GOVERNMENT OF TAMIL NADU

# STANDARD TWO

## TERM - I

## VOLUME 2

# MATHEMATICS
# ENVIRONMENTAL SCIENCE

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# THE NATIONAL ANTHEM

Jana-gana-mana-adhinayaka jaya he
Bharata-bhagya-vidhata.
Punjaba-Sindhu-Gujarata-Maratha-
Dravida-Utkala-Banga
Vindhya-Himachala-Yamuna-Ganga
Uchchhala-jaladhi-taranga
Tava subha name jage,
Tava Subha asisa mage,
Gahe tava jaya-gatha.
Jana-gana-mangala-dayaka jaya he
Bharata-bhagya-vidhata
Jaya he, jaya he, jaya he,
Jaya jaya, jaya, jaya he.

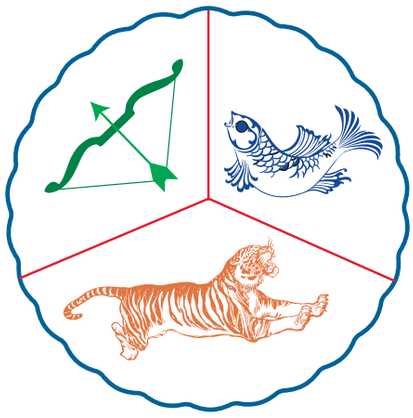
- Rabindranath Tagore.

# தமிழ்த்தாய் வாழ்த்து

நீராருங் கடலுடுத்த நிலமடந்தைக் கெழிலொழுகும்
சீராரும் வதனமெனத் திகழ்பரதக் கண்டமிதில்
தெக்கணமும் அதிற்சிறந்த திராவிடநல் திருநாடும்
தக்கசிறு பிறைநுதலும் தரித்தநறுந் திலகமுமே!
அத்திலக வாசனைபோல் அனைத்துலகும் இன்பமுற
எத்திசையும் புகழ்மணக்க இருந்தபெருந் தமிழணங்கே!
தமிழணங்கே!

உன் சீரிளமைத் திறம் வியந்து செயல் மறந்து வாழ்த்துதுமே!
வாழ்த்துதுமே!
வாழ்த்துதுமே!

- 'மனோன்மணியம்' பெ. சுந்தரனார்.



## தமிழ்த்தாய் வாழ்த்து – பொருள்

ஒலி எழுப்பும் நீர் நிறைந்த கடலெனும் ஆடையுடுத்திய நிலமெனும் பெண்ணுக்கு, அழகு மிளிரும் சிறப்பு நிறைந்த முகமாகத் திகழ்கிறது பரதக்கண்டம். அக்கண்டத்தில், தென்னாடும் அதில் சிறந்த திராவிடர்களின் நல்ல திருநாடும், பொருத்தமான பிறை போன்ற நெற்றியாகவும், அதிலிட்ட மணம் வீசும் திலகமாகவும் இருக்கின்றன.

அந்தத் திலகத்தில் இருந்து வரும் வாசனைபோல, அனைத்துலகமும் இன்பம் பெறும் வகையில் எல்லாத் திசையிலும் புகழ் மணக்கும்படி (புகழ் பெற்று) இருக்கின்ற பெருமைமிக்க தமிழ்ப் பெண்ணே! தமிழ்ப் பெண்ணே! என்றும் இளமையாக இருக்கின்ற உன் சிறப்பான திறமையை வியந்து உன் வயப்பட்டு எங்கள் செயல்களை மறந்து உன்னை வாழ்த்துவோமே! வாழ்த்துவோமே! வாழ்த்துவோமே!

# MATHEMATICS

## 2

## Term - 1

# INDEX



2Z7EA4

E-BOOK

4P1XDR

ASSESSMENT

B311_2_MATHS_EM_T1

DIGI-LINKS

UNIT 1

# Geometry

## Recall

Red Carpet welcomes you


Count ■ , ▭ , ▲ and ● in the red carpet above and write their numbers.

 _____  _____  _____  _____

## Learn

Shape Towers

Pile up the given objects and observe the change in their shapes.



**Teacher's Note:**

Teacher can involve the children to arrange the given objects such as square, rectangle shaped papers and coins etc., to appreciate the formation of objects formed.

# 1.1 Introduction to 3 dimensional (3D) shapes

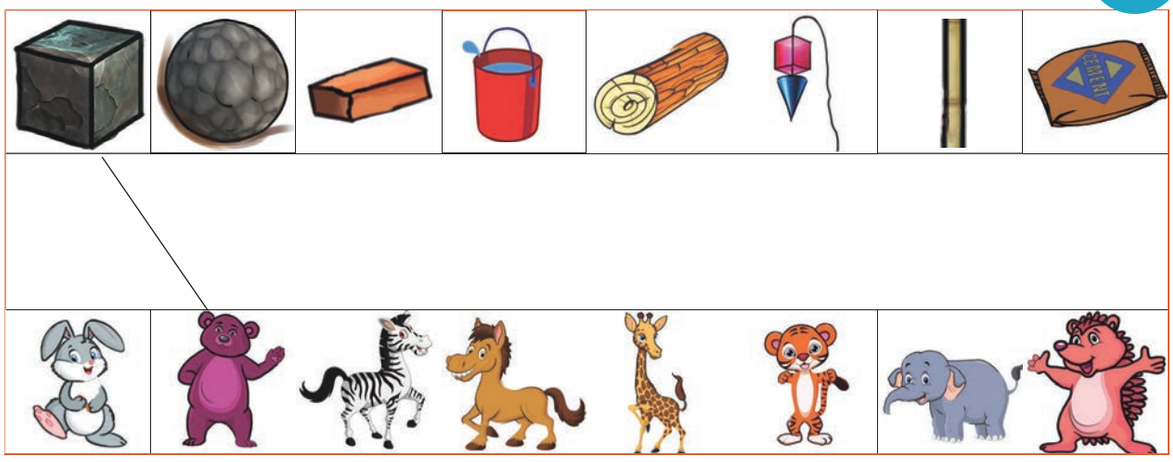
**Travel Through** King's Palace

Animals build a palace for their king, the lion. Each of them brought an item for the palace. Observe the items brought by them.

**Keywords**
Cube
Cuboid
Cylinder
Cone
Sphere

5YCLG3

Match the items brought by the animals as seen in the above picture. One is done for you.



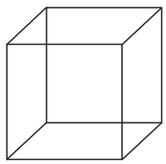
**Teacher's Note:**

Teacher can narrate the above story of the King's Palace for enhancing the mathematical vocabulary such as cube, cuboid, cylinder, cone and sphere.

## Learn

### Cube

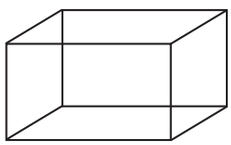
The following objects are in the shape of cube.



Cube

### Cuboid

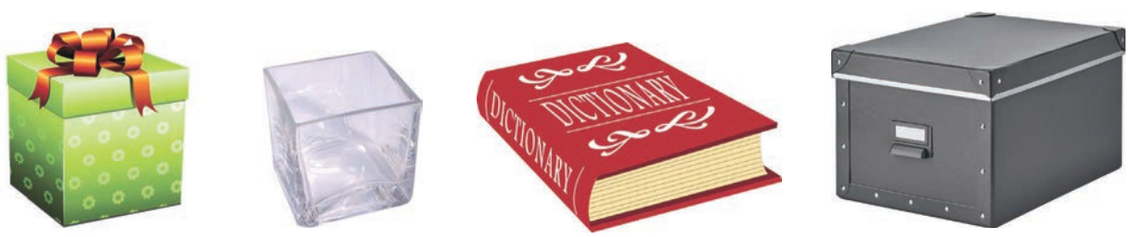
The following objects are in the shape of cuboid.



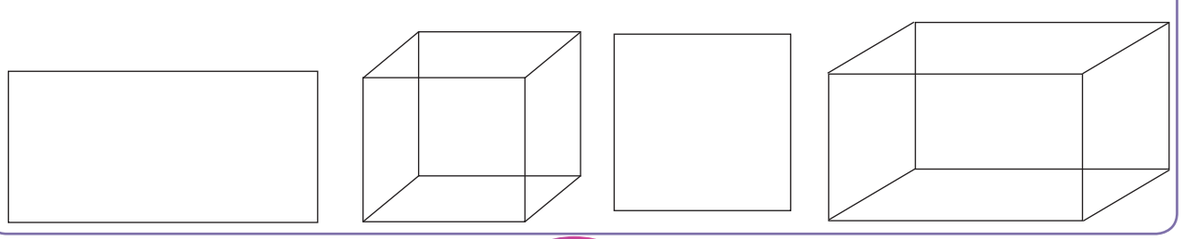
Cuboid

## Practice

1. Identify the cube and cuboid shaped objects and write 'A' for cube and 'B' for cuboid inside the box given below.




2. Colour the cube shape **red** and cuboid shape **green**.



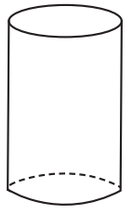
## Learn

### Cylinder

The following objects are in the shape of cylinder.







Cylinder

### Cone

The following objects are in the shape of cone.





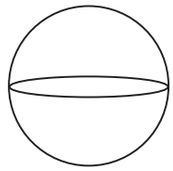
Cone

### Sphere

The following objects are in the shape of sphere.







Sphere

## Practice

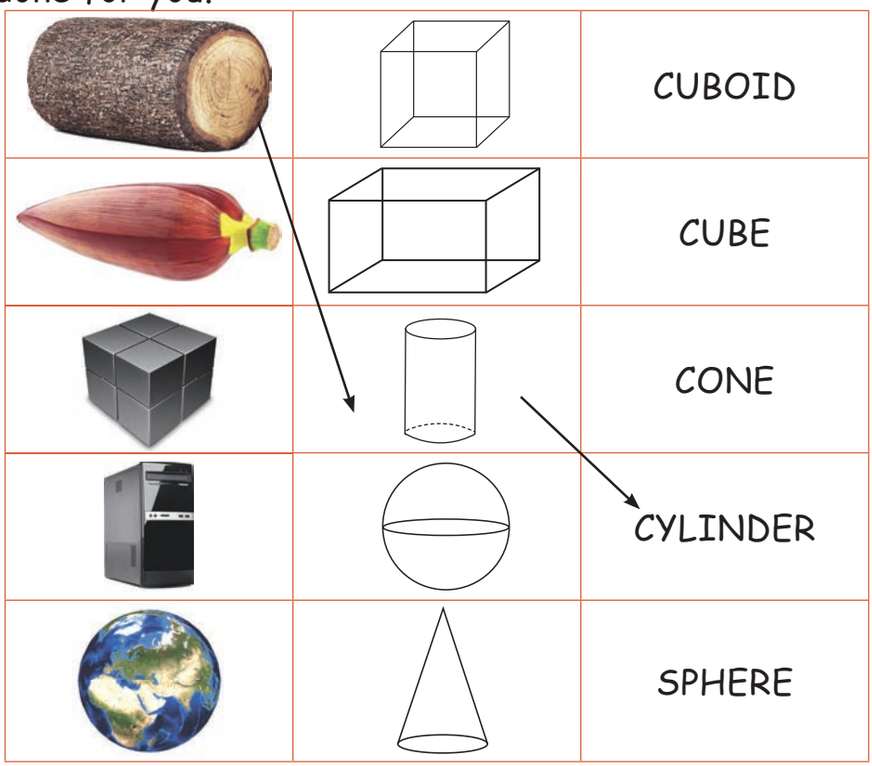
Identify the cylinder, cone and sphere shaped objects and write '1' for cylinder,'2' for cone and '3' for sphere.





