the picture given above, count and write :**

3 Numbers (11 to 20)

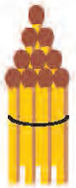
There are 10 matchsticks in the bundle.

is one stick.

1 ten

1 one

Thus, 10 ones make 1 ten.



1 ten + 

1 one

10 + 1 = 11 Eleven

1 ten + 

2 ones

10 + 2 = 12 Twelve

1 ten + 

3 ones

10 + 3 = 13 Thirteen

1 ten + 

4 ones

10 + 4 = 14 FOURTEEN

1 ten + 

5 ones

10 + 5 = 15 FIFTEEN

1 ten + 

6 ones

10 + 6 = 16 SIXTEEN

1 ten + 

7 ones

10 + 7 = 17 SEVENTEEN

1 ten + 

8 ones

10 + 8 = 18 EIGHTEEN

1 ten + 

9 ones

10 + 9 = 19 NINETEEN

1 ten + 

10 ones

10 + 10 = 20 TWENTY

Practice Time

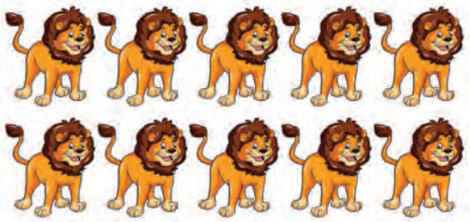
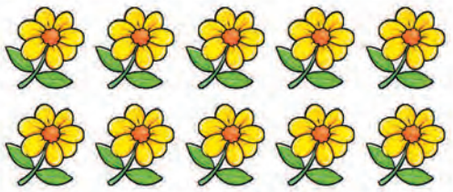
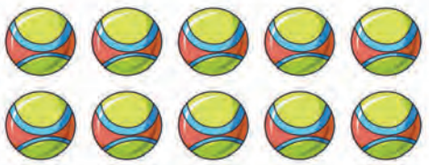
1. Count and write as shown :


	+		1	ten	+	1	one	=	11
	+			ten	+		ones	=	
	+			ten	+		ones	=	
	+			ten	+		ones	=	

2. Count and encircle (◯) the correct number :

	12	10	11
	17	18	15
	15	16	17
	12	13	14

3. Count the objects in each group and write their numbers and number names :

Collection of Objects	Numbers	Number Names
		
		
		
		
		
		

4 Before, Between and After

Three cars are on the road.

The red car is just before the blue car or 1 is just before 2.

The blue car is between the red and yellow car or 2 is between 1 and 3.

The yellow car is just after the blue car or 3 is just after 2.

Practice Time

1. Write the number that comes just before :

☐ 5	☐ 9
☐ 11	☐ 16
☐ 20	☐ 8

2. Write the number that comes in between :

2 ☐ 4	9 ☐ 11
13 ☐ 15	17 ☐ 19
18 ☐ 20	8 ☐ 10

3. Write the number that comes just after :

6 ☐	8 ☐
12 ☐	15 ☐
19 ☐	9 ☐

4. Complete the following :

Before and After

◯ 2 ◯	◯ 4 ◯	◯ 6 ◯
◯ 8 ◯	◯ 10 ◯	◯ 12 ◯
◯ 14 ◯	◯ 16 ◯	◯ 18 ◯
◯ 19 ◯	◯ 5 ◯	◯ 7 ◯
◯ 11 ◯	◯ 13 ◯	◯ 15 ◯

In Between

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

5 Comparison of Numbers

Comparison of numbers tells us about the number which is greater or less than or equal to another number.

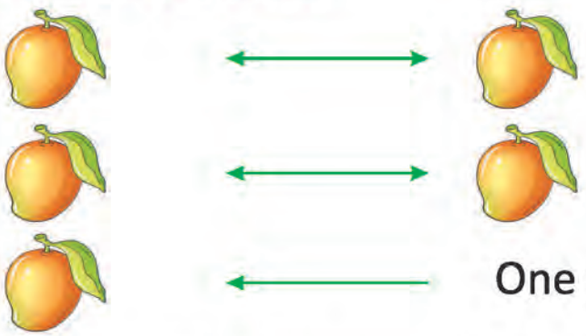
GREATER THAN

See the example :

These are 3 mangoes.

These are 2 mangoes.

When we compare :



One mango is left as surplus.

It means, 3 mangoes are greater than 2 mangoes.

Or 3 is greater than 2.
We write it as **3 > 2**.

The sign '>' means is 'greater than'.
The greater number is placed towards the open side of the symbol (>).

LESS THAN

This is 1 banana

These are 2 bananas

When we compare :

One banana is left as surplus.

It means, 1 banana is less than 2 bananas.

Or, 1 is less than 2. We write it as **1 < 2.**

The sign '<' means is 'less than'.

The smaller number is placed towards the closed side of the symbol (<).

EQUAL TO

These are 2 apples

These are 2 apples

When we compare :

It means, 2 apples are equal to 2 apples.

