Government of Tamilnadu

STANDARD TWO

TERM I

Volume 2

MATHEMATICS

ENVIRONMENTAL STUDIES

NOT FOR SALE

Untouchability is Inhuman and a Crime

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MATHEMATICS

STANDARD TWO

TERM I

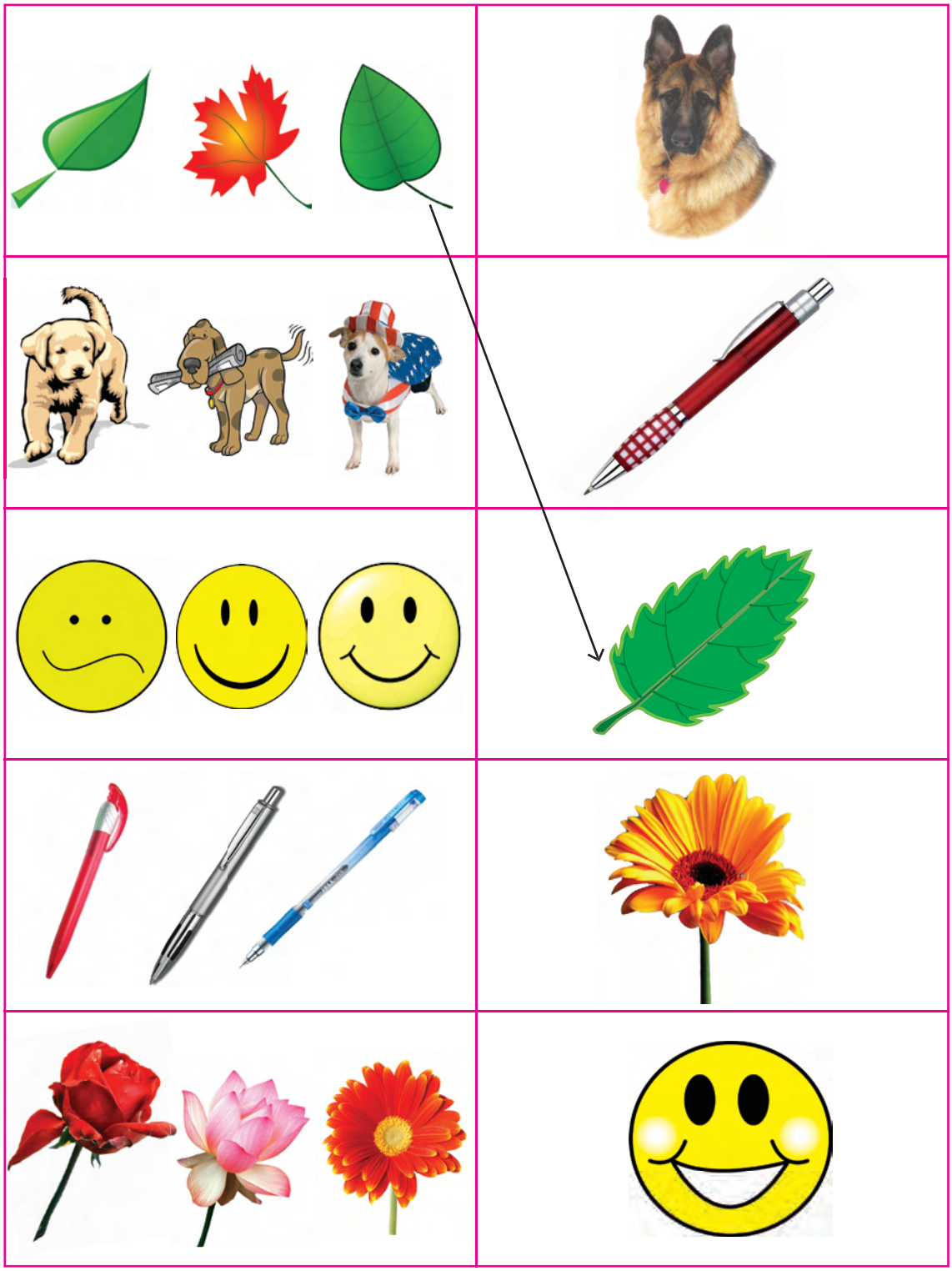
1. PATTERNS IN SHAPES

Shall we admire the beautiful designs in the wings of the butterfly, petals of sunflower and plumage of peacock?

Some more designs are given below

Patterns are arrangements of similar designs in a particular order.

Match the group with its kind.



Match the animal with its shadow by drawing a line.

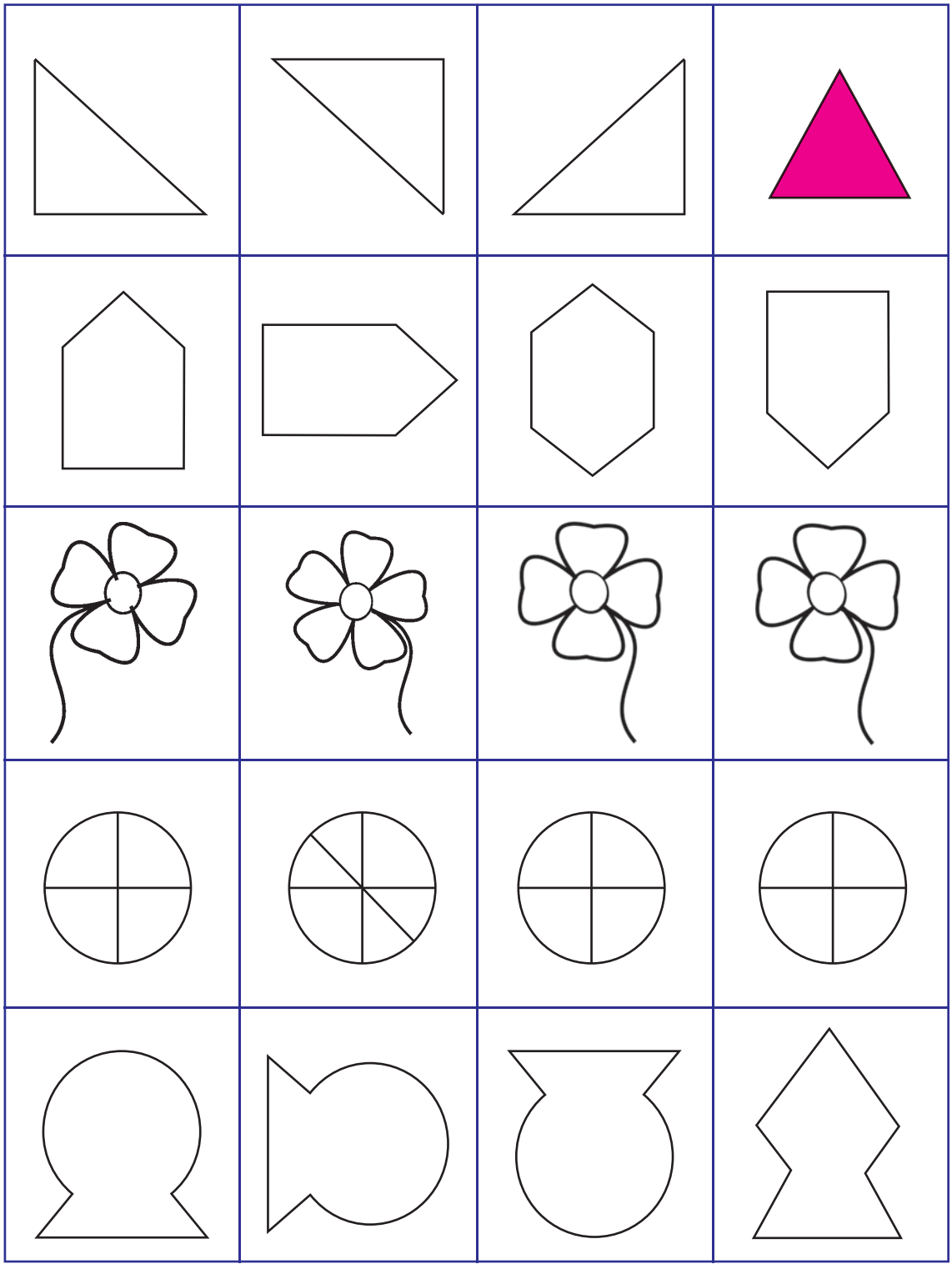




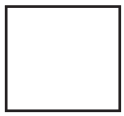
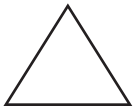
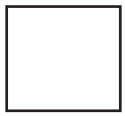
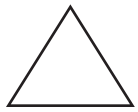
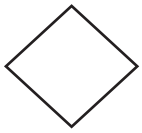
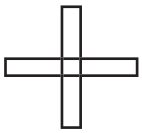
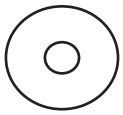
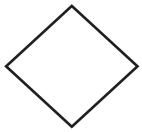
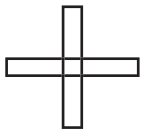
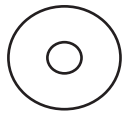




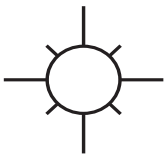
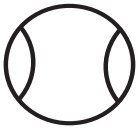
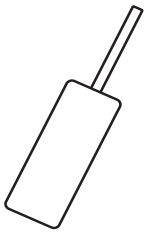
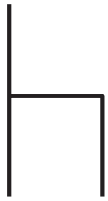
Find the odd one and colour it.



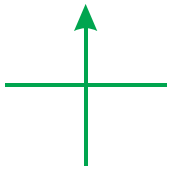
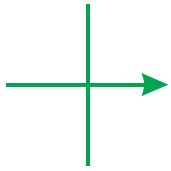
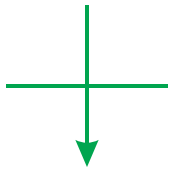
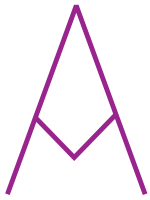
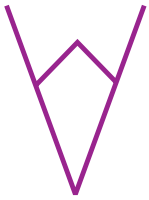
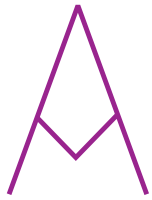
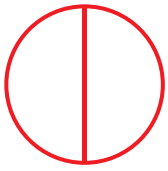
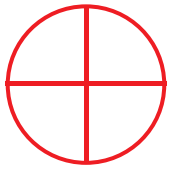
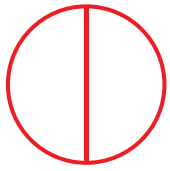
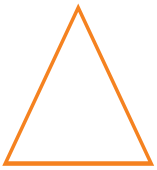
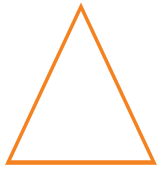
Draw the given patterns and enjoy doing it.