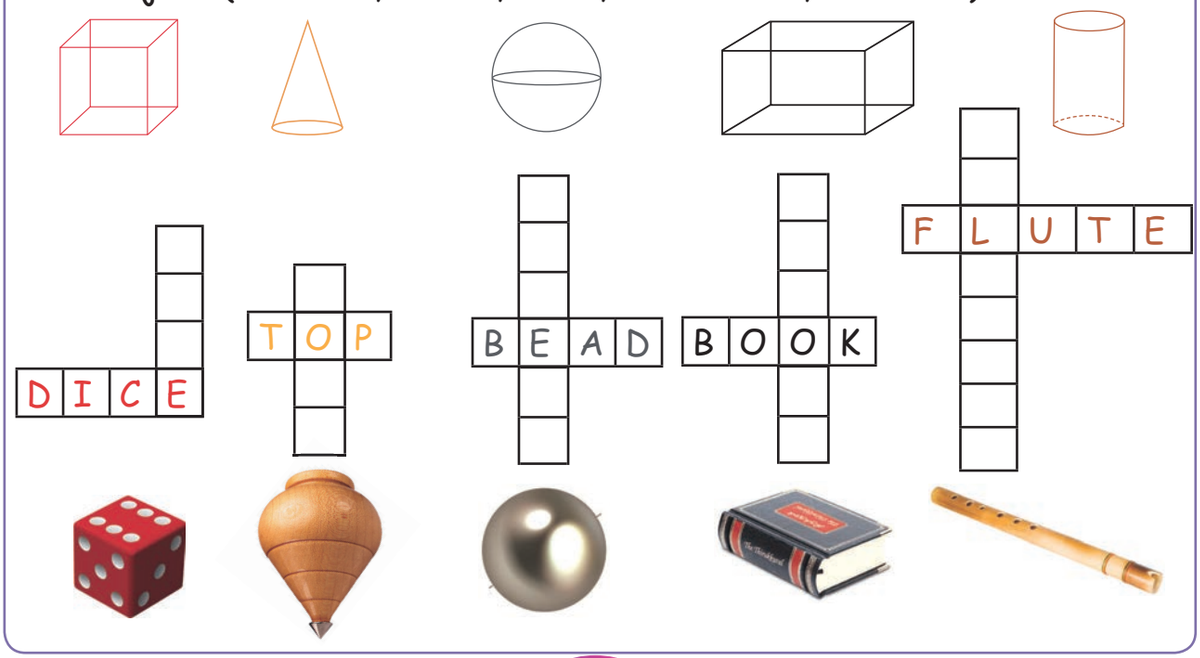

## Try This

Match the objects with their shapes and names of the shapes. One is done for you.




## Practice

The names of the objects are given in the boxes. Observe the shapes of the given objects. Write them in the empty squares matching each object.(SPHERE, CONE,CUBE, CYLINDER, CUBOID)



## Pleasure Time

Help your toy friends to reach their houses.

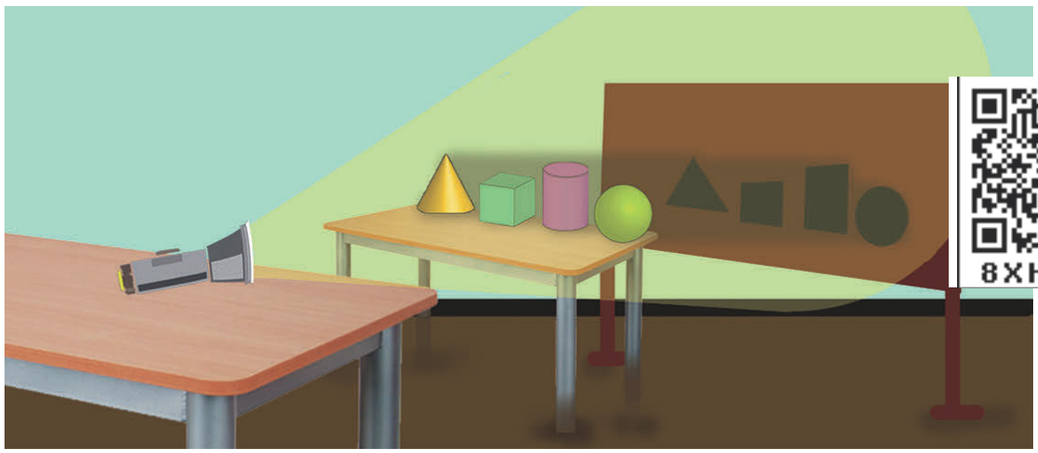
7N75JQ

Teacher's Note:

Teacher can encourage students to draw the path for the toy children to reach their houses. They need to collect their identical shapes on their way. Example cube, cylinder, sphere, cone, cuboid.

# 1.2 Identification of 2D shapes and 3D objects

## Travel Through



8XHTM2

Teacher's Note:

Place the objects on a table as given in the picture and fix a cardboard behind the objects. Now glow a torch light from the front side of the objects horizontally and make students see the images of the objects on the cardboard.

## Learn

### 2D impressions of 3D

Take an inkpad.


Press an eraser on the inkpad.

Remove the eraser. Press it on white paper and see the 2D impression.

Teacher's Note:

The teacher can explain that various 2D shapes can be obtained as per the 3D objects used.

## Practice

Based on the above activity, fill in the table given below.

| Objects used | Shapes formed |
|---|---|
| Eraser | Rectangle |
| Sharpener | |
| Dice | |
| Bead | |

Teacher's Note:

Do the activity by using the objects like pencil, sharpner, dice, ball, beads etc., Observe the impression.

## Try This

Draw the outline of the objects using pencil. Remove the objects and write the names of the shapes formed.

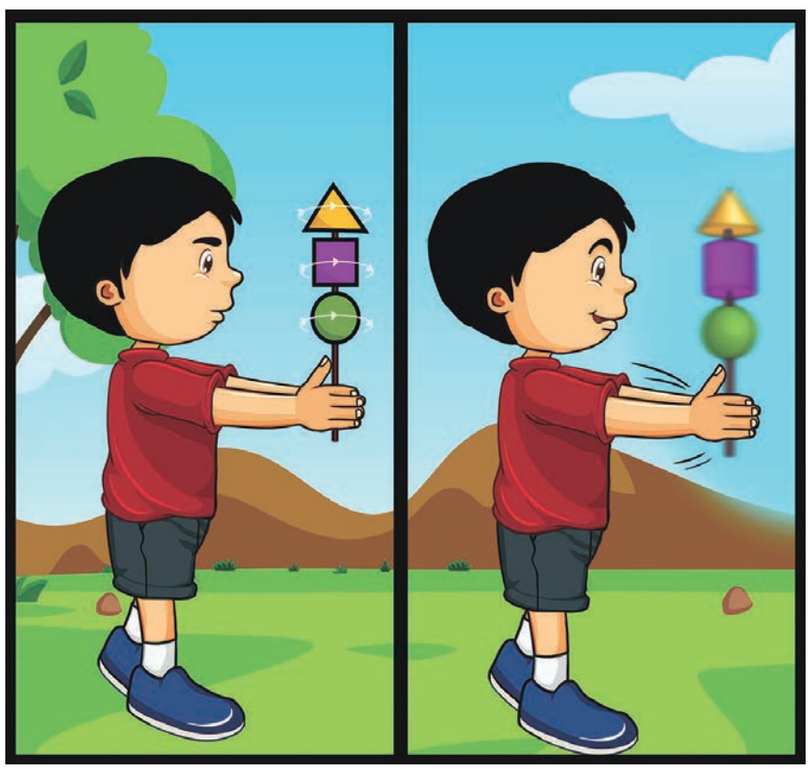
| 3D Shaped objects | Traced figure | Name of the 2D shape |
|---|---|---|
|   | | Rectangle |
|  | | |
|  | | |

## Activity

### 3D figures from 2D shapes

Take triangle, rectangle,circle shaped colour papers. Paste it firmly with a stick and rotate the stick. Observe the 3D figures formed from 2D shapes.

78NAIE



## Activity

### 3D objects using clay

Make the sphere into cylinder, cylinder into cuboid and cuboid into cube by following the instructions given.

1. Make balls using clay.

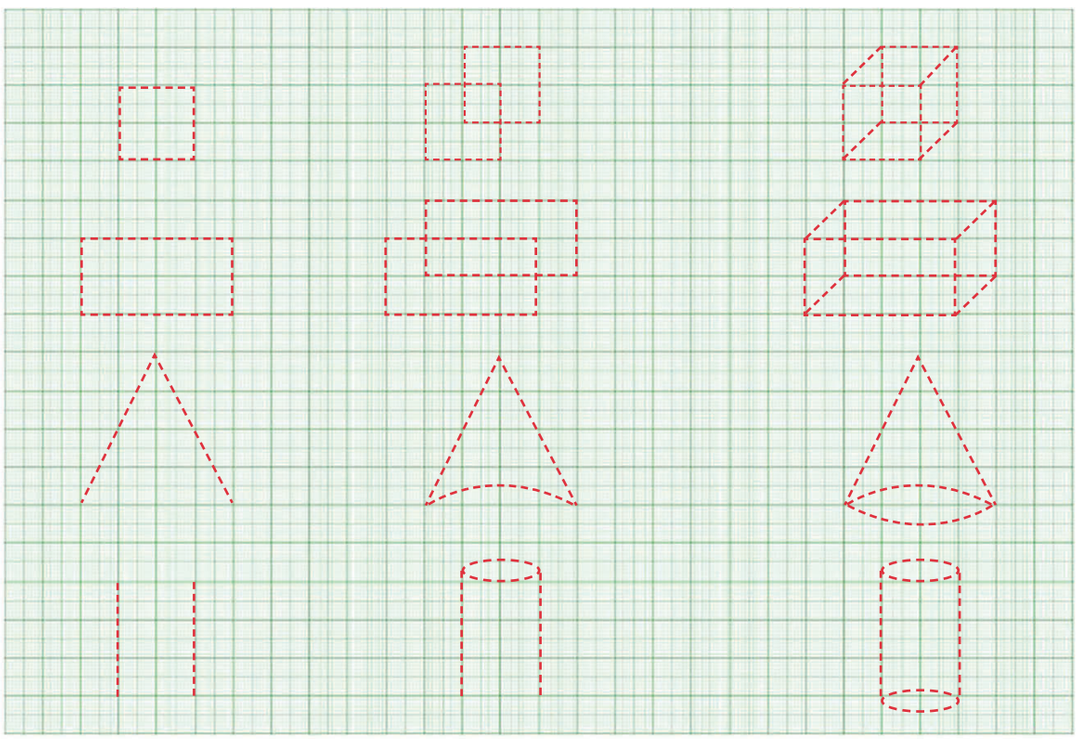
2. Roll the balls on a tray and cut both the edges to form cylinders.

3. Pat the cylinders to make cuboids.

4. Pat the cuboids to make cubes.

## Pleasure Time

Let us join the dots and draw shapes like cube, cuboid, cone and cylinder.