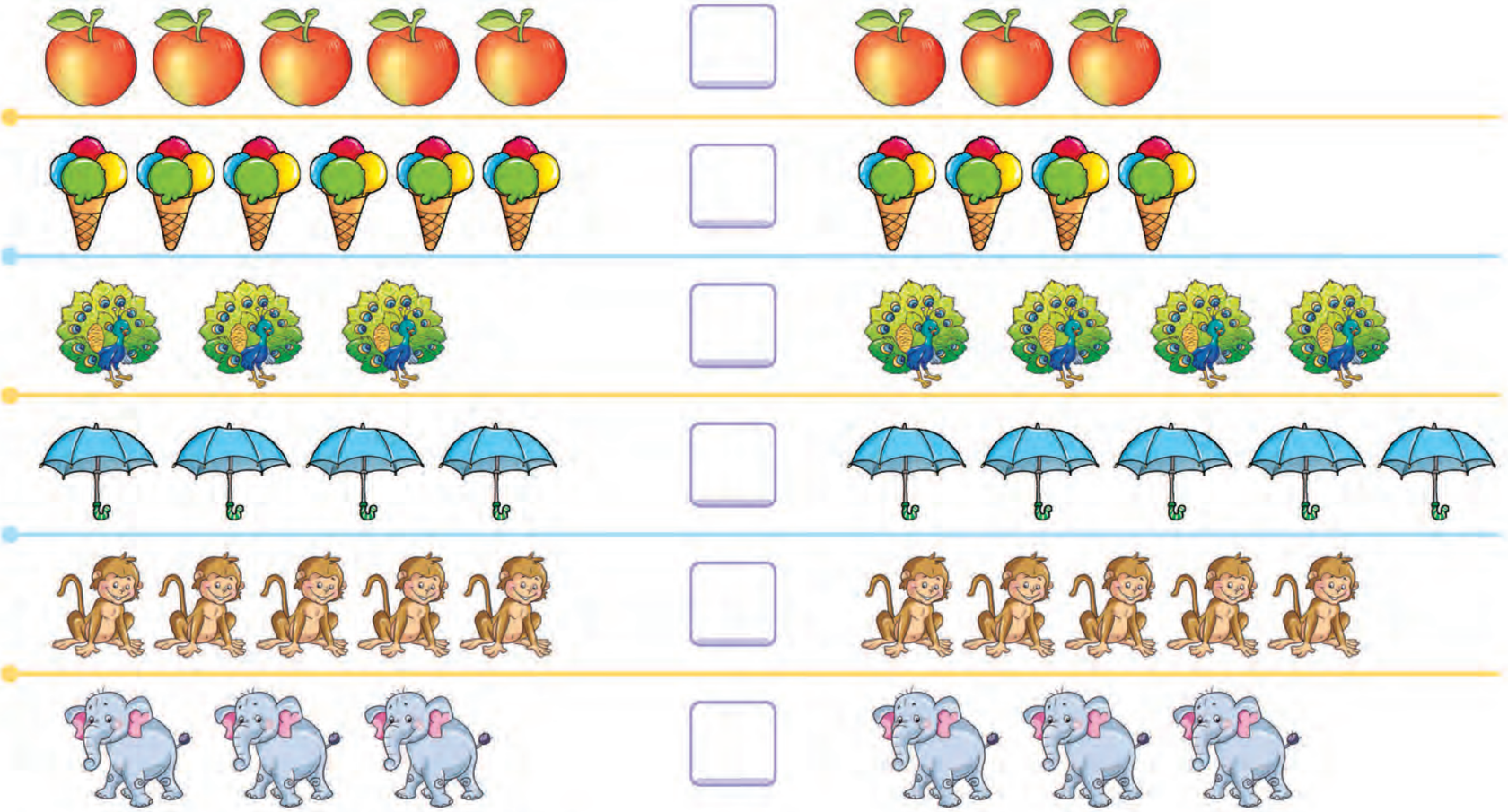
Or, 2 is equal to 2. We write it as **2 = 2.**

The sign '=' means 'is equal to'.

Equal numbers are placed in both sides of the symbol (=).