					
C	S	U	C	S	U
3	5	8	3	5	8
					
					

Repeat the patterns as given.

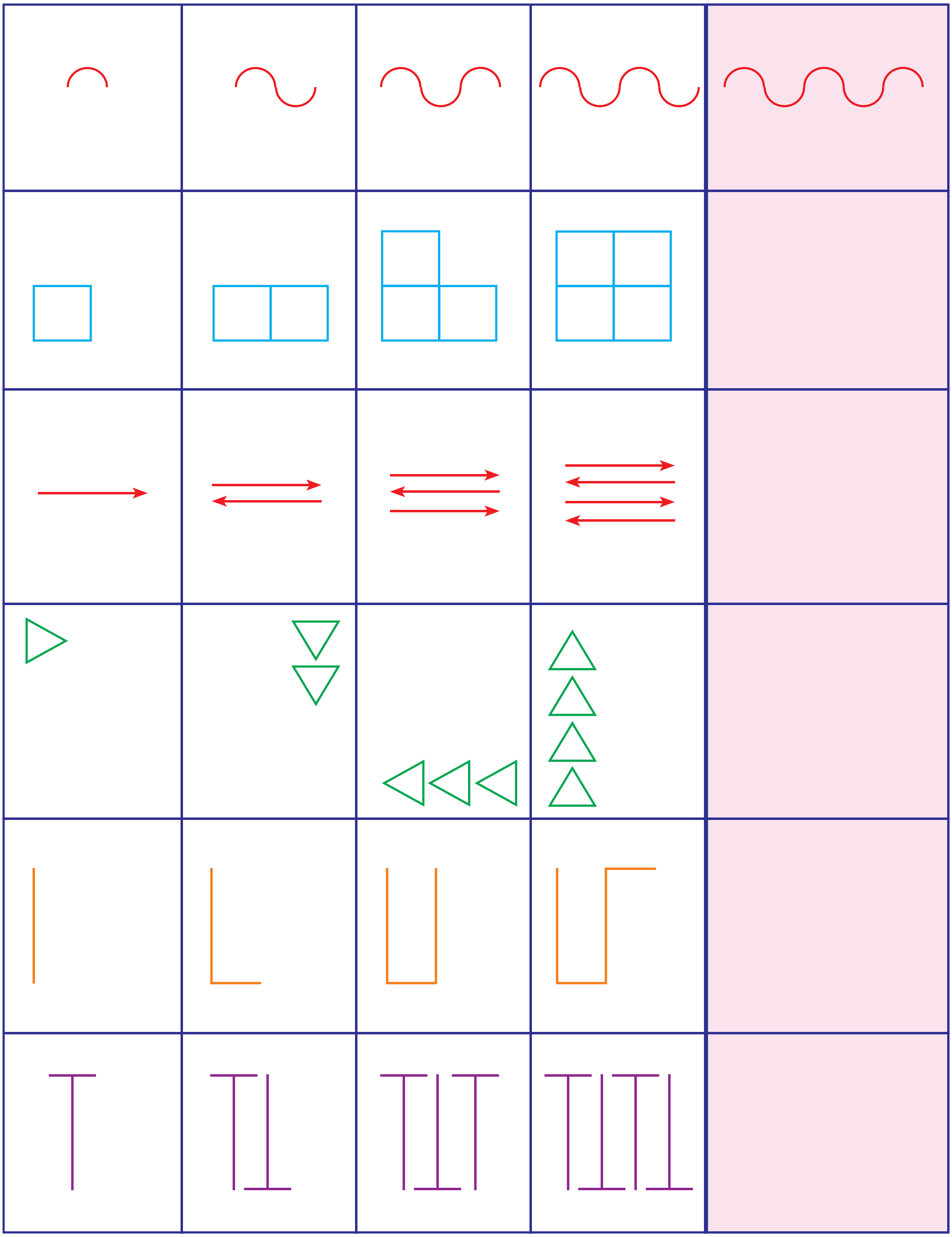
V	W	V	W		
					
					
					
					

Continue the pattern by drawing the next one.

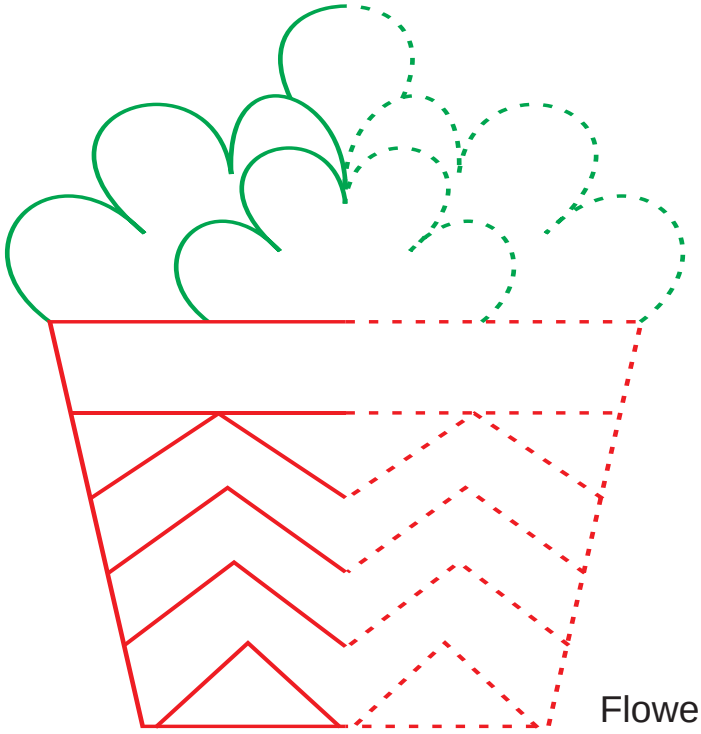
MATHEMATICS

Draw the next pattern.

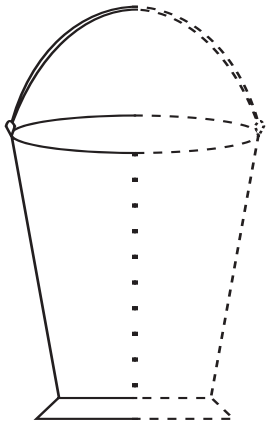


ACTIVITY

Complete the other half of the pattern.

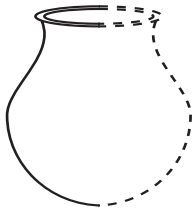


Flower Pot



Bucket

Bat



Pot

2. NUMBERS

Revision

★ Write the following in numerals.

Seven	7	Thirteen	
Nine		Fifteen	
Eleven		Nineteen	

★ Write the following in words.

8	Eight	14	_____
10	_____	16	_____
12	_____	18	_____

★ Circle the greatest number in the following.

7	6	(8)
2	9	6
11	9	12

6	13	10
18	7	13
16	19	14

★ Circle the smallest number in the following.

4	3	(2)
7	6	8
10	12	14

13	11	9
15	13	17
16	18	19

★ What comes after ?

7	8
2	
9	
15	
19	

★ What comes before ?

1	2
	6
	8
	13
	17

★ What comes between ?

5	6	7
2		4
6		8

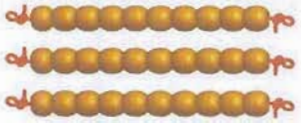
8		10
13		15
16		18

★ What comes before, after and between ?

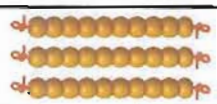
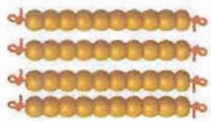
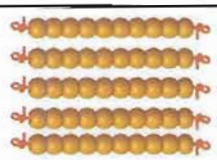
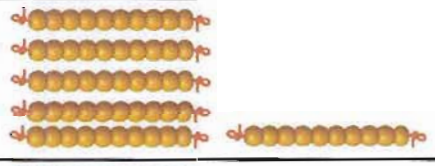
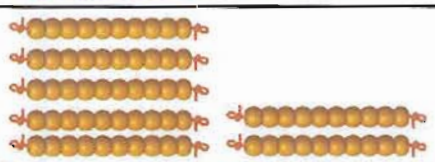
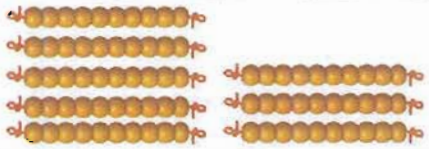
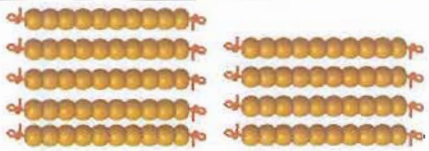
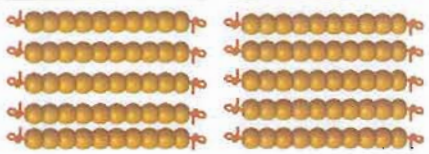
4	5	6	7	8
2			5	
	10			13
11		13	14	
		18		20

Number names.

Let us learn to read and write the number names.

Pictorial form	Numerals	Number names
	21	Twenty-one
	22	Twenty-two
	23	Twenty-three
	24	Twenty-four
	25	Twenty-five
	26	Twenty-six
	27	Twenty-seven
	28	Twenty-eight
	29	Twenty-nine
	30	Thirty

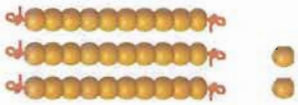
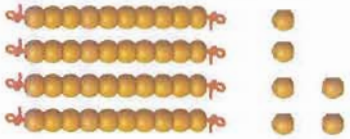
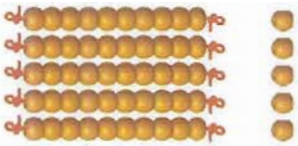
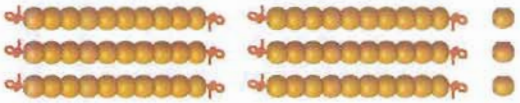
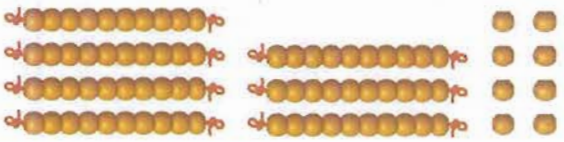
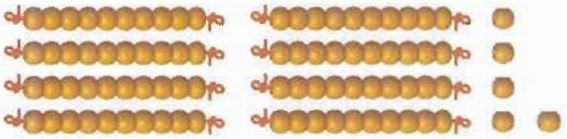
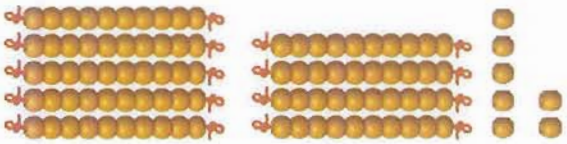
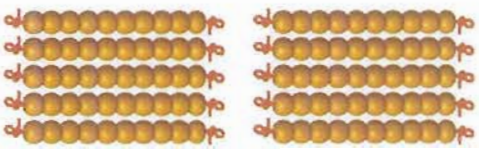
Learn to read and write the number names in tens.