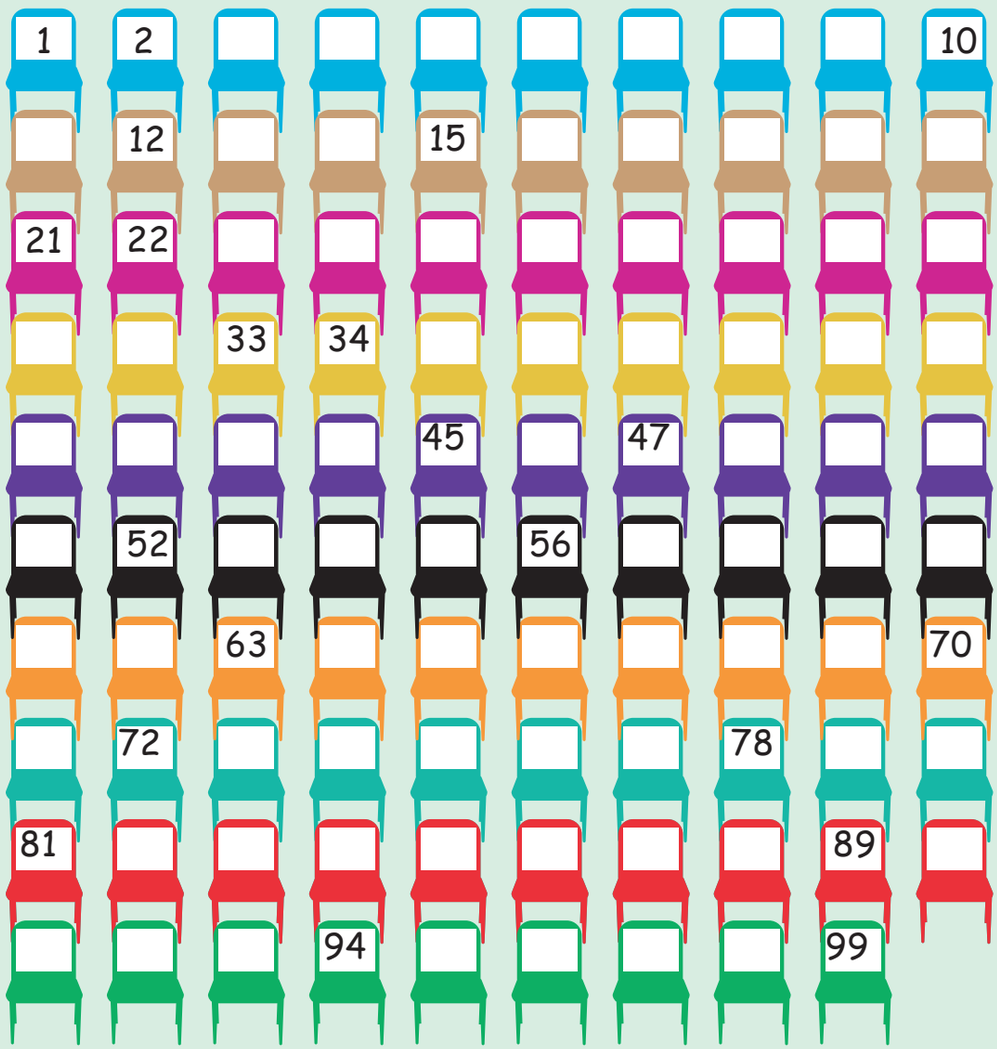
UNIT 2

# Numbers

## Recall

### Numbers from 1 to 99

Write the missing numbers in the chairs of the auditorium.




Teacher's Note:

Teacher can ask questions like the following to familiarize the children on the numbers from 1 to 99.

i) Circle the chair with number 72.

ii) Circle the number before 20.

iii) How many red coloured chairs are there?

iv) What are the numbers that lie between 12 and 15 ?

## 2.1 Predecessor,successor and in between numbers

### Travel Through

Our journey! Happy journey!!


**Keywords**

Predecessor
Successor
Between

1. Who is standing before the lion?
2. Who is standing after the panda?
3. Who is standing in between elephant and donkey?

**Teacher's Note:**

Teacher can ask more questions using before, after and in between.

### Learn

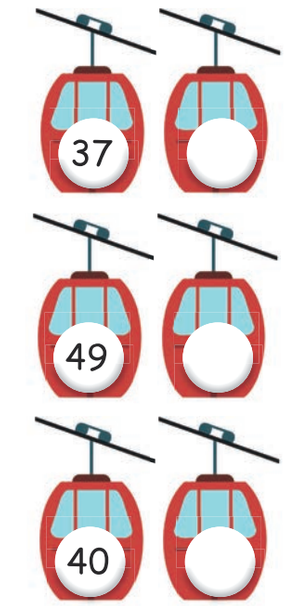
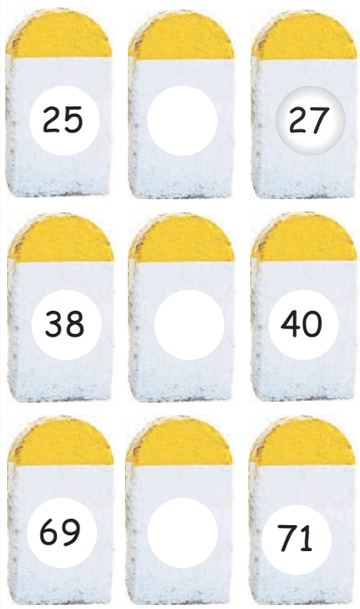
Predecessor and Successor

 stands before  .
The number 2 comes before 3.
So, 2 is the predecessor of 3.

 stands after  .
The number 4 comes after 3.
So, 4 is the successor of 3.

 stands between  and  . So, 3 is in between 2 and 4.

## Practice

| Write the predecessor (before) | Write the successor (after) | Write the number in between |
|---|---|---|
|   |   |   |

## 2.2 Grouping

## Travel Through

### In a tailor shop

**Teacher's Note:**

Teacher can explain the situation and ask a few questions like the following to familiarize the things on grouping of objects.

- What are the things you see in the picture? How many scissors are there?
- How many bottles of buttons are there?

## Learn

Group the words that begin with the same letter and count them.


Bat


Cake


Ant


Car


Ape


Bear


Apple


Carrot


Cat


Book


Axe


Cow

A7THPD

Words that begin with A,B and C are as following.

| | | |
|---|---|---|
| Ant | Bat | Cake |
| Ape | Bear | Car |
| Apple | Book | Carrot |
| Axe | 3 | Cat |
| 4 | | Cow |
| | | 5 |

## Practice

Group the words given below by their starting letter, count and write them.

| | | |
|---|---|---|
| Mugil | Lalitha | Neela |
| Nisha | Nithya | Lily |
| Manoj | Lekha | Logesh |
| Leena | Meera | Mary |
| Mani | Nizam | Nazar |

| L | M | N |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

## Activity

### Let us classify and count

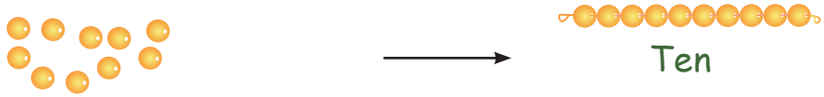
AMCCQP

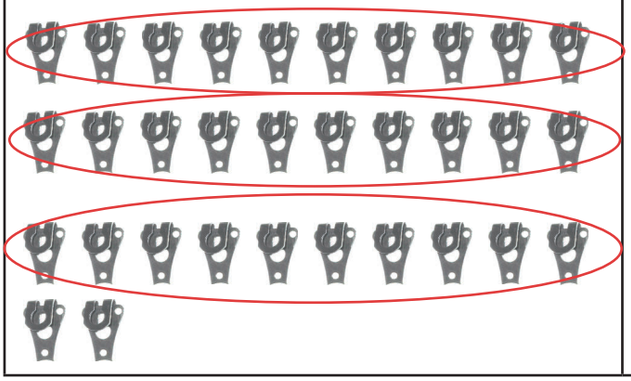
- Take the materials such as beads, neem seeds, tamarind seeds, pebbles and mix them in a tray.
- Ask the students to group them.
- Tell the students to count and say the number.

## Learn

### Grouping ones

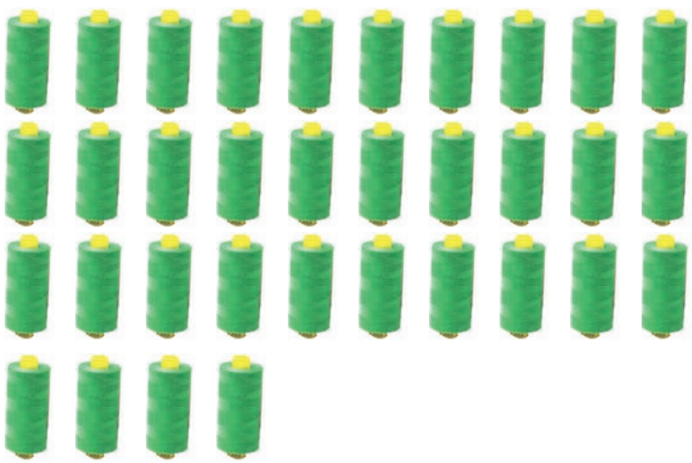
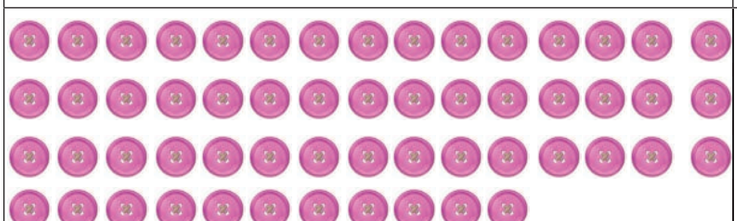
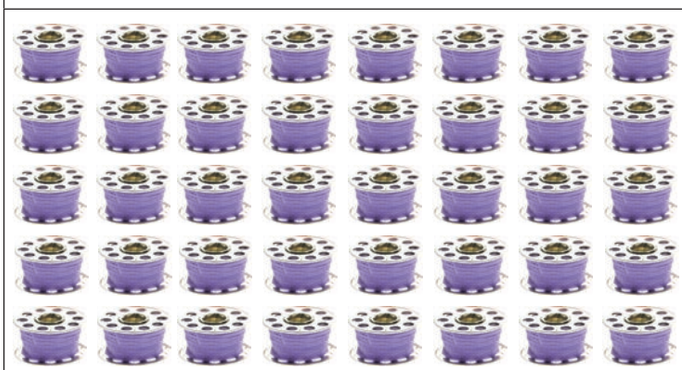
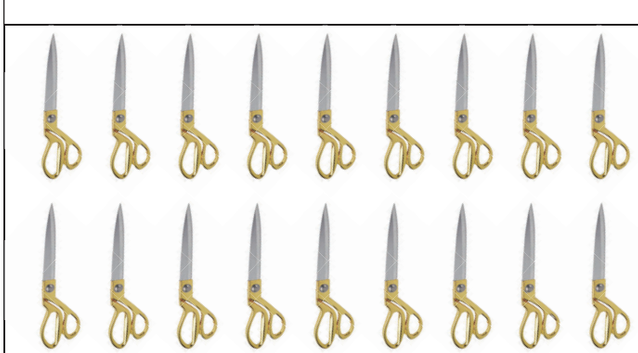
10 ones make 1 ten.