Practice Time

1. Put >, < or = in the boxes to compare the objects :

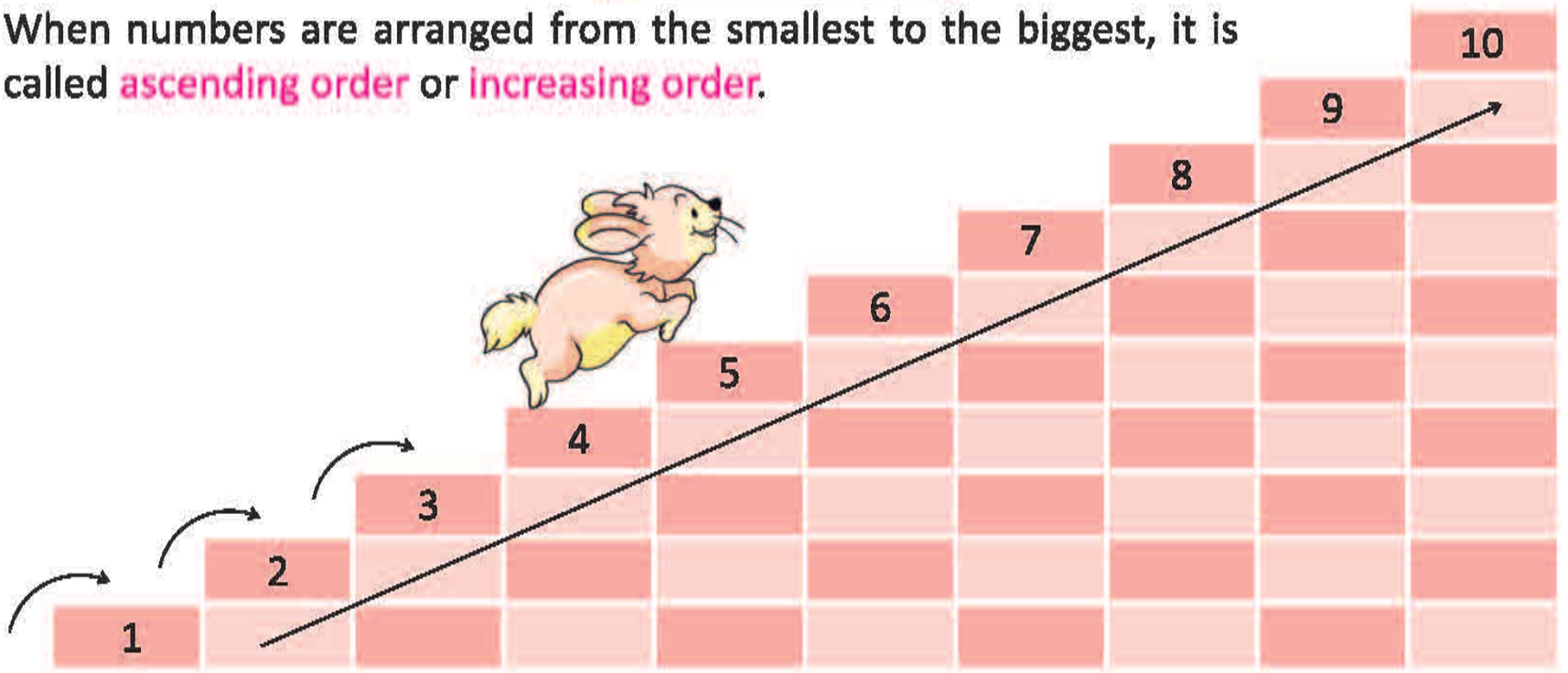


2. Put >, < or = in the blank space :

4 ◇ 6	8 ◇ 8	13 ◇ 13
15 ◇ 11	14 ◇ 16	20 ◇ 10
17 ◇ 14	19 ◇ 13	18 ◇ 18

ASCENDING ORDER

When numbers are arranged from the smallest to the biggest, it is called ascending order or increasing order.



This order is also called forward counting :