Pictorial form	Numerals	Number names
	10	Ten
	20	Twenty
	30	Thirty
	40	Forty
	50	Fifty
	60	Sixty
	70	Seventy
	80	Eighty
	90	Ninety
	100	Hundred

Teacher's Note

Give Practice to the students to write number names from **1** to **100.**

Count and write.

Pictorial form	Numerals	Number names
	32	Thirty-two
	46	
		Fifty-five
	63	
	78	
		Eighty-five
		Ninety-seven
	100	

Match the following.

Numerals	Number names
37	Forty-two
66	Eighty-one
42	Fifty
50	Thirty-seven
81	Sixty-six

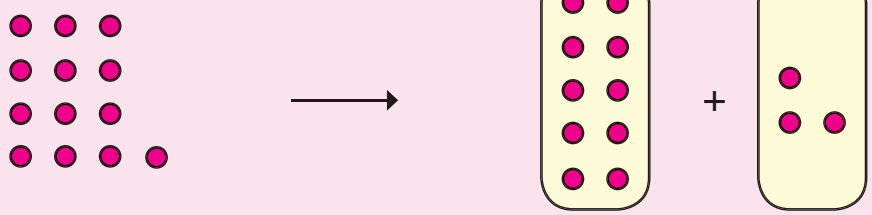
Write the numerals for the following.

Fifteen		Sixty	
Nineteen		Seventy-seven	
Twenty-five		Eighty-nine	
Forty-eight		Ninety-five	
Fifty-three		Hundred	

Write the number names for the following.

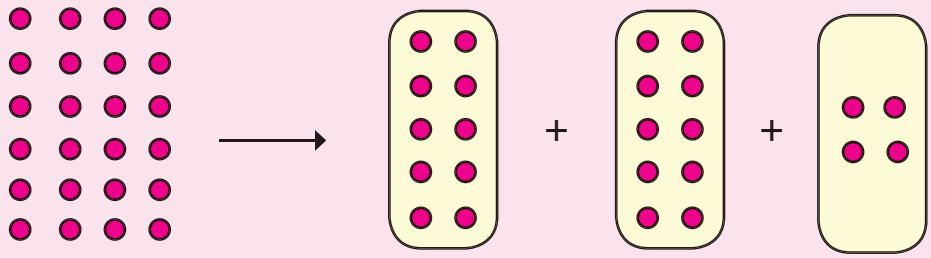
16	_____	69	_____
27	_____	76	_____
35	_____	80	_____
59	_____	93	_____
61	_____	99	_____

Grouping into tens and ones.



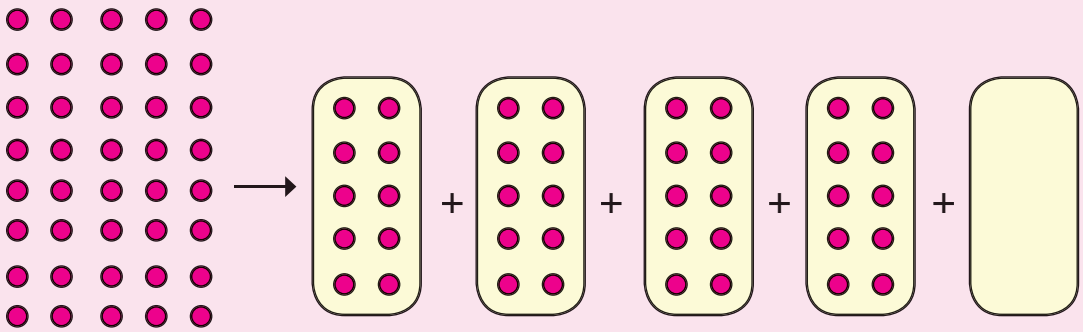
13 ones give 1 ten + 3 ones

10 ones are equal to 1 ten



24 ones give 1 ten + 1 ten + 4 ones

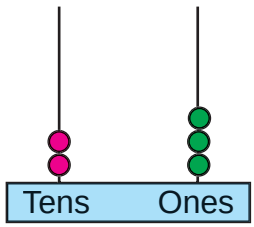
→ 2 tens and 4 ones



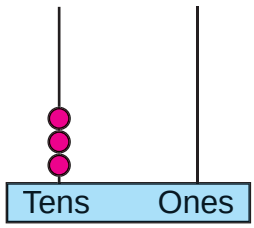
40 ones give 1 ten + 1 ten + 1 ten + 1 ten + 0 ones

→ 4 tens and 0 ones

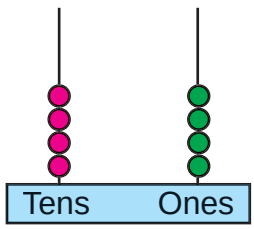
Write the number in the box, using the abacus.

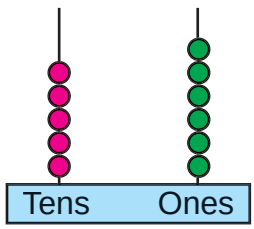


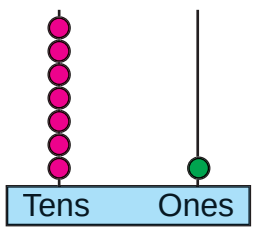
23

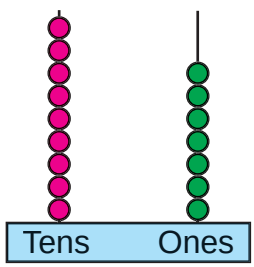


30

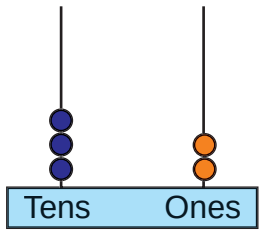
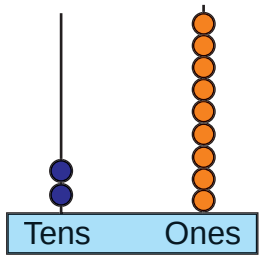
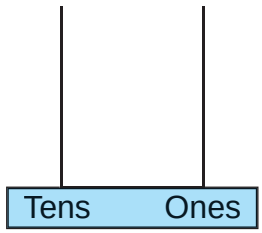
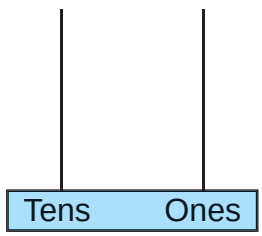
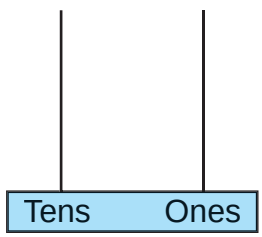
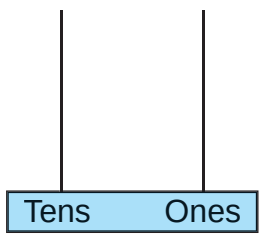








Read the numbers and draw the beads in the abacus.

32	
29	
66	
78	
80	
95	

Write the place value of the digits in the following numbers.

2 5

5 ones

2 tens

5 0

0 ones

5 tens

4 6

6 4

7 7

8 0

8 9

9 5

Write in the short form.

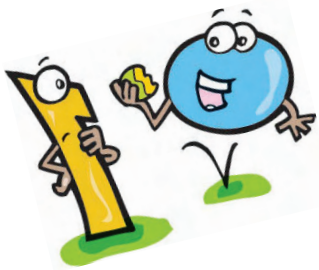
3 tens and 2 ones = **32**

4 tens and 5 ones =

7 tens and 0 ones =

8 tens and 8 ones =

9 tens and 7 ones =



Write in the expanded form.

28	=	2	tens	and	8	ones
41	=	____	tens	and	____	ones
72	=	____	tens	and	____	ones
83	=	____	tens	and	____	ones
90	=	____	tens	and	____	ones

Write the place value of the underlined numbers.

1<u>9</u>	9 ones	1<u>2</u>	
2<u>9</u>	2 tens	6<u>4</u>	
3<u>8</u>		7<u>1</u>	
4<u>7</u>		8<u>5</u>	
5<u>3</u>		9<u>9</u>	

Project

Prepare the number cards from **0** to **9**.

Take any two cards and make a **2** - digit number. Say the place value of the digits.

★ Repeat the activity using other cards.

3. COMPARISON OF NUMBERS

Let us learn to compare the 2-digit numbers using place value.

We can compare the numbers as

> greater than

< Less than

= equal to

Compare the numbers 63 and 45.

tens	ones
6	3

tens	ones
4	5

Comparing the tens place

6 > 4

63 is greater than 45

63 > 45

The greater number in the tens place is the greater of them.

Compare the numbers 39 and 54.

tens	ones
3	9

tens	ones
5	4

3 < 5

39 is less than 54

39 < 54

MATHEMATICS

Now compare the numbers 78 and 72.

tens	ones
7	8

tens	ones
7	2

7 = 7

8 > 2

If the numbers in tens place are same, then compare the numbers in ones place.

78 is greater than 72

78 > 72

Compare the numbers 42 and 45.

tens	ones
4	2

tens	ones
4	5

4 = 4

2 < 5

42 is less than 45

42 < 45

Compare the numbers 86 and 86.

86 is equal to 86.

86 = 86.

If the numbers in tens and ones places are the same then they are equal.

Observe the following.

38	>	25	93	=	93
26	=	26	86	>	74
55	<	66	33	<	38

Compare the numbers and use > or < or =

73		85		93		39
29		29		25		52
36		25		77		77
40		40		80		72
71		79		36		63

ACTIVITY

Play and Learn

Prepare the number cards from **1** to **100** as

1 **2** **3** **100**

and the symbol cards

> **<** **=**

The class is divided into two groups.

Group 1 picks a pair of number cards.

Group 2 places the symbol card between the numbers.

★ Repeat the activity using other cards.