| Objects | Tens | Ones | Number |
|---|---|---|---|
|  | 3 | 2 | 32 |

## Practice

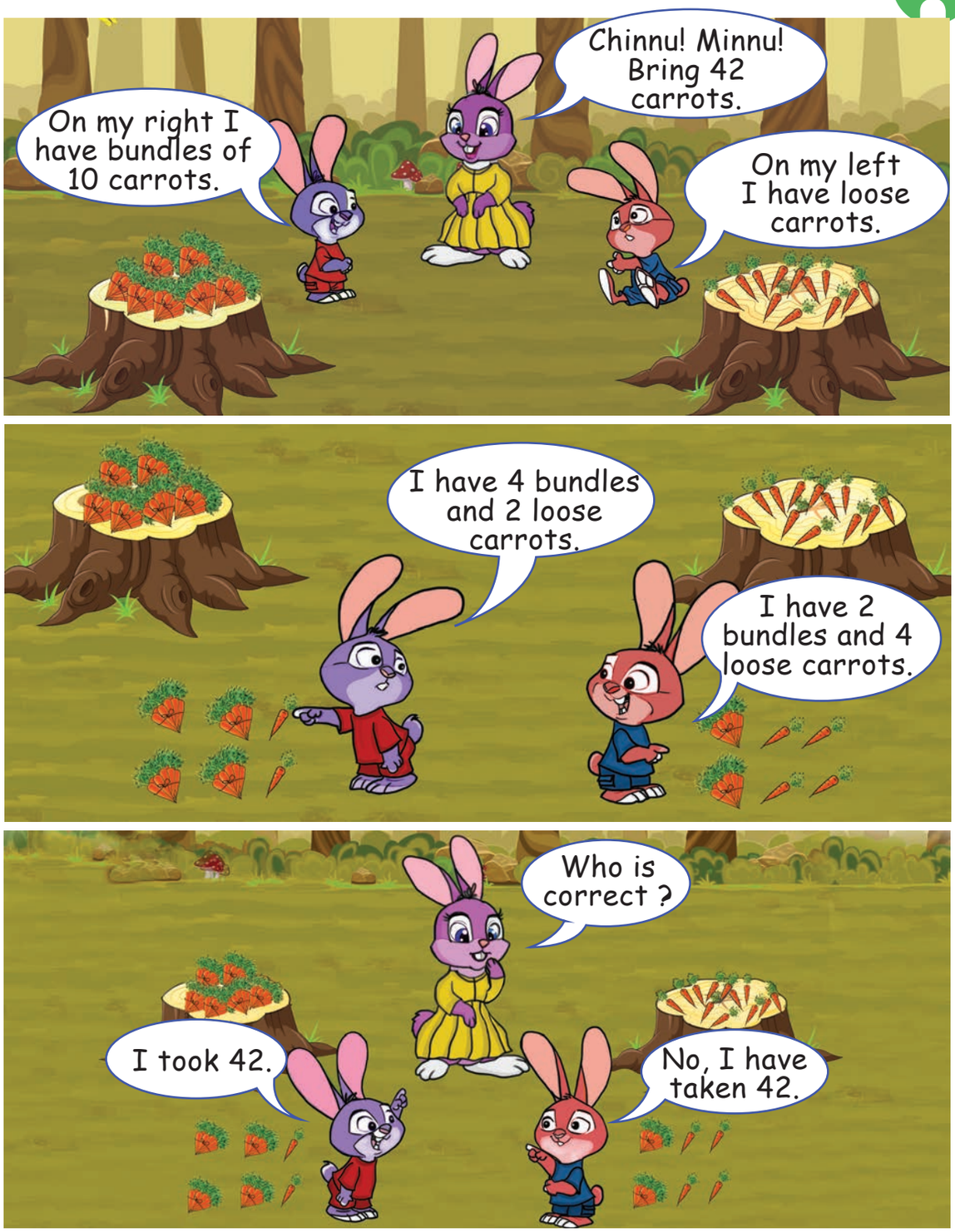
Group the objects in tens and ones and write the number.

| Objects | Tens | Ones | Number |
|---|---|---|---|
|  | | | |
|  | | | |
|  | | | |
|  | | | |

## 2.3 Place value

**Travel Through**

### Chinnu! Minnu!




Teacher's Note:

Teacher can discuss the above situation and explain place value by varying the numbers of carrots.

## Learn

Let us learn about the place value of digits in number using the above situation.

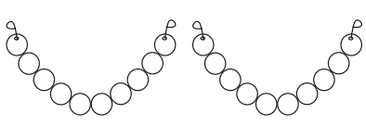
| Number | Bundles of ten carrots | Single carrots |
|---|---|---|
| 42 |  |  |

BWN1T1

The place value of digit in any number depends on its place in that number.

## Practice

Draw necklace using beads in tens and ones for the given number.

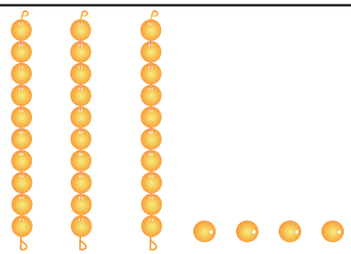
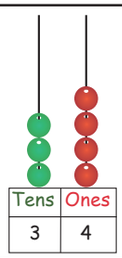
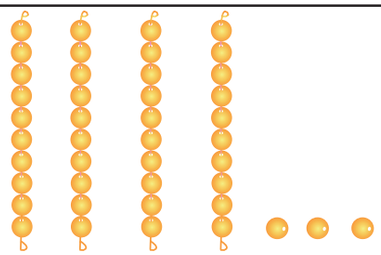
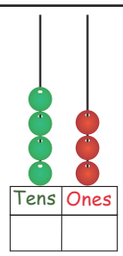
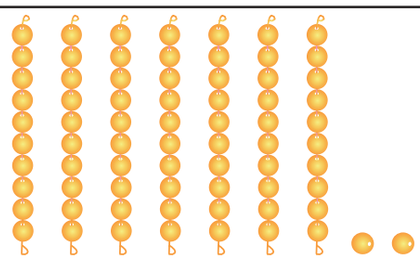
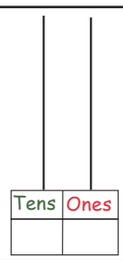
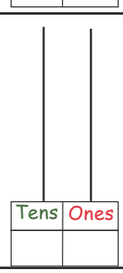
| Number | Necklaces of ten beads | Single beads |
|---|---|---|
| 24 |  |  |
| 53 | | |
| 38 | | |

Complete the empty boxes in the table given below.

| Number | Place Value | | Number | Place Value | |
|---|---|---|---|---|---|
| 23 | 2 Tens | 3 Ones | 32 | | |
| 16 | | | 61 | | |
| 55 | | | 55 | | |
| 74 | | | 47 | | |
| 92 | | | 29 | | |
| 31 | | 1 One | 13 | 1 Ten | 3 Ones |
| 85 | | | 58 | | |

## Try This

Complete the table

| Beads | Abacus | Numbers |
|---|---|---|
|  |   | 3 tens 4 Ones<br>30+4=34 |
|  |   | |
|  |   | |
| |   | 4 tens 5 Ones<br>40+5=45 |

## Activity

- Take 2 sets of cards with numbers 0 to 9.
- Write the words 'Tens', 'Ones' on the board and place one set of cards in front of each word.
- Call two students to stand in the places of ones and tens.
- Each student should pick a number card from the set.
- The student who is standing before 'Tens' should say "I am 2, standing at 'Tens' place. So my place value is 20" and should show twenty beads.
- Next student who is standing before 'Ones' should say, "I am 4,standing at 'Ones' place. So my place value is 4", and should show 4 beads. So,our number is 24. Teacher continues the activity with other students for different two digit numbers.

## Pleasure Time

### Colour and answer

Colour the number boxes with blue if the values in 'Tens' place and 'Ones' place are equal.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 | |

Observe the number chart and answer the following questions.

Write the numbers with the digit 7 either in 'Ones' place or in 'Tens' place

Write all the numbers with 6 in 'tens' places?

Write all the numbers with 8 in 'ones' places?

Which is the number with 9 in both 'tens' and 'ones' places?

## 2.4 Comparing numbers

### Recall

More or less

Sesame balls are less than gooseberries.

Gooseberries are more than sesame balls.

### Learn

Compare the number of flowers.

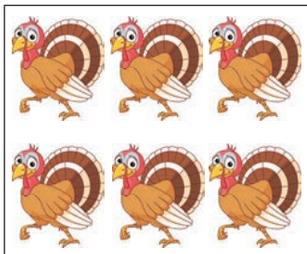
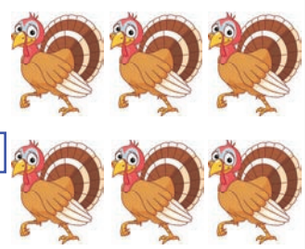
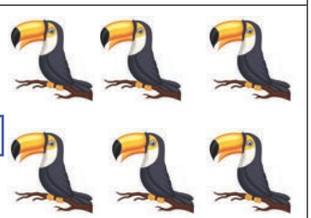
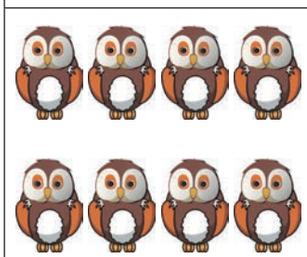
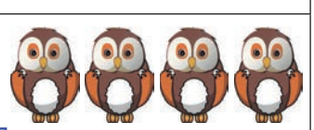

Yellow pot has 9 flowers and blue pot has 5 flowers.
Yellow pot has more flowers than blue pot.
9 is greater than 5.
Blue pot has fewer flowers than yellow pot.
5 is less than 9.



Blue pot has 5 flowers and green pot also has 5 flowers.
Both pots have equal flowers.
5 is equal to 5.

## Practice

Count the objects and write the number in each of the boxes. Compare the number of objects on left and right side and circle the correct statement among the given three.

| | | |
|---|---|---|
|  6 | is greater than<br>is less than<br>is equal to | 6  |
|  ☐ | is greater than<br>is less than<br>is equal to | ☐  |
|  ☐ | is greater than<br>is less than<br>is equal to |  ☐ |
| 8 | is greater than<br>is less than<br>is equal to | 7 |
| 4 | is greater than<br>is less than<br>is equal to | 4 |
| 3 | is greater than<br>is less than<br>is equal to | 9 |

## Learn

### Comparing numbers

Let us compare the single digit number with two digit number for example., 9 and 15

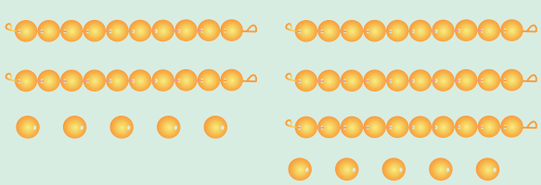
9

15

15 is greater than 9

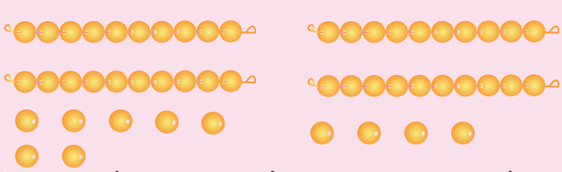
While comparing single digit numbers with two digit numbers, we see that two digit number is always greater than the single digit number.

Let us compare the two digit numbers with different tens
25 and 35



It is enough to compare tens place of the two given numbers.
There are 2 tens in 25.
3 tens in 35.
2 tens is less than 3 tens.
So, 25 is less than 35.
35 is greater than 25.

Let us compare the two digit numbers with different ones
27 and 24



Here the tens places are equal.
Then we have to compare the ones.
There are 7 ones in 27.
4 ones in 24.
7 ones is greater than 4 ones.
So, 27 is greater than 24.
24 is less than 27.

**Teacher's Note:**

Teacher should insist that while comparing two digit numbers with different tens place children can compare only tens place. If the tens place are the same, they need to compare the ones place.