1 2 3 4 5 6 7 8 9 10

Practice Time

✦ **Write these numbers in ascending or increasing order :**

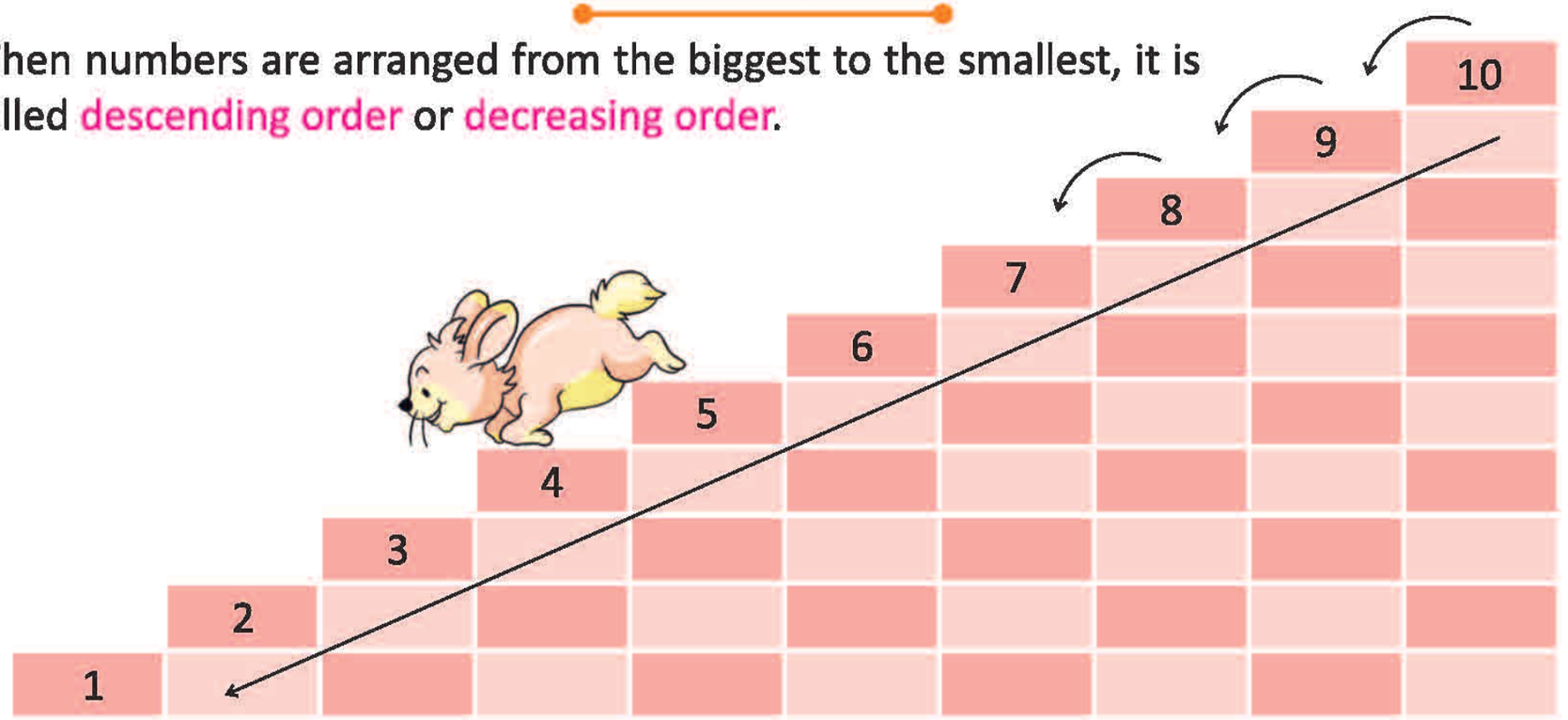
9 10 7 8 5 6 3 1 4 2 _____

14 11 8 10 16 9 13 7 15 12 _____

14 17 13 16 19 11 12 20 15 18 _____

DESCENDING ORDER

When numbers are arranged from the biggest to the smallest, it is called descending order or decreasing order.



This order is also called backward or reverse counting :

10 9 8 7 6 5 4 3 2 1

1. Write these numbers in descending or decreasing order :

3 4 5 1 2 9 7 8 10 6 _____

16 12 17 14 19 13 18 20 11 15 _____

9 13 12 11 14 7 10 6 5 8 _____

2. Write the following numbers in ascending (increasing) order :

8	3	12	8	10					
13	4	7	2	16					
14	8	10	19	9					

3. Write the following numbers in descending (decreasing) order :

16	20	17	12	18					
6	10	8	5	11					
7	3	5	1	8					

4. Write forward counting from 11 to 20 :

11									20

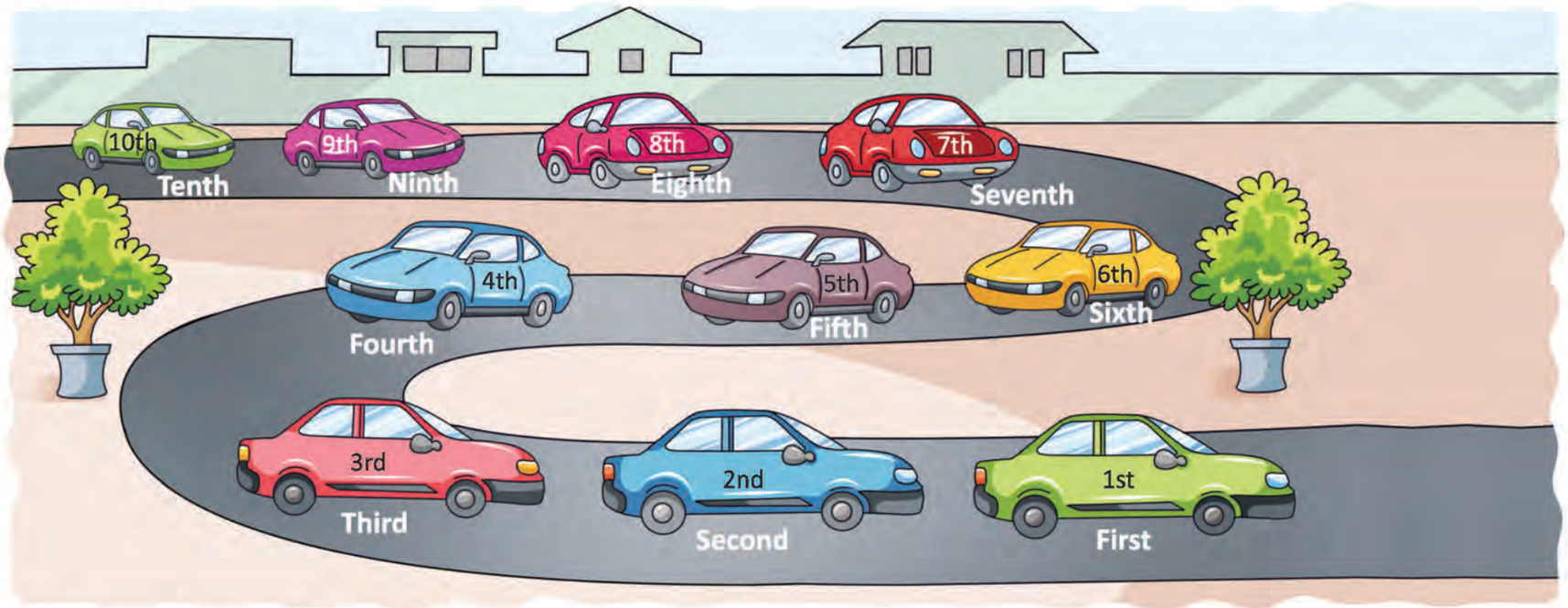
5. Write backward counting from 20 to 11 :

20									11

6 Ordinal Numbers

Ordinal numbers are those numbers which are placed in the order at first, second, third, fourth, ... etc.

In the given picture the cars are running a race. Let us know the position of these different cars.



Read and learn the numbers with ordinal numbers.