Ascending Order

We shall arrange the numbers **7, 5** and **8** from the smallest to the greatest as **5, 7, 8.**

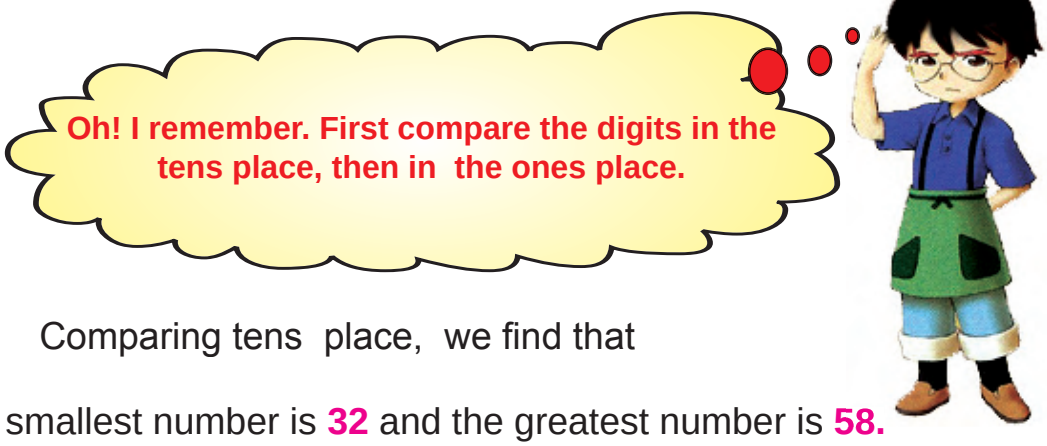
Shall we arrange the numbers **46, 32** and **58** from the smallest to the greatest ?

tens	ones
4	6

tens	ones
3	2

tens	ones
5	8

4 3 5



Comparing tens place, we find that the smallest number is **32** and the greatest number is **58.**

The ascending order is **32, 46, 58.**

Ascending order is arranging the numbers from the smallest to the greatest.

Now, we arrange the numbers **76, 52** and **62** in ascending order.

We get **52, 62, 76.**

Descending Order

Descending order is arranging the numbers from the greatest to the smallest.

Let us arrange the numbers **46, 32** and **58** in descending order.

We get **58, 46, 32.**

Arrange the following numbers in ascending order.

56, 37, 25 = _____ , _____ , _____

93, 84, 81 = _____ , _____ , _____

27, 43, 38 = _____ , _____ , _____

75, 72, 74 = _____ , _____ , _____

54, 63, 45 = _____ , _____ , _____

Arrange the following numbers in descending order.

27, 35, 53 = _____ , _____ , _____

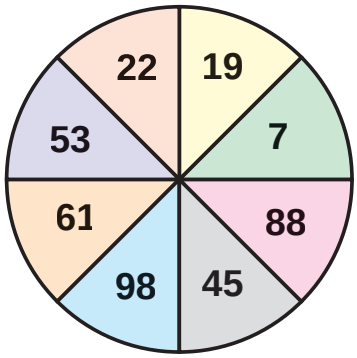
72,86, 85 = _____ , _____ , _____

26, 62, 22 = _____ , _____ , _____

38, 86, 31 = _____ , _____ , _____

46, 94, 64 = _____ , _____ , _____

Select any three numbers from the picture. Arrange them into ascending and descending order. Do as many sums as possible.



Numbers : ____, ____, ____,

Ascending order : ____, ____, ____,

Descending order : ____, ____, ____,

ACTIVITY

Prepare the number cards from 1 to 100.

1	2	3	.....	100

Divide the class into two groups.

Group 1 should take any three cards.

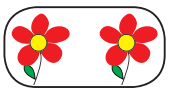
Group 2 should arrange them in the ascending order.

★ Repeat the activity by changing the group.

★ Repeat the activity in descending order.

Odd and Even Numbers

Circle the flowers in pairs.

	1
	2
	3
	4
	5
	6
	7
	8
	9
	10

What do you observe?

From the above table, we see the numbers **2, 4, 6, 8,** and **10** are exactly paired.

The other numbers **1, 3, 5, 7** and **9** are not exactly paired.

The numbers ending with 1, 3, 5, 7 and 9 are odd numbers.

The numbers ending with 0, 2, 4, 6 and 8 are even numbers.

Which of the following are odd and even numbers.

13	Odd number
22	Even number
14	_____
15	_____
23	_____
26	_____
37	_____
40	_____

56	_____
68	_____
69	_____
72	_____
85	_____
90	_____
99	_____
100	_____

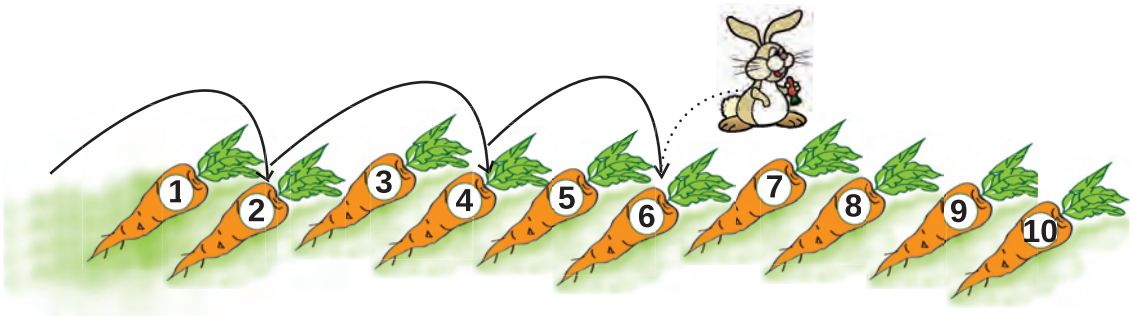
See the Fun!

* The number of letters in the word 'even' is even.

* The number of letters in the word 'odd' is odd.

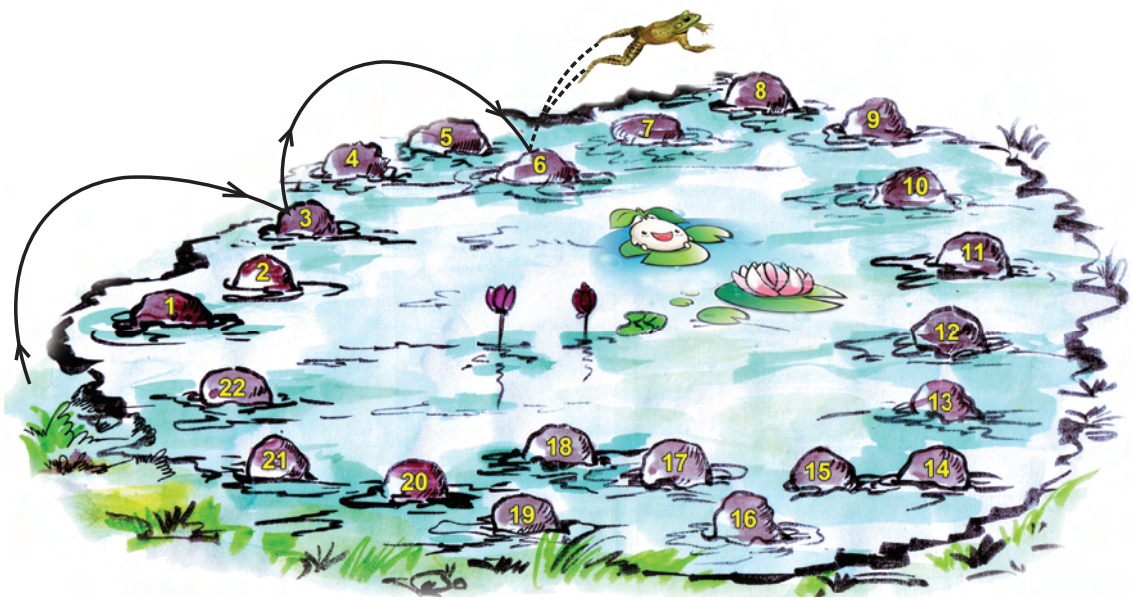
Skip counting numbers.

Tinku, an active rabbit, jumps over a carrot and reaches the next one. Where will Tinku go next?



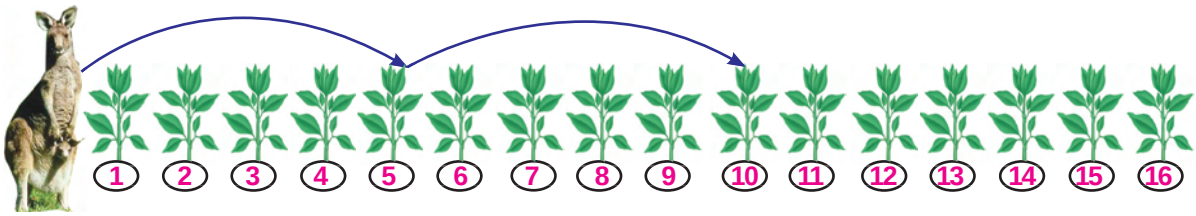
Tick (✓) the numbers in the carrot that the rabbit skipped over.

Look at the pond where Mr. Froggi jumps and gets on a stone. Where will he go next?



Circle the numbers that he skipped over.

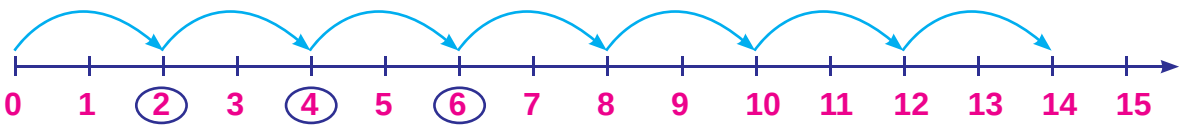
Boogee, a kangaroo hops and stops at a plant in a particular order to have her meal. Where will she go next?



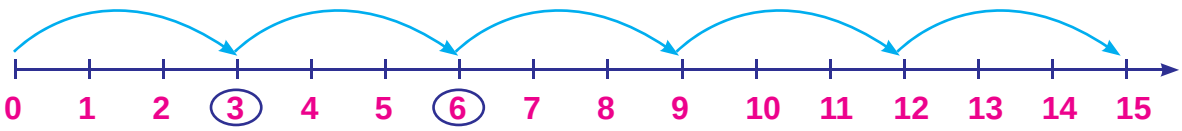
Tick (✓) the numbers that she skipped over.

Let us learn skip counting on the Number Line

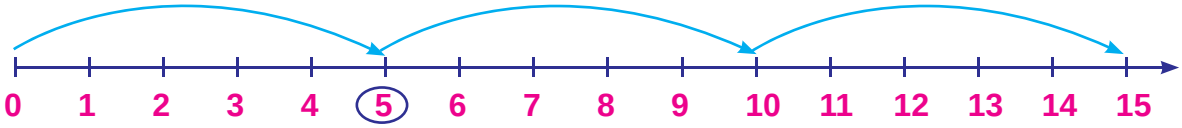
Skip count in **2**'s and circle the numbers.



Skip count in **3**'s and circle the numbers.



Skip count in **5**'s and circle the numbers.



Count in 2's and circle the number.