## Practice

Choose the correct answer.

i) 75 is greater than
71 85 98 75

ii) 40 is less than
25 49 39 40

iii) 56 is equal to
60 65 56 57

D6YPVC

## Try This

Put a tick (✓) for the correct answer and (X) for the wrong answer.

i) 3 tens 4 ones is greater than 2 tens 3 ones

ii) 6 tens 5 ones is less than 2 tens 3 ones

iii) 5 tens 3 ones is equal to 53

iv) 55 is equal to 56

v) 65 is greater than 64

vi) 74 is less than 47

## 2.5 Number name

## Travel Through

### Sing a rhyme

One one one

One is the Sun

Two two two

Here is my shoe

Three three three

It's a mango tree


Four four four

Knock at the door

Five five five

Bees are in hive

Six six six

Hen has chicks

Seven seven seven

Do you know lemon?

Eight eight eight

Spider's legs are eight

Nine nine nine

Go in a line

Ten ten ten

We make fun

## Learn

A soldier takes his 20 horses for a parade. Observe the numbers and number names in the horses.


## Practice

Write the number names against the numbers and complete the table.

| Numeral | Words | Numeral | Words |
|---|---|---|---|
| 1 | | 11 | |
| 2 | | 12 | Twelve |
| 3 | Three | 13 | |
| 4 | | 14 | |
| 5 | | 15 | |
| 6 | | 16 | |
| 7 | | 17 | |
| 8 | | 18 | |
| 9 | | 19 | |
| 10 | | 20 | Twenty |

## Practice

Match the number name with the numerals.

Seven

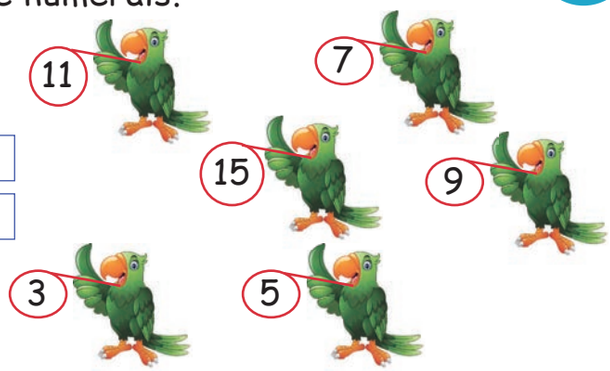
Fifteen

Eleven

Three

Nine

Five




## Try This

Find and circle the number names 11-20 hidden in the box.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| E | I | G | H | T | E | E | N | O | F |
| L | P | S | I | X | T | E | E | N | O |
| E | O | U | F | Q | R | T | E | E | U |
| V | A | N | I | R | S | T | U | V | R |
| E | M | N | F | W | X | Y | Z | A | T |
| N | P | S | T | W | E | L | V | E | E |
| S | E | V | E | N | T | E | E | N | E |
| N | I | N | E | T | E | E | N | W | N |
| T | W | E | N | T | Y | G | M | N | O |
| R | T | H | I | R | T | E | E | N | P |

## Activity

Find the number name

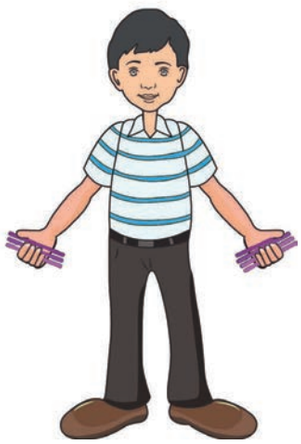
- Take some tamarind seeds and cards with number name from one to twenty.
- Teacher shall call two children and whisper a number into the ear of the first child.
- He / she will pick the tamarind seeds according to the count said by the teacher and pass it on to his partner (without revealing the number).
- The partner will count the seeds and pick the number name card for that number. Teacher will check if the said number name and the whispered number are the same.
- The teacher will continue the game until every child of the class is familiar with number names upto twenty.

# 2.6 Addition

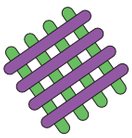
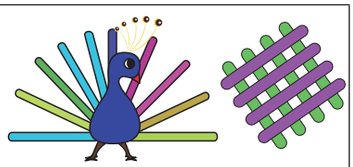
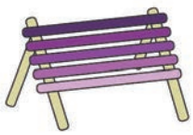
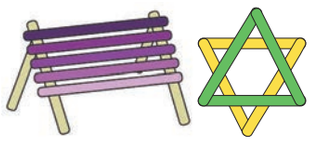
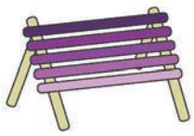
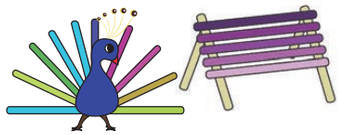
## Recall

Kanmani, Asha and Prashanth used ice sticks for their craft work. Find the total number of sticks used by each of them from the picture given below and write them in the blue box.





DLHJWN

| | | | | | |
|---|---|---|---|---|---|
|  |  10 | + |  8 | = |  |
|  |  9 | + |  6 | = |  |
|  |  10 | + |  9 | = |  |

**Teacher's Note:**

Teacher can help the students to try adding of numbers using variety of materials.

## Travel Through

## A journey to the zoo

Keywords
Count
Add
Total
Combine
Altogether

There are 20 members in the zoo train. Raj counts the members entering into the zoo train at each station in the zoo.

2 children boarded the train after visiting the white tigers.

20 + 2 = 22

From the aquarium, 5 children boarded the train.

22 + ☐ = ☐

2 children boarded the train at the butterfly park.

☐ + ☐ = ☐

Teacher's Note:

Teacher may extend the situation by varying the number of children who boarded into the train and encourage the students to find the total.

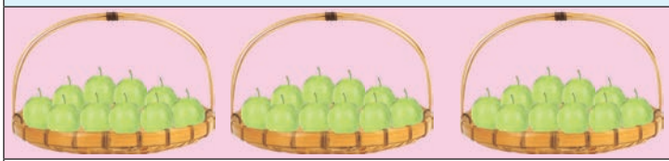
## Learn

### Addition

1. Muthu bought 32 lemons and Kannan bought 5 lemons. Find the total number of lemons bought by them.

| Tens | Ones | T O |
|---|---|---|
|  |  | 3 2 |
| |  | + 5 |
| | | 3 7 |

2. Abi plucked 24 guavas, Jesi plucked 33 guavas. How many guavas did Abi and Jesi pluck in all?

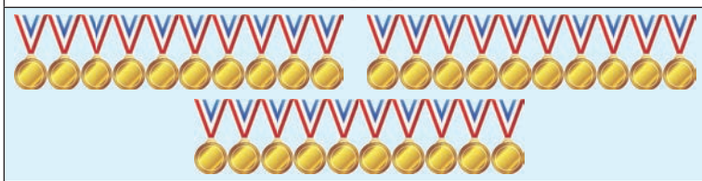
| Tens | Ones | T O |
|---|---|---|
|  |  | 2 4 |
|  |  | + 3 3 |
| | | 5 7 |

## Practice

1. A balloon seller has 23 pink balloons and 4 yellow balloons. How many balloons did he has totally?

| Tens | Ones | T O |
|---|---|---|
|  |  | 2 3 |
| |  | + 4 |
| | | |

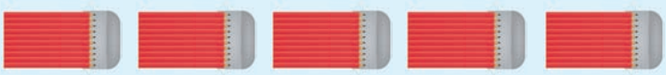
2. In an inter school competition, a school had won 30 gold medals and 21 silver medals. Find the total number of medals won by the school.

| Tens | Ones | T O |
|---|---|---|
|  | | 3 0 |
|  |  | + 2 1 |

3. Reena bought 30 pens from the shop. Next day, she purchased 50 more pens. Count and write the total number of pens she had.

| Tens | Ones | T O |
|---|---|---|
|  | | 3 0 |
|  | | + 5 0 |

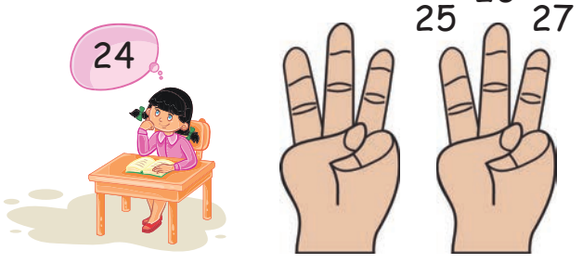
4. Mani has 54 pencils, Benny has 21 pencils and Malini has 23 pencils. How many pencils do they have in total?

| Tens | Ones | T O |
|---|---|---|
|  |  | 5 4 |
|  |  | 2 1 |
|  |  | + 2 3 |

## Learn

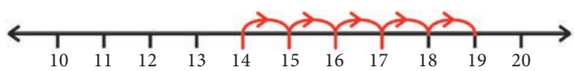
### Various ways of addition

1) Add using fingers : 24 + 3



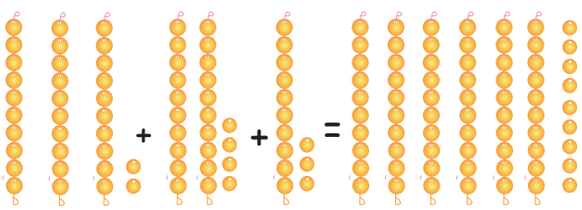

24 + 3 = 27

2) Add using number line : 14 + 5



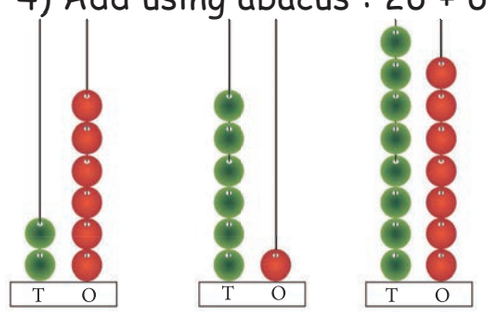

14 + 5 = 19

3) Add using beads : 32 + 24 + 13



32 + 24 + 13 = 69

4) Add using abacus : 26 + 61




2 6 + 6 1 = 8 7

## Practice

### Add the following

| T | O |
|---|---|
| 2 | 5 |
| + | 3 |
| | |

| T | O |
|---|---|
| 4 | 2 |
| + | 0 |
| | |

| T | O |
|---|---|
| 6 | 0 |
| + | 1 |
| | |

| T | O |
|---|---|
| 4 | 5 |
| + 2 | 3 |
| | |

| T | O |
|---|---|
| 2 | 3 |
| + 4 | 0 |
| | |

| T | O |
|---|---|
| 5 | 0 |
| + 3 | 0 |
| | |

| T | O |
|---|---|
| 3 | 6 |
| 2 | 2 |
| + 4 | 1 |
| | |

| T | O |
|---|---|
| 4 | 8 |
| 1 | 0 |
| + 3 | 0 |
| | |

| T | O |
|---|---|
| 7 | 6 |
| | 2 |
| + 2 | 1 |
| | |

Add the following

i) 34 + 35 = ____ ii) 13 + 2 + 1 = ____ iii) 14 + 10 + 2 = ____

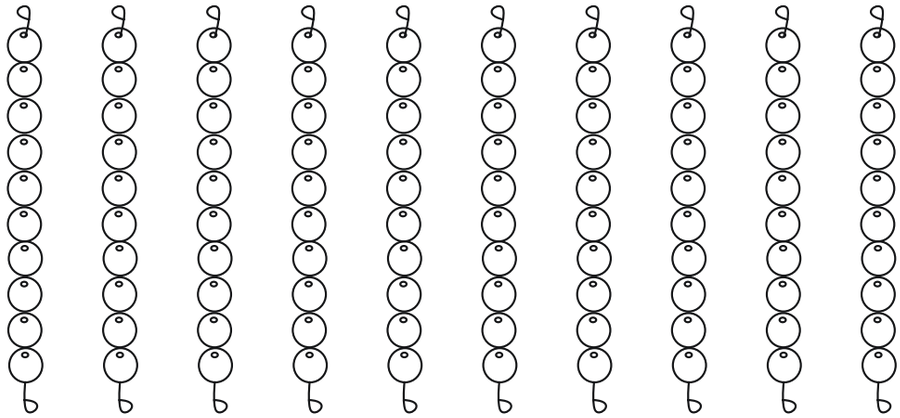
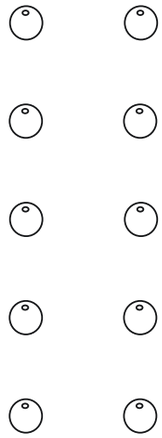
iv) 34 + 30 + 3 = ____ v) 30 + 26 + 40 = ____ iv) 45 + 23 + 21 = ____

## Try This

Colour the tens and ones for given numbers 43 and 25. Find the sum: 43+25

Add the ones of the given number by colouring single beads.