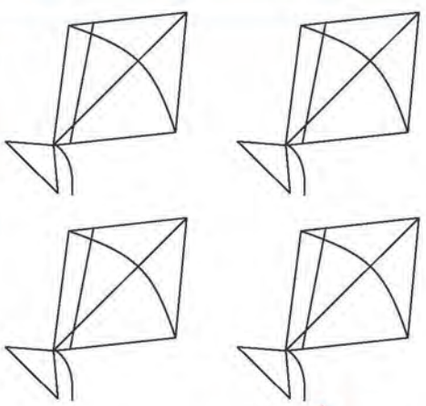
1	2	3	4	5
FIRST	SECOND	THIRD	FOURTH	FIFTH
6	7	8	9	10
SIXTH	SEVENTH	EIGHTH	NINTH	TENTH

Practice Time

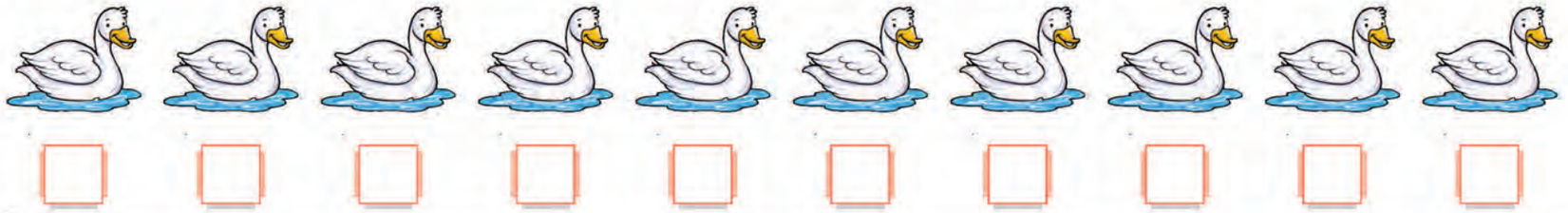
1. Draw and colour the smileys in the correct boxes for the given position :

FIFTH					☺				
EIGHTH									
THIRD									
TENTH									
FIRST									
NINTH									
SIXTH									
SECOND									
SEVENTH									
FOURTH									

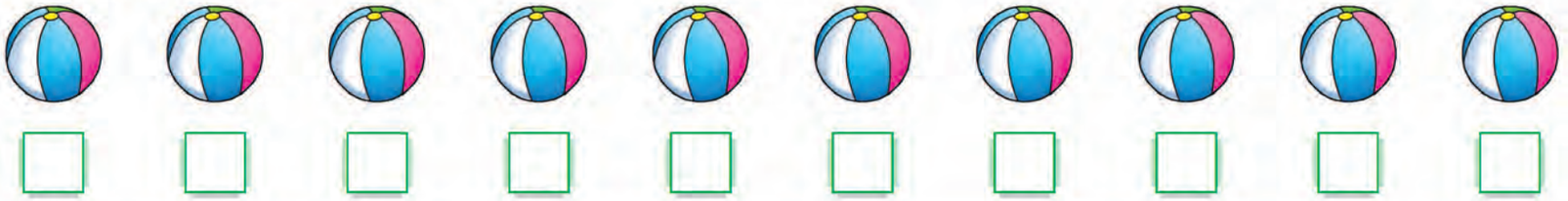
2. Colour the first object 'Red', second 'Blue', third 'Green' and the forth 'Yellow' in each group :



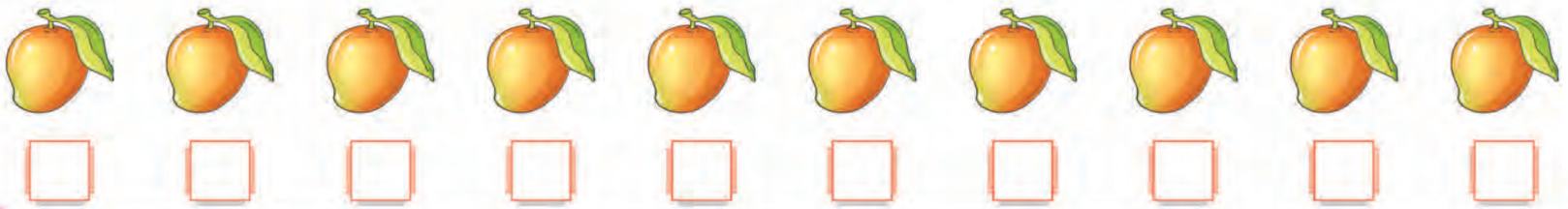
3. Tick (✓) the third object from the right :



4. Tick (✓) the ninth object from the right :

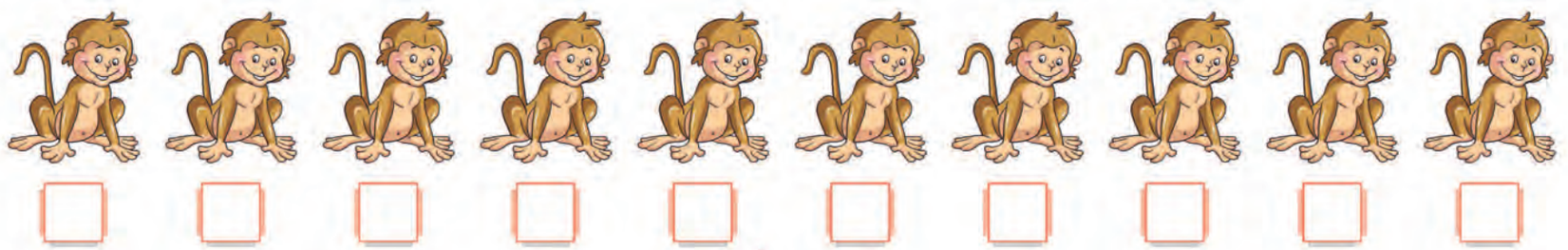


5. Tick (✓) the eighth object from the left :



6. Tick (✓) the Seventh object from the left :

7. Tick (✓) the sixth object from the left :



7 Concept of Zero '0'

There are two apples in a plate.