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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Using the above chart,

★ Count in 3's and list it. **3, 6, 9,** _____

★ Count in 5's and list it. **5, 10, 15,** _____

★ Count in 2's and list it. **11, 13, 15,** _____

Read and write what comes next ?

8, 10, 12, _____, _____, _____

21, 23, 25, _____, _____, _____

32, 34, 36, _____, _____, _____

47, 49, 51, _____, _____, _____

68, 70, 72, _____, _____, _____

Fill in the blanks

4, 7, 10, _____, _____, _____

24, 27, 30, _____, _____, _____

55, 58, 61, _____, _____, _____

66, 69, 72, _____, _____, _____

82, 85, 88, _____, _____, _____

What comes next ?

5, 10, 15, _____, _____, _____

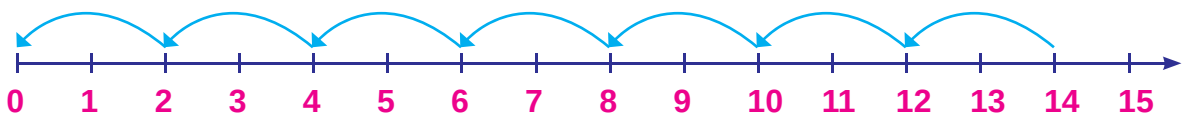
30, 35, 40 _____, _____, _____

55, 60, 65 _____, _____, _____

75, 80, 85, _____, _____, _____

20, 25, 30, _____, _____, _____

Counting backwards



Counting backwards in **2**'s → **14, 12, 10, 8, 6, 4, 2, 0.**

Counting backwards in **3**'s → **15, 12, 9, 6, 3, 0.**

Counting backwards in **5**'s → **15, 10, 5, 0.**

Read and write by counting backwards.

14, 12, 10, _____, _____, _____

60, 58, 56, _____, _____, _____

82, 80, 78, _____, _____, _____

18, 15, 12, _____, _____, _____

45, 42, 39, _____, _____, _____

90, 87, 84, _____, _____, _____

35, 30, 25, _____, _____, _____.

55, 50, 45, _____, _____, _____

Do it yourself

Starting from **50**,count backwards in **2**'s, **3**'s, and **5**'s.

_____

_____

_____

_____

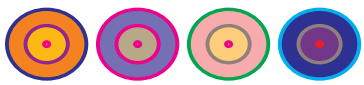
_____

_____

4. ADDITION

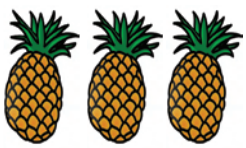
Let us recall.


3 + 2 = 5

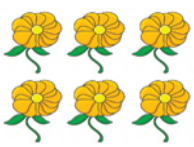
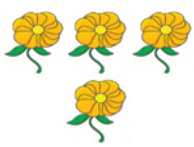



☐ + ☐ = ____


☐ + ☐ = ____



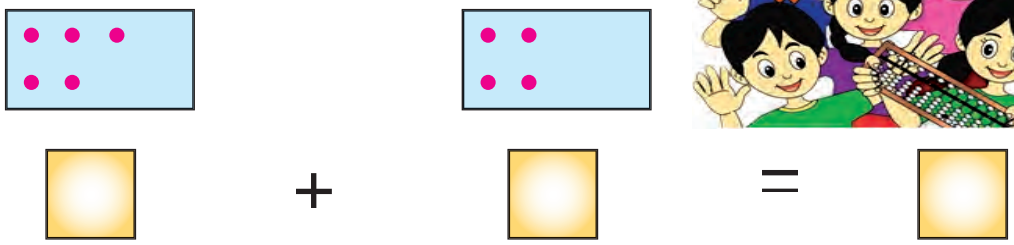

☐ + ☐ = ____

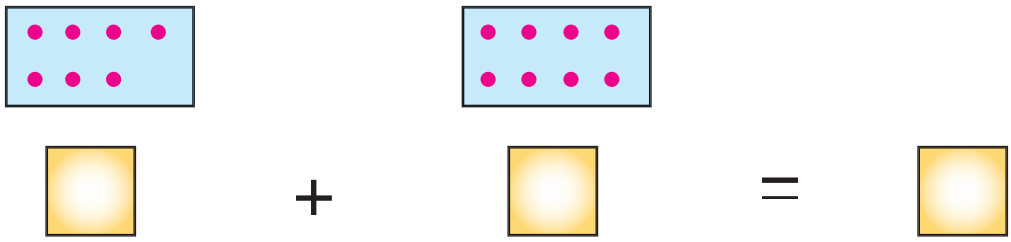



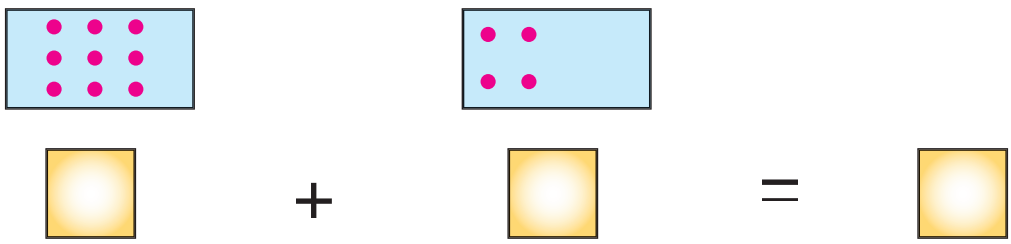
☐ + ☐ = ____

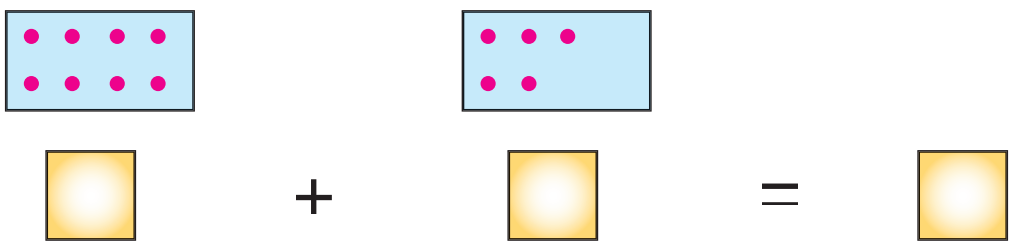
Addition means put together or added together.
It is represented by the symbol '+'

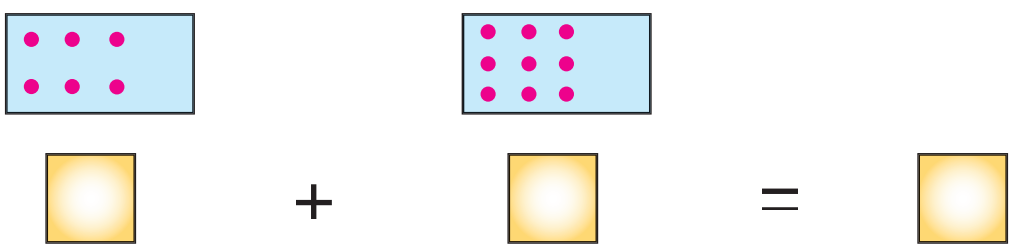
Count and Add.

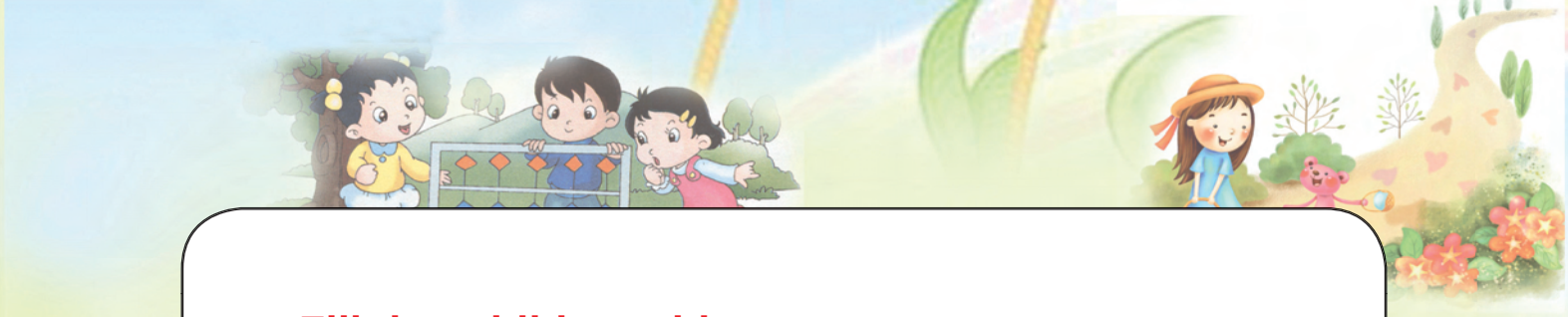












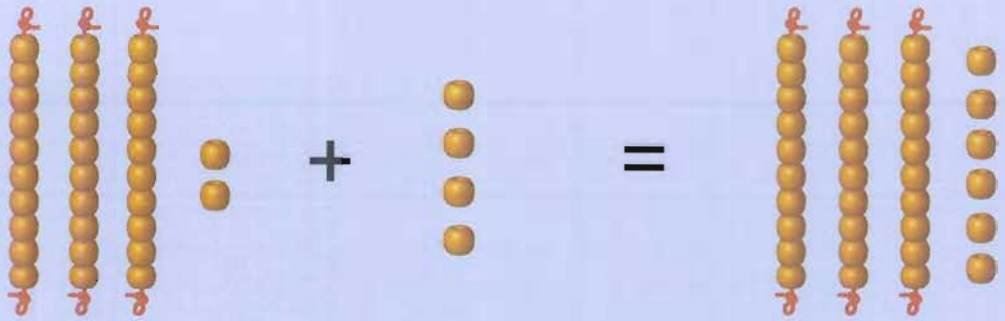
MATHEMATICS

Fill the addition table

+	0	1	2	3	4	5	6	7	8	9
0			2							
1									9	
2						7				
3				6						
4	4									
5						10				
6								13		
7		8								
8							14			
9										

Addition of 2 - digit numbers (without carrying)

Add **32 + 4**



32	+	4	=	36

Add, 4 ones and 2 ones = 6 ones .

Write 6 in the ones place .

Write down 3 in the tens place .