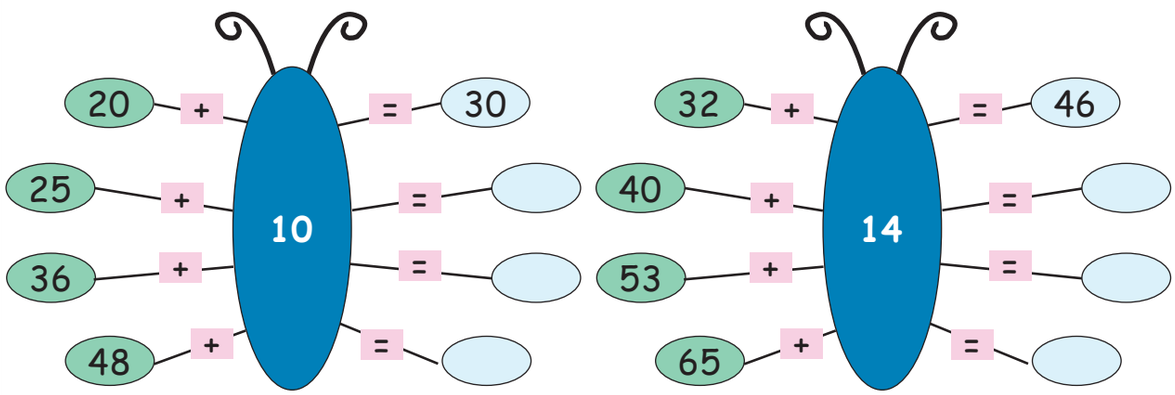
Add the tens of the given number by colouring strips of ten beads.

| Tens | Ones |
|---|---|
|  |  |

Total ____

## Pleasure Time

Complete the circles on the right by adding each of the numbers on the left with 10 and with 14. One is done for you.



## Know more

Both are same

EVT8YZ

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 23 | + | 5 | = | 28 | 5 | + | 23 | = | 28 |
| 13 | + | 0 | = | 13 | 0 | + | 13 | = | 13 |
| 23 | + | 35 | = | 58 | 35 | + | 23 | = | 58 |

## Activity

- Divide the class into 2 groups and give 100 sticks (bundles of 10 sticks and few single sticks) to each group.
- Teacher shall give two numbers to add. For example, 42 and 56
- The first group shall take 40 + 2 sticks and the second group shall take 50 + 6 sticks.
- Both the groups shall combine the sticks. Count the bundles of sticks and single sticks separately and find the total.
- Teacher can instruct the groups to add the single sticks first, write the number below the ones place and then add the bundle of sticks and write the number below the tens place.

## Mental Maths

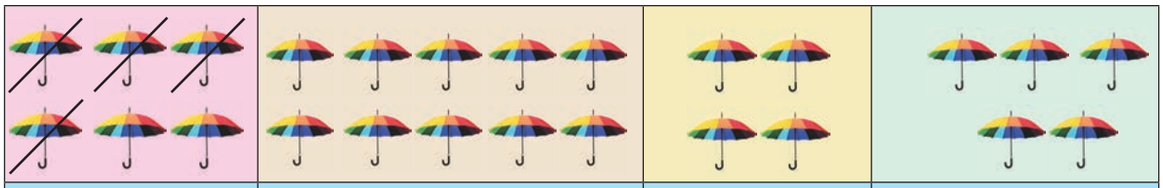
1. 30 children are lined up to jump using a skipping rope. If 20 more children join them, how many children are there in total?
2. In a park, Suji counted 12 children and 15 adults. How many people did she count in total?
3. A fisherman caught 22 fishes in the morning and 12 fishes in the afternoon. How many fishes did he catch totally?
4. There are 15 boys and 24 girls in a class room. How many students are there altogether?
5. In a bird sanctuary, there are 33 parrots and 15 peacocks. How many birds are there in total?

# 2.7 Subtraction

## Recall

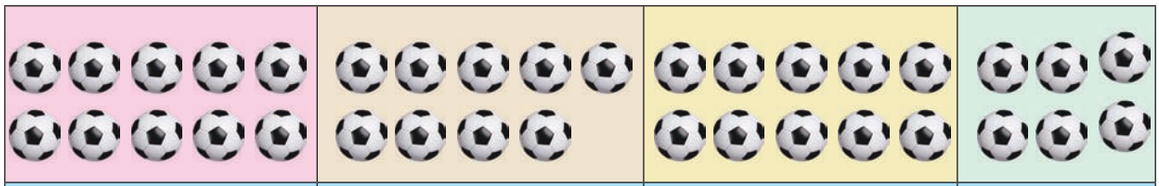
Observe the picture and write the subtraction fact by striking out the objects.

1. Write the subtraction fact inside the box to get the difference 2. One is done for you.



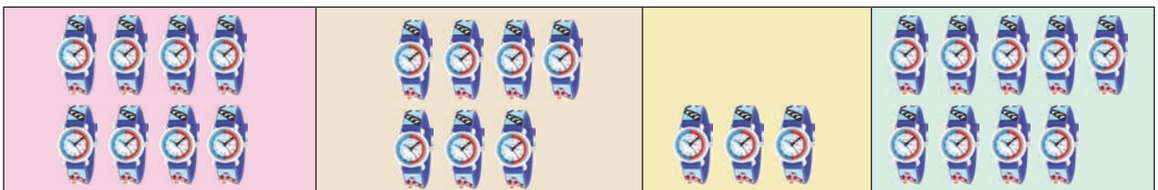
| | | | |
|---|---|---|---|
| 6 - 4 | | | |

2. Write the number statement to get the answer 6.



| | | | |
|---|---|---|---|
| | | | |

3. Write the subtraction fact to get the answer 1.



| | | | |
|---|---|---|---|
| | | | |

4. Subtract the following.

| | | | |
|---|---|---|---|
| 1 3 | 1 6 | 1 8 | 1 0 |
| - 7 | - 9 | - 4 | - 3 |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

Teacher's Note:

Make the children to understand the difference between the numbers and help to find answer.

## Travel Through

### Birthday celebration

Satish distributed 20 peanut cakes (kadalai mittai) to his friends on his birthday.

Complete the subtraction fact.

| | | | | |
|---|---|---|---|---|
| 20 | – | 4 | = | 16 |
| 16 | – | 3 | = | 13 |
| 13 | – | 5 | = | 8 |
| | – | 2 | = | |
| | – | 3 | = | |
| | – | ? | = | 0 |

**Keywords**
Take away
Difference
Remaining
Left
Balance

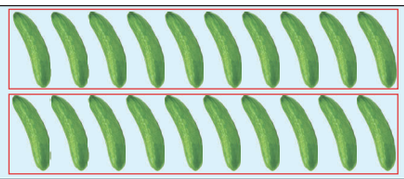
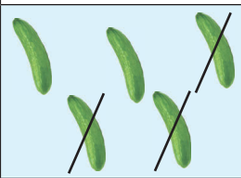
G64X2B

Teacher's Note:

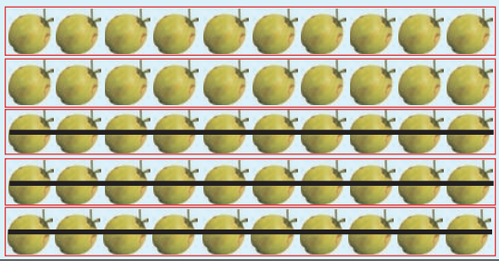
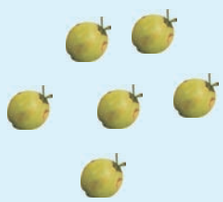
Teacher can create more subtraction facts from the above situation by varying the number of peanut cakes taken by the children.

## Learn

1. Kamali had 25 cucumbers She distributed 3 of them to her friends. How many cucumbers are left with kamali?

| Tens | Ones | T O |
|---|---|---|
|  |  | 2 5<br>– 3<br>2 2 |

2. There are 56 tender coconuts in a shop 30 are sold out. How many tender coconuts are remaining in the shop?

| Tens | Ones | T O |
|---|---|---|
|  |  | 5 6<br>– 3 0<br>2 6 |

## Practice

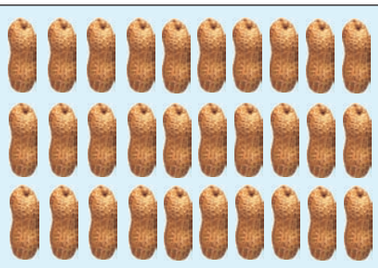
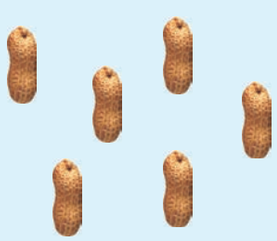
1. Leela plucked 28 lemons and used 5 lemons for preparing juice. How many lemons were left?

| Tens | Ones | T O |
|---|---|---|
|  |  | 2 8<br>– 5 |

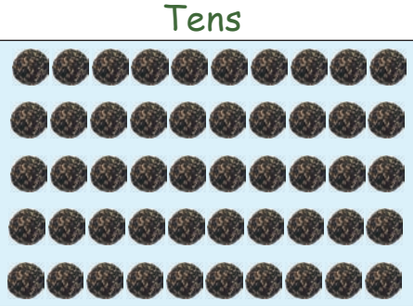
2. Bala made 26 paper boats and Kala made 6 paper boats. How many paper boats did Bala make more than Kala?

| Tens | Ones | T O |
|---|---|---|
|  |  | 2 6<br>– 6 |

3. Siva had 36 peanuts, He ate 14 peanuts in the play time. How many peanuts remain in his pocket?

| Tens | Ones | T O |
|---|---|---|
|  |  | 3 6<br>– 1 4 |

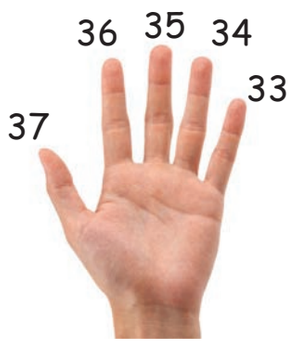
4. Kaviya's mother prepared 57 sesame balls. She ate 13 sesame balls with her friends. How many sesame balls are left with her?