Ajay eats up both the apples.

Now no apple is left in the plate.

We can say that there is **zero** apple in the plate.

Zero indicates absence of something.

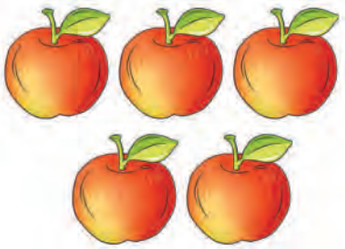
So, Zero means **nothing**.

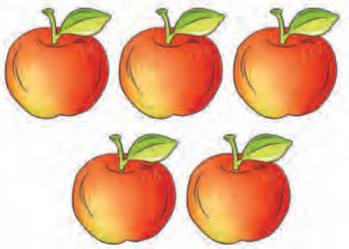
Zero is written as **0**.

We read it as **zero**.

ZERO IN ADDITION

When we add zero (0) to a number or a number to zero (0), the number remains the same.


And

=


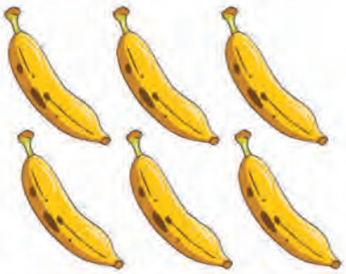
5 + 0 = 5

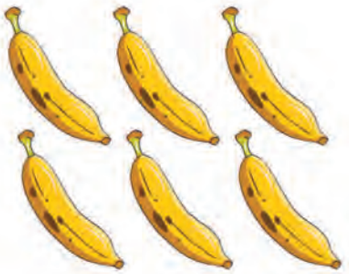
It means, '0' has no value in addition.

Examples : 4 + 0 = 4 | 0 + 8 = 8 | 9 + 0 = 9

ZERO IN SUBTRACTION

When we subtract zero (0) from a number, the number remains the same.


Taken

=


6 − 0 = 6

It means, '0' has no value in subtraction.

Examples : 4 − 0 = 4 | 8 − 0 = 8 | 9 − 0 = 9

When we subtract a number from the same number, we get '0'.

Taken

=

3 − 3 = 0

Example : 4 − 4 = 0 | 8 − 8 = 0 | 9 − 9 = 0

1. Add and Write the numbers in the boxes :

+ 0 = ☐ dolls

+ 0 = ☐ balls

0 + 0 = ☐ 6 + 0 = ☐

0 + 8 = ☐ 0 + 2 = ☐

2. Subtract and write the numbers in the boxes :

−  = ☐ flower,

−  = ☐ cars

3 − 0 = ☐ 9 − 0 = ☐

5 − 5 = ☐ 7 − 7 = ☐

8 Addition (up to 20)

When two or more things of the same kind are taken together, it is called addition. The result is known as sum.

ADDITION BY COUNTING OBJECTS

1 bird	3 more birds	Now, there are 4 birds.

We see that 1 bird and 3 birds when taken together make 4 birds.

It means, **1 + 3 = 4**

We read it as 1 plus 3 is equal to 4.

5 balls	1 more ball	Now, there are 6 balls

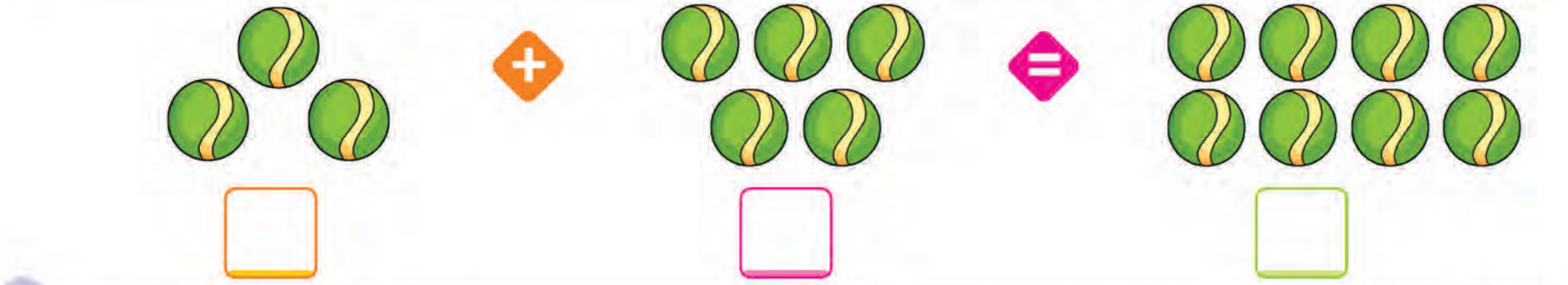
We see that 5 balls and 1 more ball makes 6 balls together.