We get, 32 + 4 = 36

	T	O
	3	2
+		4
	3	6

Do it yourself

	T	O
	2	4
+		2

	T	O
	4	6
+		3

	T	O
	7	2
+		6

	T	O
	3	4
+		1

	T	O
	6	3
+		4

	T	O
	7	3
+		5

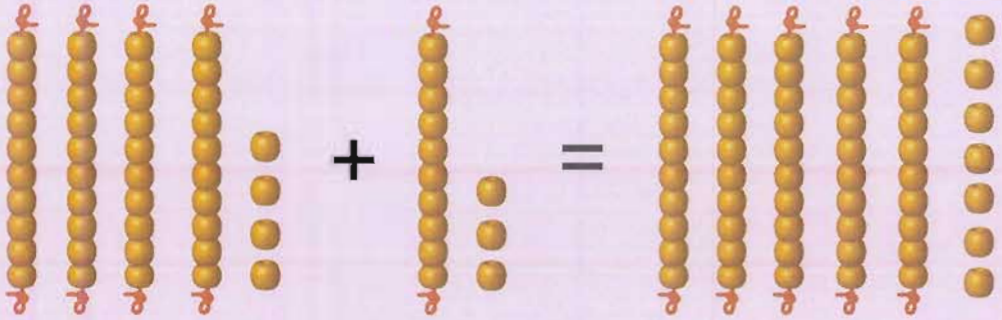
	T	O
	6	3
+		2

	T	O
	6	7
+		1

	T	O
	2	8
+		1

	T	O
	5	0
+		4

Add : 44 + 13



44 + 13 = 57

Add ones

3 ones + 4 ones = 7 ones .

write 7 in the ones place .

Add tens

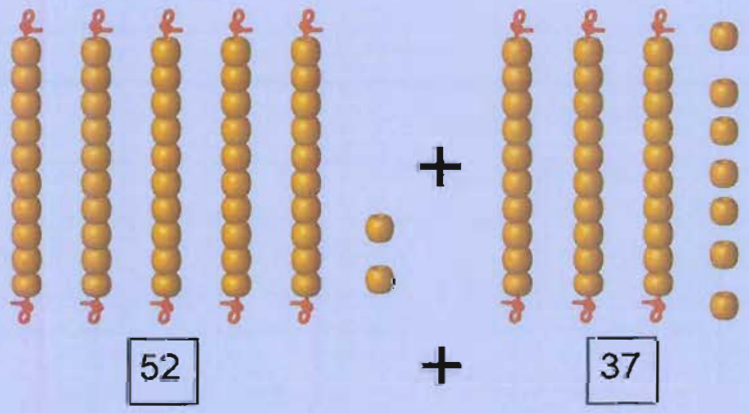
1 ten + 4 tens = 5 tens .

write 5 in the tens place .

we get 44 + 13 = 57

	T	O
	4	4
+	1	3
	5	7

Add : 52 + 37

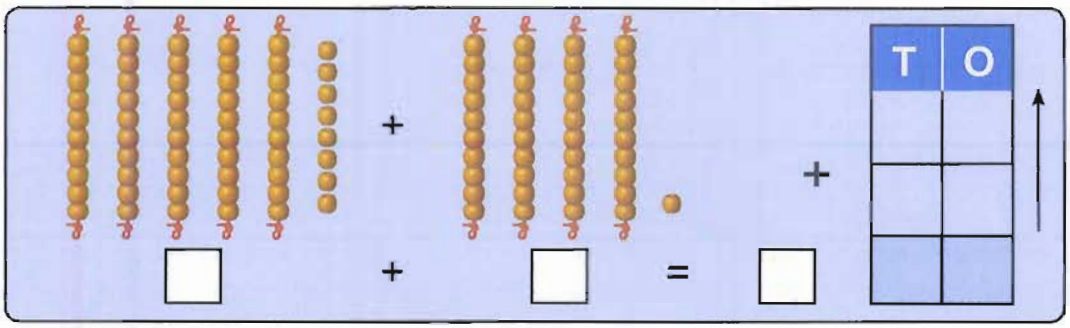


52 + 37 = 89

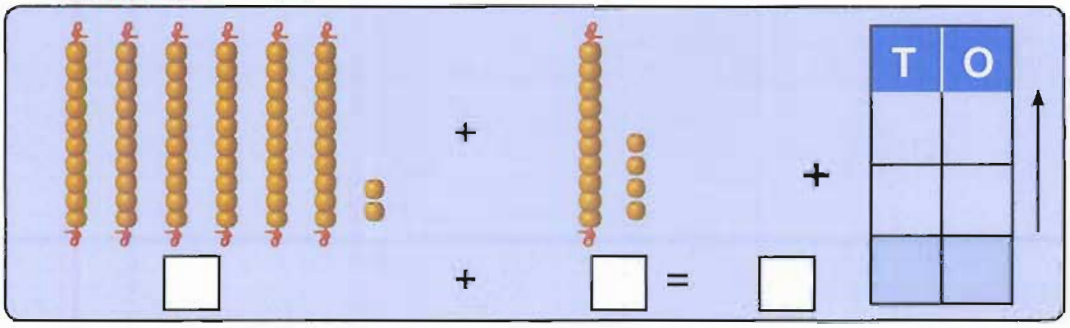
	T	O
	5	2
+	3	7
	8	9

ACTIVITY

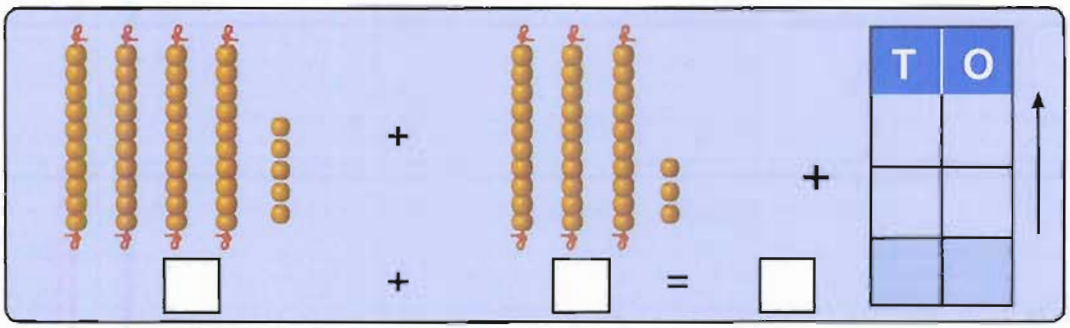
Add : 58 + 41



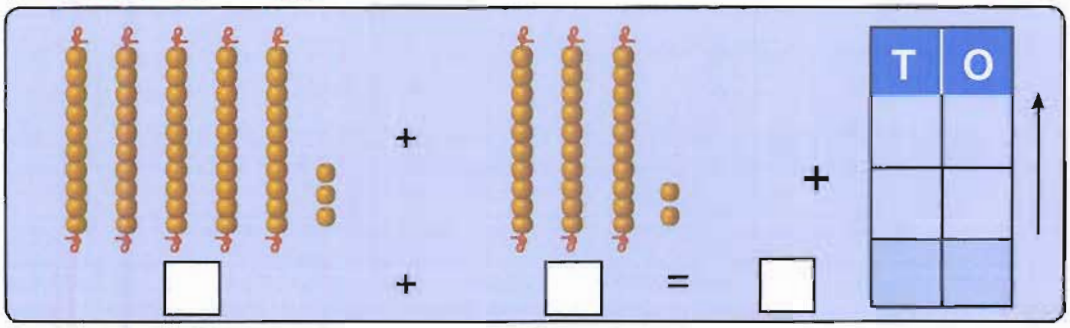
Add : 62 + 14

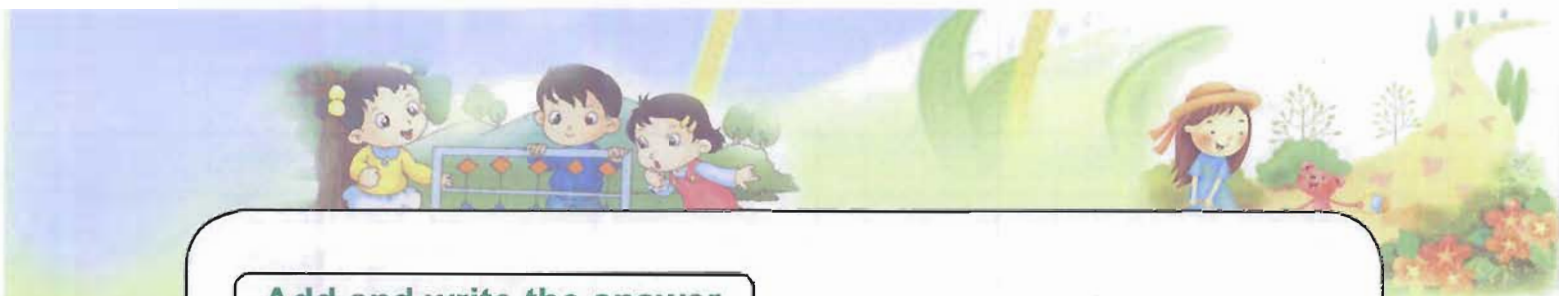


Add : 45 + 33



Add : 53 + 32





MATHEMATICS

Add and write the answer

	T	O
	3	2
+	2	3

	T	O
	4	5
+	3	4

	T	O
	6	2
+	3	6

	T	O
	4	0
+	2	9

	T	O
	5	3
+	3	1

	T	O
	6	7
+	2	0

	T	O
	8	2
+	1	2

	T	O
	7	2
+	2	4

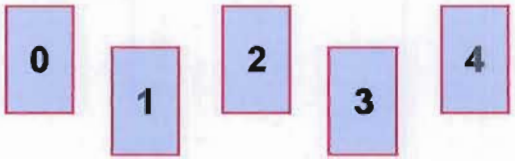
	T	O
	5	2
+	4	1

	T	O
	5	6
+	4	1

	T	O
	3	2
+	2	4

	T	O
	6	2
+	2	3

ACTIVITY



Take any 3 cards

Form 2-digit numbers

22, 23, 24, 32, 33, 34, 42, 43, 44

Take any **2** numbers and add.

	T	O
	2	3
+	2	4

23 + 24 = ☐

Think!

If you take 0 as one of the 3 cards, how many 2-digit numbers can be formed ?

Adding 3 two digit numbers.