| Tens | Ones | T O |
|---|---|---|
|  |  | 5 7<br>– 1 3 |

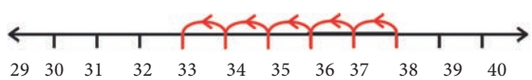
## Learn

### Various ways of subtraction

Subtraction using fingers :
38 – 5

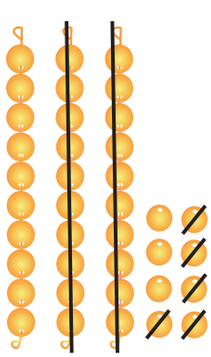



Subtraction using number line
38 – 5



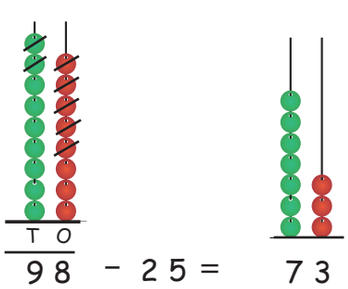

38 – 5 =33

Subtraction using beads 38 – 25



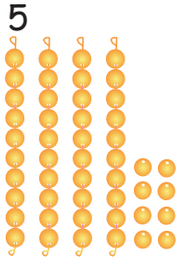
38 – 25 =13

Subtract using abacus 98 - 25

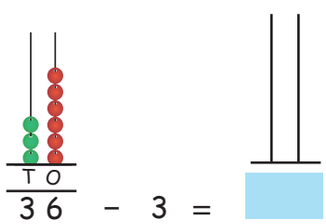



## Practice

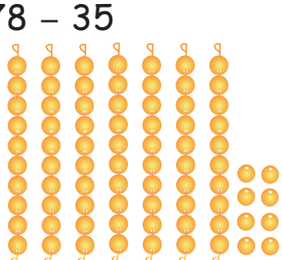
Subtract by striking the beads
48 – 5



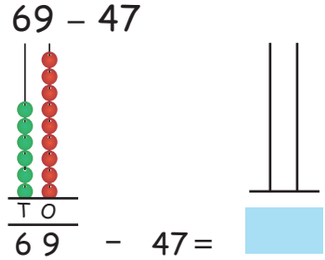
Subtract using abacus
36 - 3




78 – 35



69 – 47

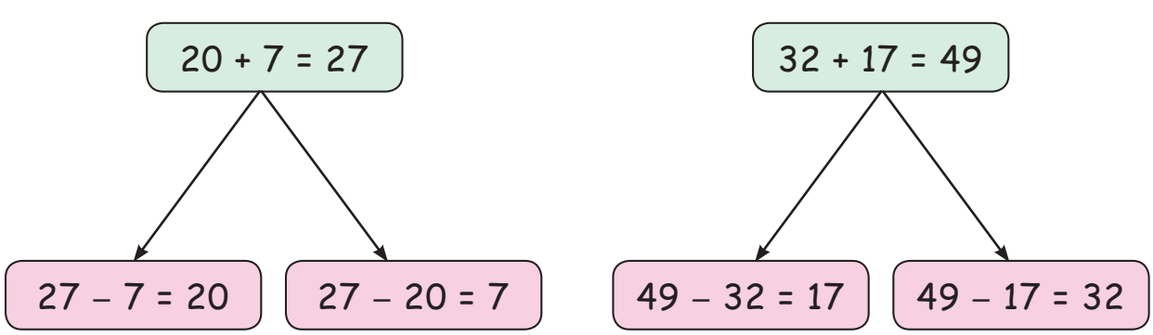


Find the value.

| | | |
|---|---|---|
| T O<br>8 9<br>– 7 | T O<br>5 6<br>– 2 2 | T O<br>8 4<br>– 7 3 |
| T O<br>4 8<br>– 7 | T O<br>7 2<br>– 3 2 | T O<br>6 0<br>– 2 0 |

## Know More

For any given addition fact, we can form 2 subtraction facts.

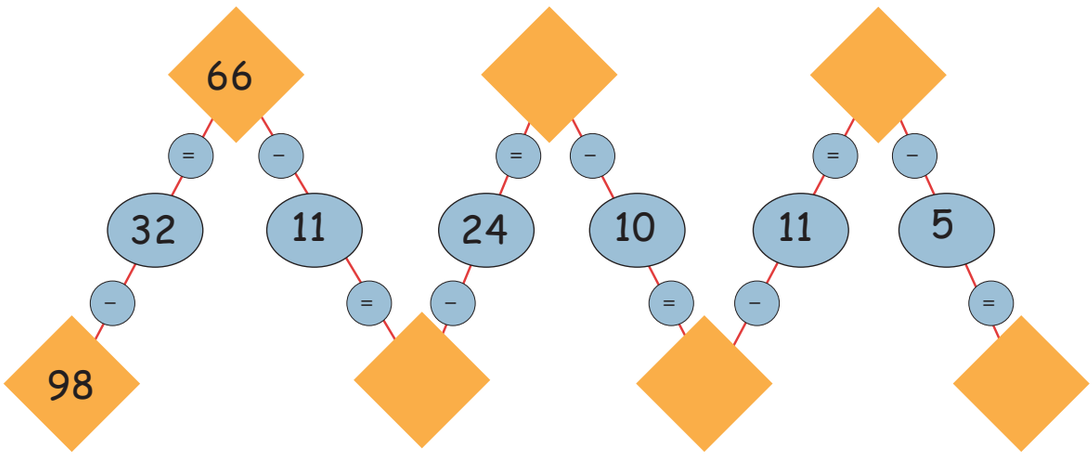



## Activity

- Teacher shall divide the class into groups of two members and place 9 bundles of 10 sticks in a box and 9 single sticks in a box.
- Teacher shall write a subtraction fact on the board and call one group to find the answers.
- One member should pick up the bundle of tens and other member should pick up the loose sticks according to the number .
- They shall subtract the numbers by putting the bundles and loose sticks back in box and then show the bundles and loose sticks left with them.
- Teacher can continue the activity with other children.

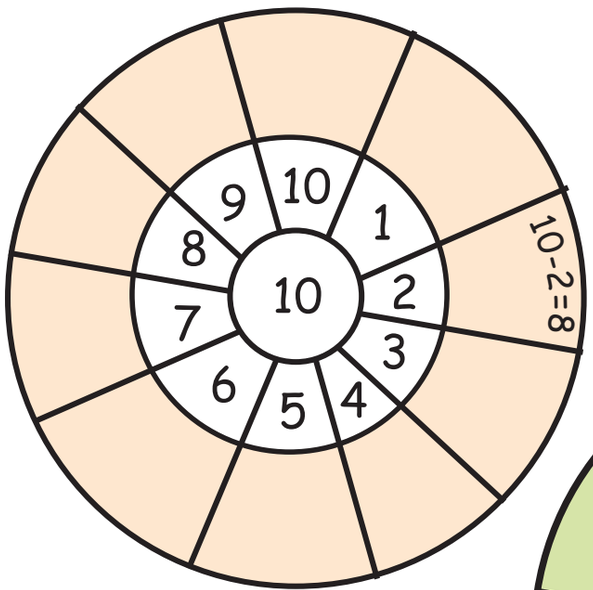
## Think like a Mathematician

Observe the patterns and complete the subtraction facts.

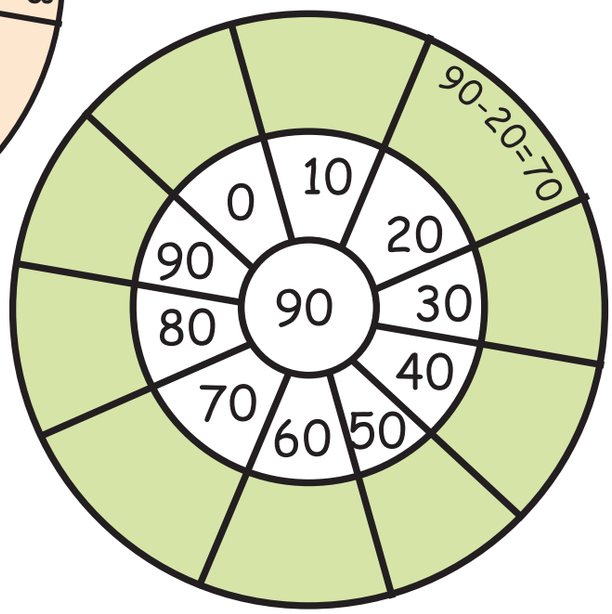



## Pleasure Time

Complete the outer circle by writing the subtraction fact.
One is done for you.




GKMS3M



## Try This

Find the answer for the subtraction facts given below.

| Subtraction fact | Answers |
|---|---|
| 37 – 30 | |
| 46 – 41 | |
| 68 – 54 | |
| 70 – 70 | |
| 57 – 42 | |
| 21 – 0 | |
| 39 – 20 | |

Create more subtraction facts using the following numbers 0, 20, 21, 30, 37, 39, 41, 42, 46, 54, 57, 68, 70 and find the solution.

| Subtraction fact | Answers |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |

## Mental Maths

1. Ilakiya made a bouquet with 29 flowers. As she was arranging the bouquet, 12 flowers fell off. How many flowers were left in the bouquet?
2. There are 19 children in the park. 2 of them went out of the park. How many children are inside the park?
3. There were 33 birds in the garden. 11 flew away. How many birds were left in the garden?
4. There are 64 goats in a farm. 11 of them were taken to another farm. How many goats are left?
5. There are 38 paint brushes in the box. 10 brushes are used. How many brushes are unused?

UNIT 3

# Patterns

## 3.1 Patterns in sound

**Travel Through** All through the way...

**Keywords**
Patterns
Sound

The ox cart makes sound *kada muda kada...*
*kada muda kada... kada muda kada...*
The ox cart makes sound *kada muda kada...*
All through the way.

The horse cart makes sound *tuck tuck tick...*
*tuck tuck tick... tuck tuck tick...*
The horse cart makes sound *tuck tuck tick...*
All through the way.

The cycle bell makes sound *tring clink tring...*
*Tring clink tring... tring clink tring...*
The cycle bell makes sound *tring clink tring...*
All through the way.

The motorcycle makes sound *dub dub dub...*
*Dub dub dub... dub dub dub...*
The motorcycle makes sound *dub dub dub...*
All through the way.

The train makes sound *chik buk chik...*
*chik buk chik... chik buk chik...*
The train makes sound *chik buk chik...*
All through the way.

**Teacher's Note:**

The teacher, along with the children has to sing the rhyme with actions.

## Learn

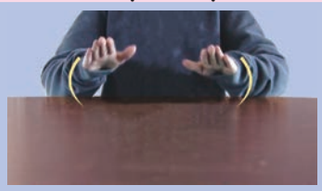
Observe and repeat the patterns in sound.


Clap


Clap Clap...

10 Times


Clap Clap


Tap Tap...

10 Times


Clap Clap


Tap Tap Tap


Snap

6 Times

We can extend the patterns in sound in many ways like the above.

## Practice

Create patterns in sound by clapping, tapping and snapping.


Once


Twice


Twice

HUYG5Y

## Know More

Music is the sound pattern formed by various musical instruments.






## Activity

### Making tunes with vessels

**Procedure:**

- Divide the students into two groups.
- The first group shall have plates and spoons.
- The second group shall have lunch boxes and spoons.
- If the teacher says 1 and 3, the first group should tap the plates with the spoons one time and the second group should tap the lunch boxes with the spoons 3 times.
- Continue to do it in the similar way till the teacher says the next pair of number.

## Try This

### My own tune

Create your own patterns in sound using materials available in your locality such as toys, sticks, etc.,

## Pleasure Time

Let us create our own musical instrument by following the given steps.

**Step 1**

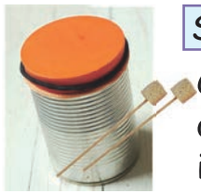
Take a tin, a balloon, a rubber band 2 sticks, and a pair of scissors.

**Step 2**

Cut the balloon as shown in the figure.