We write it as **5 + 1 = 6**

We read it as 5 plus 1 is equal to 6.

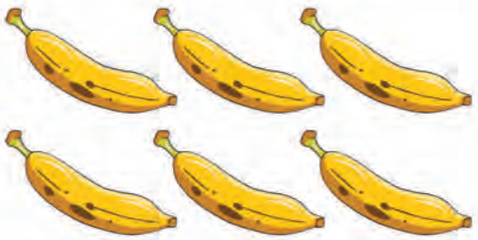
Practice Time

1. Count and add the objects. Write the sum in the boxes :



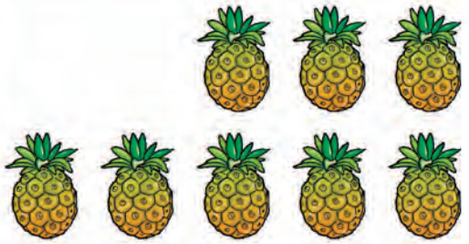
2. Count and add the objects vertically :

$$\begin{array}{r} 2 \\ +\ 3 \\ \hline \square \end{array}$$

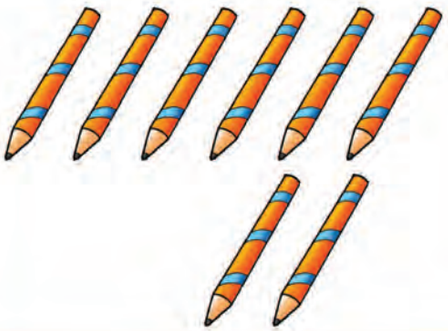


$$\begin{array}{r} 3 \\ +\ 3 \\ \hline \square \end{array}$$

$$\begin{array}{r} 4 \\ +\ 3 \\ \hline \square \end{array}$$



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



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

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

$$\begin{array}{r} 1 \\ +\ 3 \\ \hline \square \end{array}$$

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

ADDITION BY DRAWING LINES

Example :

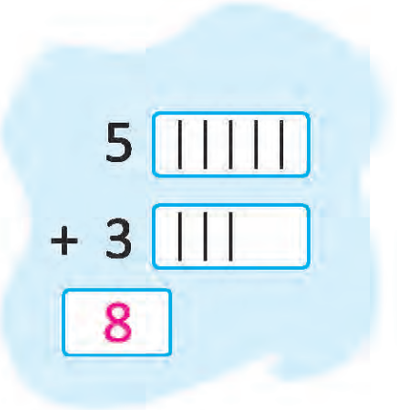
Let us add 5 and 3.

First of all, put the numbers as shown.

Now, draw 5 lines on the right of 5 and 3 lines on the right of 3.

Count all the lines together and write the number below.

Since, there are 8 lines in all, the answer is 8.

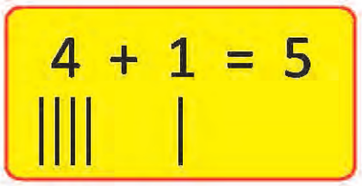


We can also add by writing the numbers horizontally.

Example :

Let us add 4 and 1.

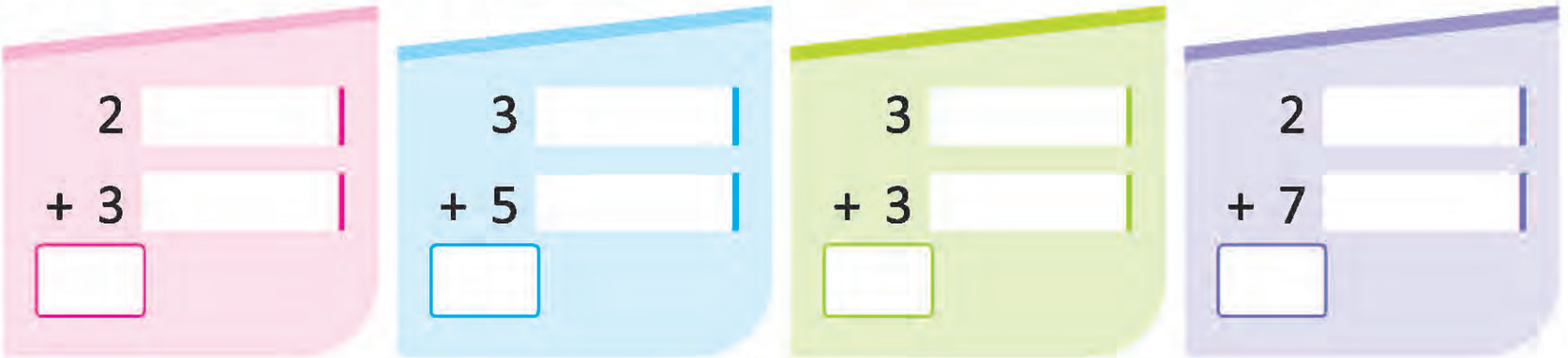
First, put the numbers as shown :