✶ We can also add two or more numbers at a time. Let us add three numbers now **43, 32, 22.**

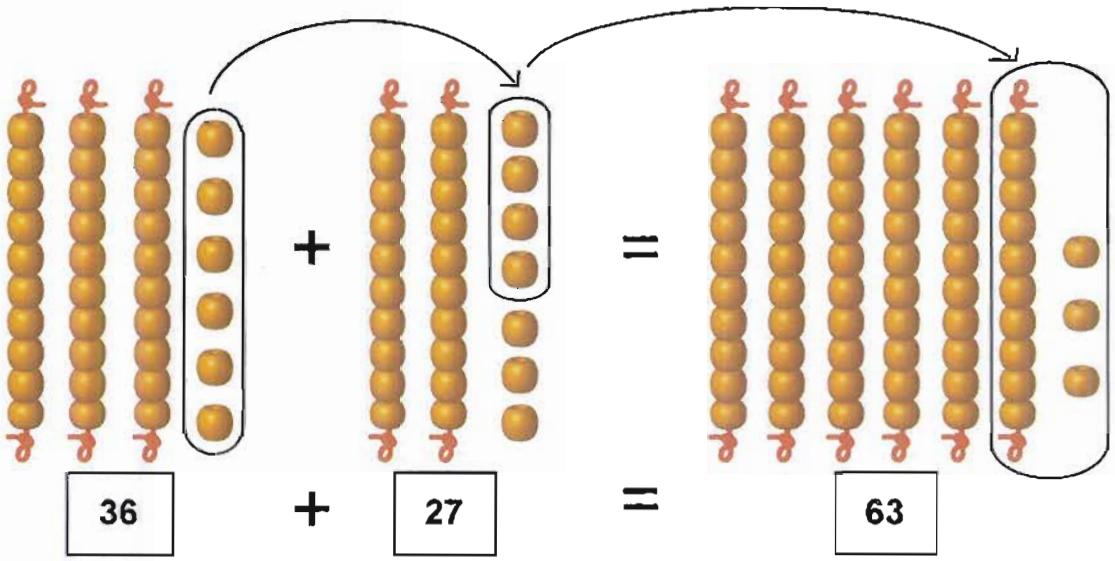
	T	O
	4	3
	3	2
+	2	2
	9	7

Add ones and write in the ones place

Add tens and write in the tens place

ADDITION OF 2-DIGIT NUMBERS (WITH CARRYING)

Add : 36 + 27



★ 7 ones + 6 ones = 13 ones
Change 13 ones into 1 ten and 3 ones

★ Write 3 in the ones place and carry 1 ten to the tens place .

★ Add the tens.
2 tens + 3 tens + 1 ten = 6 tens

★ Write 6 in the tens place.

	1	
	T	O
	3	6
+	2	7
	6	3

36 + 27 = 63

Shall we add more than two 2-digit numbers ?

Add 45 + 34 + 13

Add the numbers which are in the ones place

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

3 ones + 4 ones + 5 ones = 12 ones

change 12 ones = 1 ten + 2 ones

Write 2 in the ones place and carry 1 to the tens place.

Now, add the tens

1 ten + 3 tens + 4 tens + 1 ten = 9 tens.

Write 9 tens in the tens place

45 + 34 + 13 = 92.

Add and write the answer

		1
	T	O
	4	3
+	2	9
	7	2

	T	O
	2	7
+	4	6

	T	O
	2	5
+	3	7

	T	O
	1	8
+	2	3

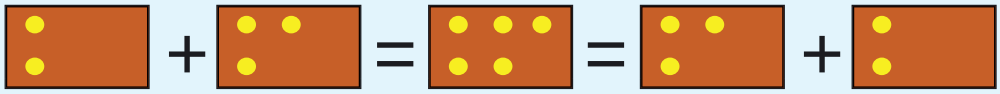
	T	O
	6	7
+	2	6

	T	O
	3	8
+	4	6

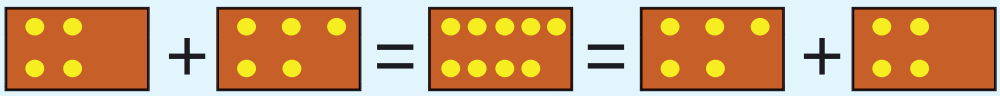
	T	O
	5	2
	2	4
+	1	8

	T	O
	1	6
	2	7
+	4	5

Properties of addition



2 + 3 = 5 = 3 + 2

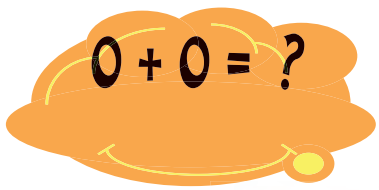


4 + 5 = 9 = 5 + 4

Even if we change the position of the numbers, the value remains the same

Addition with zero

5 + 0 = 5



Any number added to zero or zero added to any number gives the same number

Fill in the boxes

1 + 4 = ☐ + 1

10 + ☐ = 5 + 10

14 + 6 = ☐ + 14

3 + 0 = ☐

0 + 7 = ☐

5 + 0 = ☐

Add

T	O
4	0
2	7

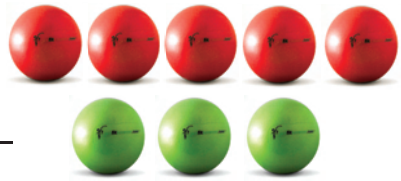
+

T	O
7	0
2	0

Word Problems (Addition)

Ravi has **5** red balls and **3** green balls.

How many balls does he have in all?



Red balls = 5

Green balls = 3

Total number of balls = 8

Ravi has **8** balls.

A fruit seller has **40** oranges and **25** apples in his shop.

How many fruits does he have in all ?

A fruit seller has

Oranges =

Apples =

Total number of fruits =

Fruit Seller has _____ fruits

There are **19** boys and **23** girls in a class.

How many children are there in the Class?

Number of boys =

Number of girls =

Total number of children =

There are _____ children.

Uma has ₹ **40**. Her father gave her ₹ **20** more. How much does she have now?

32 children were playing in the park . **10** more children joined them. How many children were playing?

In a bus, there were **23** men, **32** women and **12** children. How many passengers were there in the bus ?

In a library there are **50** Tamil books and **40** English books. What is the total number of books in the library ?

In a Cricket match, Arul scored **19** runs and John scored **24** runs. How many runs did both of them score?

In a pond, there are **18** lily flowers and **15** lotus flowers. How many flowers are there in the pond?

Mind Maths

In a basket, there are **30** mangoes and **10** bananas. How many fruits are there altogether?

In a farm, there are **20** goats and **30** cows. How many cattle are there in the farm?

On Saturday, I read **30** pages of a story book. I read another **20** pages on Sunday. How many pages did I read in all?

In two queues, there were **40** men and **50** women. How many people were there in the queues?

60 coconut saplings and **10** mango saplings were planted in a farm. Find the total number of saplings in the farm?

Let us form addition stories

Tell me a story for this addition fact,

8 + 4

Umar had **8** rupees in his piggy bank. He puts **4** rupees more in it. How much does he have now?

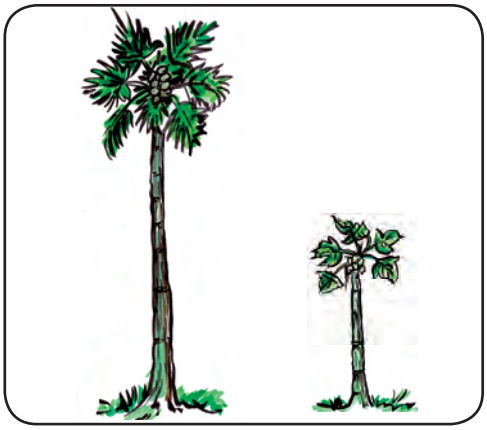
Rita has **8** red bangles and **4** green bangles. Find the total number of bangles she has?

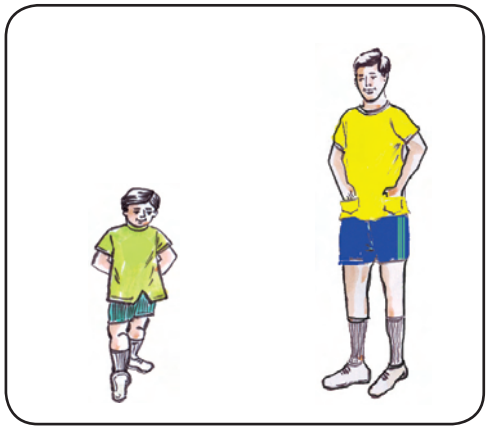
Teacher's Note

- To develop the addition skill in day-to-day life, the above oral activity is suggested
- Teacher may give more addition facts to the children and ask them to narrate the stories of their own.

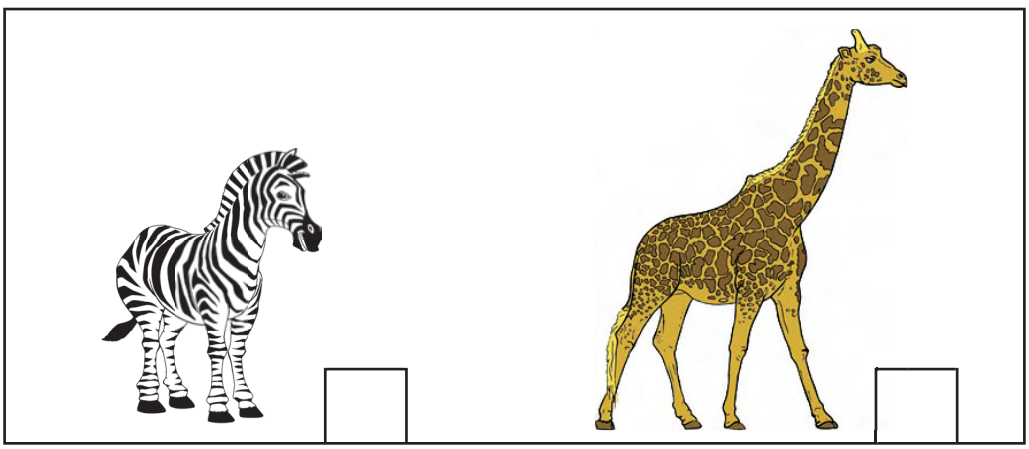
5. MEASURES OF LENGTH

Observe the height of the following pictures.

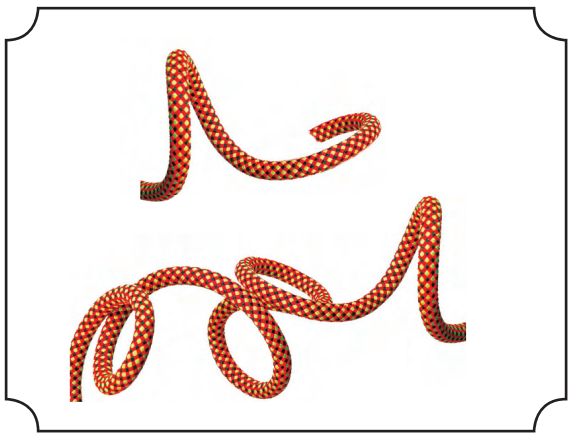




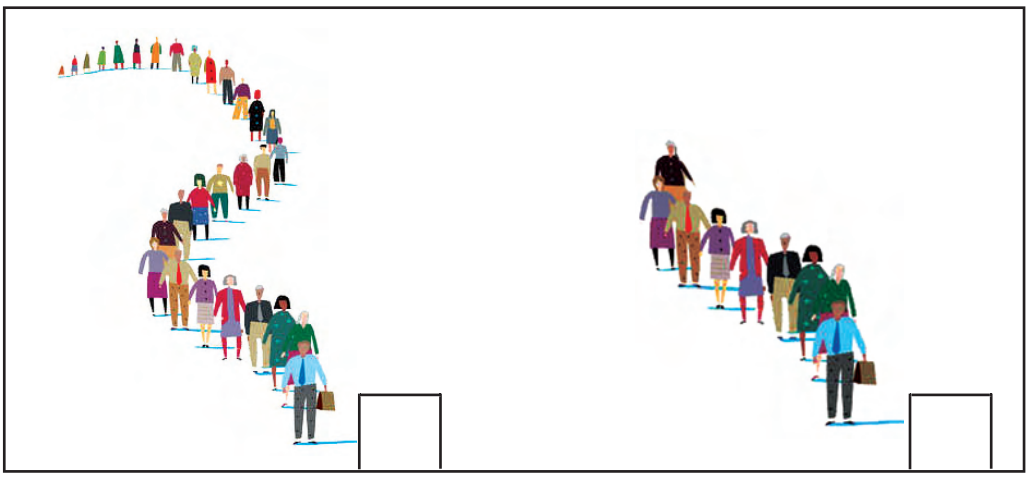
Tick the taller object.

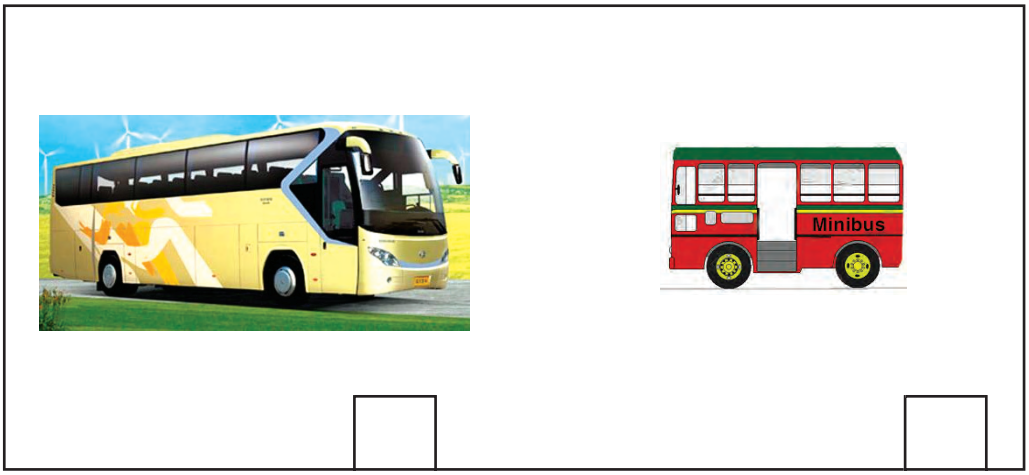


Observe the length of the following pictures.



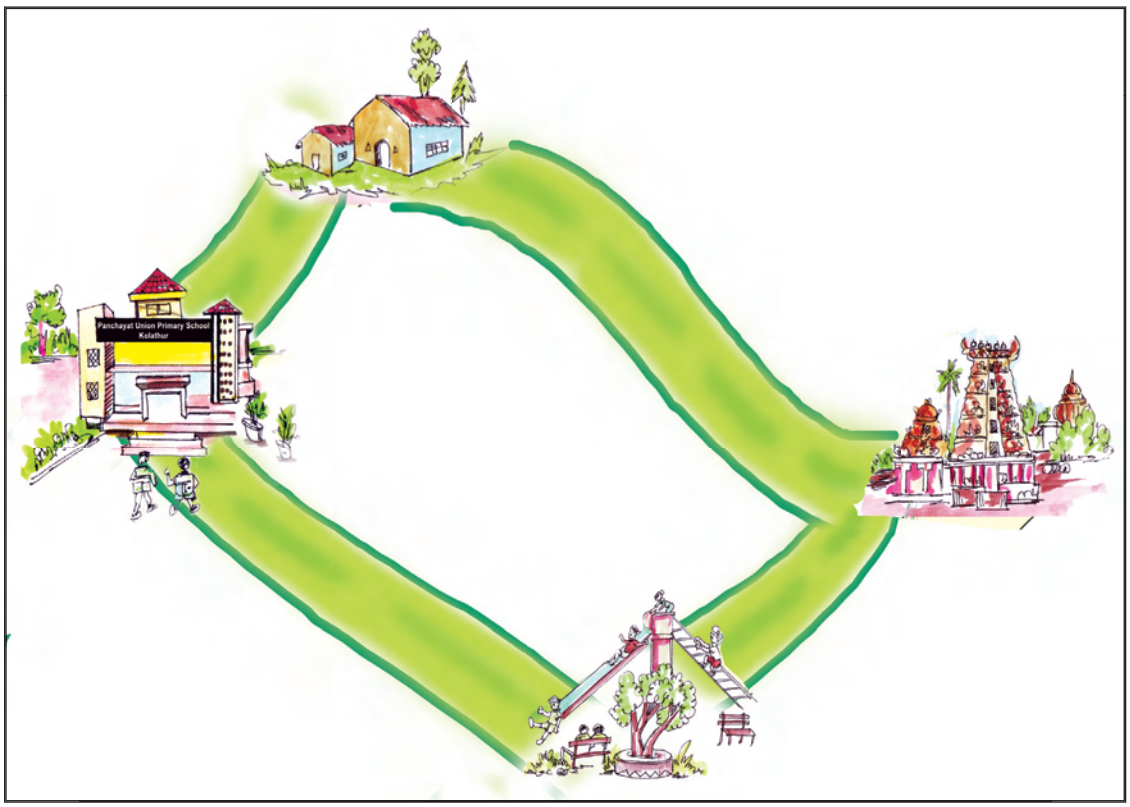
Tick which is longer.





Discuss
with your friends
What is depth?

Observe the picture.



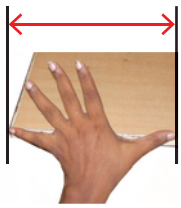
Put (✓) for the correct answer.

Which is nearer to the house?
School / Temple.

Which is nearer to the park?
Temple / School

Which is far from the temple?
Park / House

We measure the length or distance in many ways.



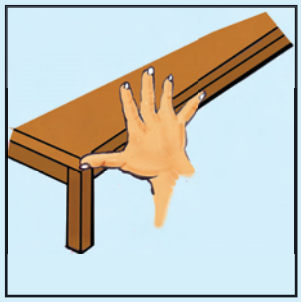
Hand span

Finger span

Cubit

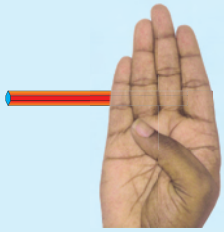
ACTIVITY

Measure the things in the classroom by using your hand span, finger span and cubit.

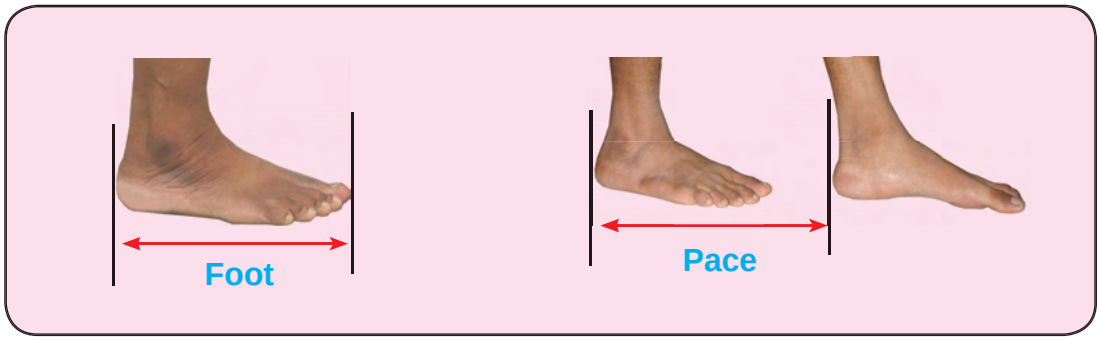


- The length of the table is _____ hand spans and ____ finger spans.

- The length of the pencil is _____ finger spans.



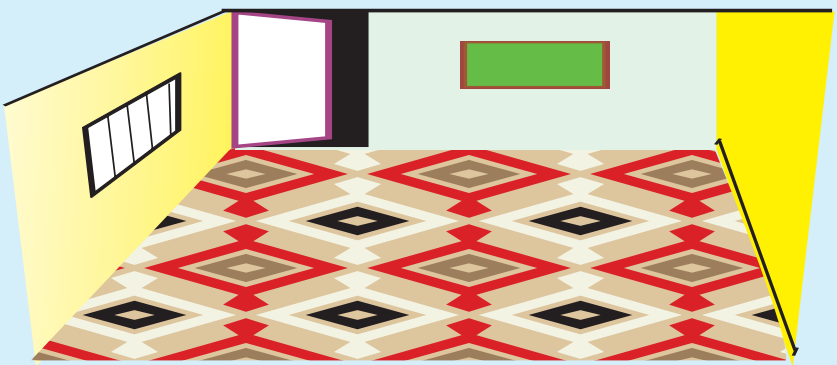
- The length of the blackboard is _____ cubits.



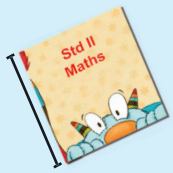
The length of the cricket pitch is 22 paces.

ACTIVITY

The length of your classroom is ____ feet.



Use the following to measure the given objects.

	_____  _____ 	
	_____  _____ 	
	_____  _____ 	

In the above activities, compare your answers with your friends. This may not be the same. You see some differences in measures. Why?

The size of the hand and foot differs from person to person.

So there is a need for a standard unit of measurement. When we use standard units, the measurements would be the same.

★ Metre is the standard unit of length.

★ We measure larger lengths in metres.

★ We measure smaller lengths in centimetres and millimetres.

★ The scale has centimetres on one side.

We buy cloth by measuring its length in metres.

A tailor takes measures of length to stitch a shirt in centimetres

ACTIVITY

Find out which distance is shorter.

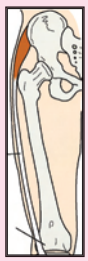
Your house to the school.

(or)

Your friend's house to the school.

Do you know?

The longest bone in the human body is the thigh bone.



'I can, I did'

Student's Activity Record

Subject:

Sl. No.	Date	Lesson No.	Topic of the Lesson	Activities	Remarks