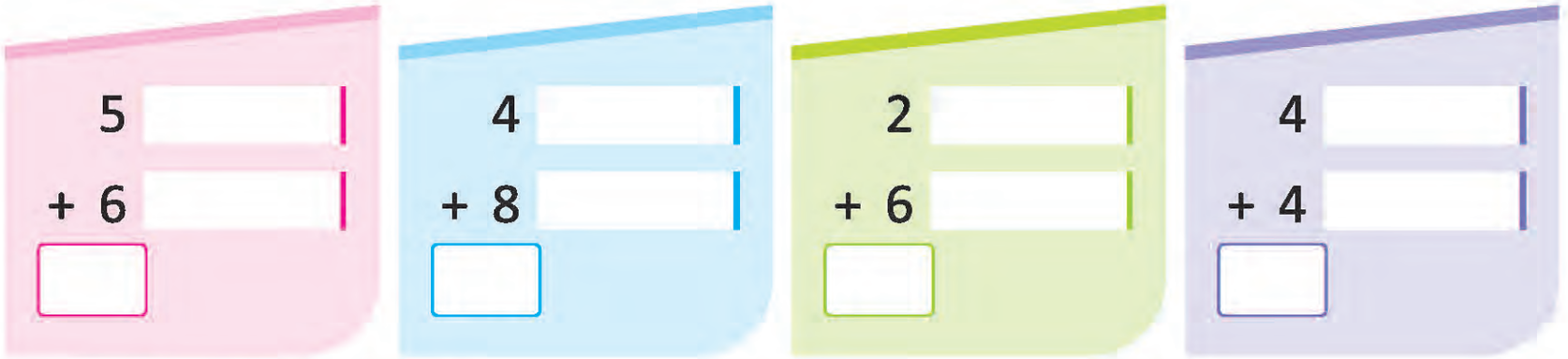


Now, draw 4 lines below 4 and 1 line below 1.

Then count all the lines together and write the number after =.

1. Draw the lines and add the vertically :





2. Add and write the sums :

8 + 5 =	7 + 6 =	13 + 4 =	12 + 3 =	15 + 3 =	12 + 6 =
19 + 8 =	17 + 2 =	11 + 5 =	10 + 2 =	13 + 6 =	12 + 5 =

8 + 2 =	7 + 5 =	16 + 3 =
13 + 4 =	10 + 6 =	14 + 2 =
18 + 1 =	11 + 7 =	19 + 1 =
13 + 1 =	10 + 7 =	15 + 4 =

ADDITION OF THREE NUMBERS

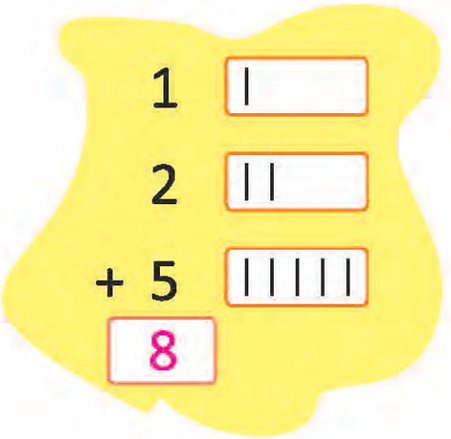
Example :

Let us add 1, 2 and 5.

First of all, put the these numbers as shown.

Now, draw lines separately for each number.

Count all the lines together and write the answer.



✦ **Add by drawing lines and write answers :**

3 3 + 3 ☐	1 2 + 4 ☐	2 2 + 6 ☐
3 1 + 5 ☐	2 2 + 2 ☐	2 1 + 3 ☐
3 3 + 4 ☐	6 2 + 1 ☐	4 2 + 2 ☐

WORD PROBLEMS

✦ Add and write the answers :

1. There are 3 boys in a park. 2 more boys join them. Now there are _____ boys in the park.

$$\begin{array}{r} 3 \\ +\ 2 \\ \hline \square \end{array}$$

2. There are 5 birds on the branch of a tree. 3 more birds join them. Now, there are _____ birds on the branch.

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

3. There are 4 balls in a box. Neeraj puts 3 more balls in the box. Now, there are _____ balls in the box.

$$\begin{array}{r} 4 \\ +\ 3 \\ \hline \square \end{array}$$

4. There are 4 apples in a plate. Nisha puts 4 more apples in the plate. Now, there are_____ apples in the plate.

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

5. There are 3 books on a table. Raju puts 6 more books on the table. Now, there are _____ books on the table.

$$\begin{array}{r} 3 \\ +\ 6 \\ \hline \square \end{array}$$

6. Rani has 4 rupees. Her father gave her 5 more rupees. Now, she has _____ rupees.

$$\begin{array}{r} 4 \\ +\ 5 \\ \hline \square \end{array}$$

7. Seema has 6 pens. Her friend Disha gave her 4 more pens. Now, Seema has _____ pens.

$$\begin{array}{r} 6 \\ +\ 4 \\ \hline \square \end{array}$$

8. There are 5 toffees in a jar. Reena puts 5 more toffees in the jar. Now, there are _____ toffees in the jar.

$$\begin{array}{r} 5 \\ +\ 5 \\ \hline \square \end{array}$$

ADDITION ON NUMBER LINE

We can add numbers by counting ahead on the number line. We jump from the first given number to the other.

Let us add 3 + 5

From 3, jump 5 numbers ahead to reach 8. **3 + 5 = 8**

✦ Add on Number Line :

4 + 4 = ☐

2 + 3 = ☐

3 + 6 = ☐