**Step 3**

Fix the balloon on the tin.



**Step 4**

Create a sound pattern of your own and share it with your friends.

# 3.2 Patterns in body movements and sound

**Travel Through** *Kummiyattam*

Keywords
Body movements


Observe the picture and discuss.

1. What do you see in above picture?
2. On which occasion this type of dance is performed?
3. What type of sound is the base of *kummiyattam*?

**Teacher's Note:**

Teacher can play *kummi* or *kollatam* song to facilitate the children to make patterns by combining body movements and sound.

## Learn

### Land and Sky game

Play the land and sky game by following instructions given below.

If the teacher says ***Land***, the students should clap their hands ***downwards*** as given in the picture.

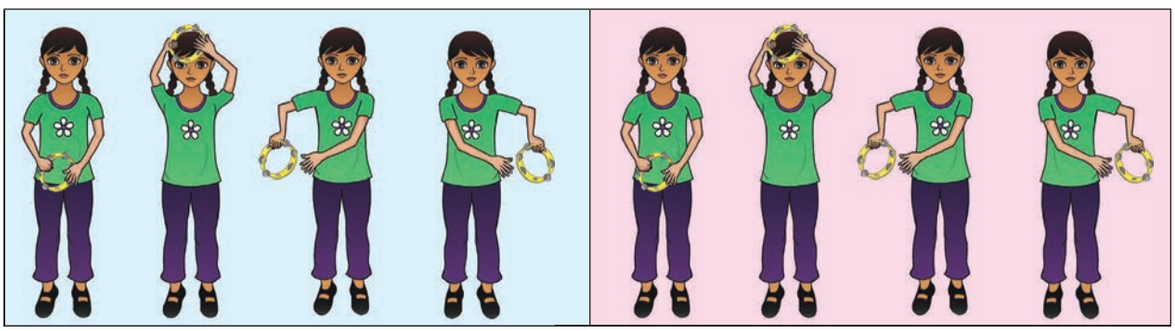
If the teacher says ***Sky***,the students should clap their hands ***upwards*** as given in the picture.

Let us play and enjoy the patterns in body movements and sound.

## Practice

### Dance Dance Dance

Observe the variation in pattern. Enjoy and perform the body movements using instruments shown.



**Teacher's Note:**

Teacher can facilitate the children to perform different actions following a pattern.

## Know more

Combined patterns of sound and body movements are used in dance forms like *Karagam*, *Oyilattam* and *Bharatham*.



# 3.3 Patterns in colours

## Travel Through

### In a Jungle

Teacher's Note:

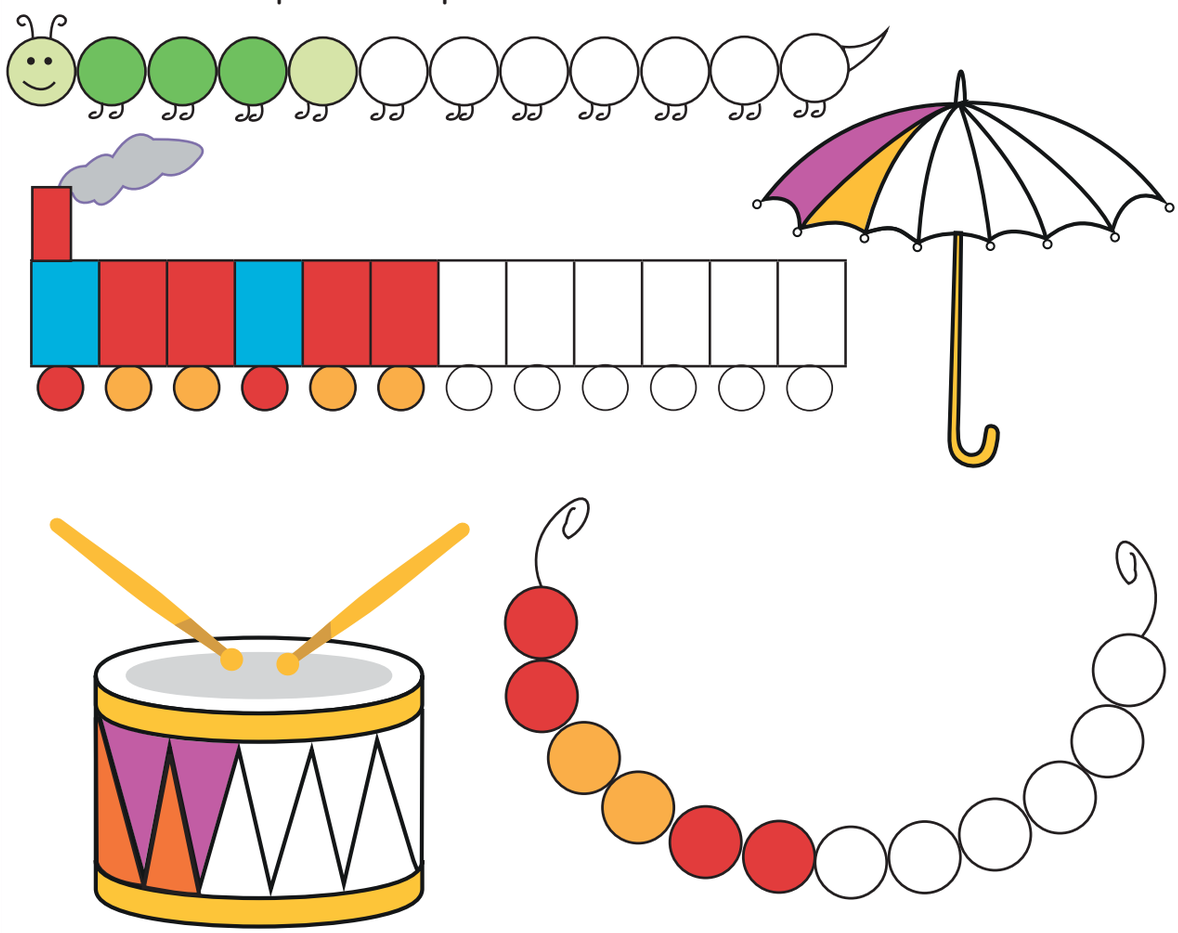
Teacher can encourage the children to observe the colour patterns of animals in the above picture. Motivate them to tell about the observed patterns.

## Learn

Observe and identify the patterns of colours in these objects.

## Practice

Colour and complete the patterns.



## Try This

Collect the things with colour patterns seen in your surroundings. Discuss about the patterns in them.

## Know more

Patterns in colours are seen in dress, rangoli, decoration and painting.




## Activity

### Plait a bunting

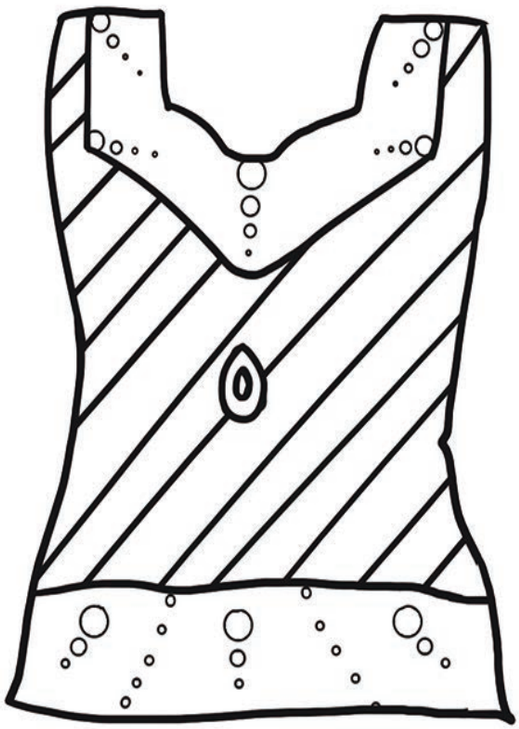
Prepare a bunting by pasting colour papers of different colours in a pattern as shown below.

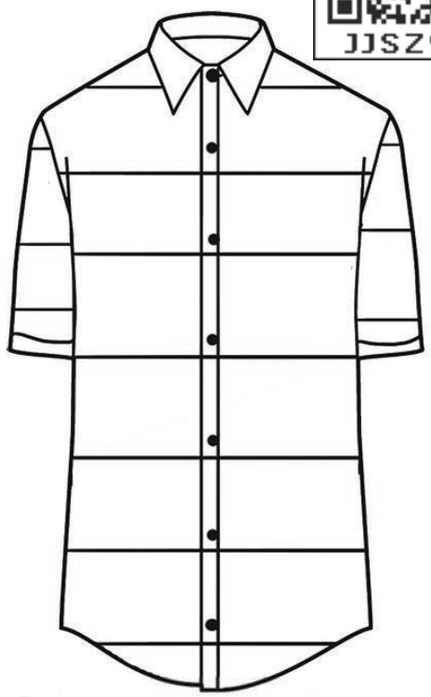
## Pleasure Time

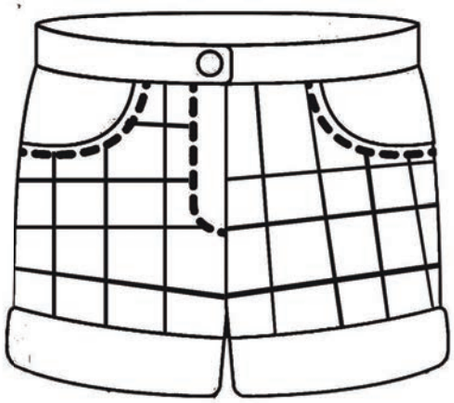
### Let's design a dress

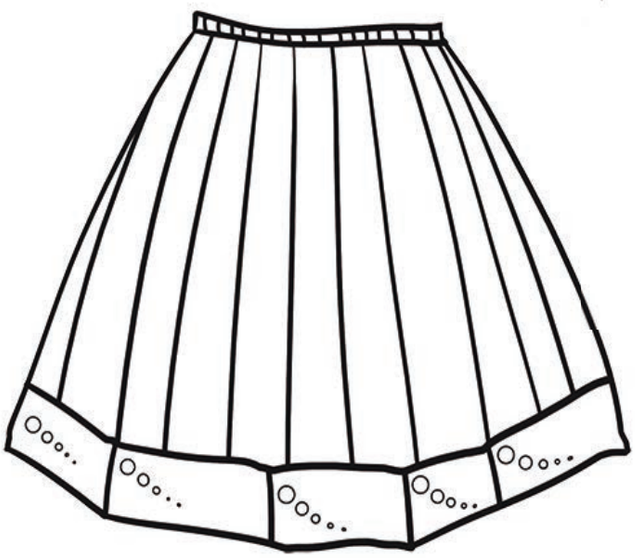
Follow your own colour patterns and design the dresses given below.

JJSZ9L



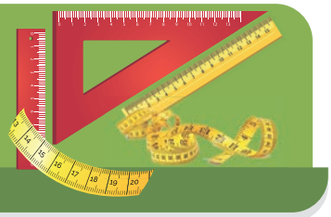






UNIT 4

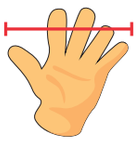
# Measurement



## Recall

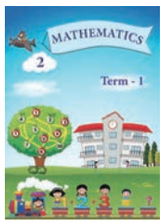
### Measuring Length

Use the given measurement and find the length of the real objects depicted in the picture.

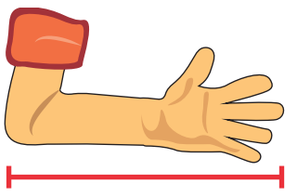


Hand span

_____ Hand span




_____ Hand span



Cubit

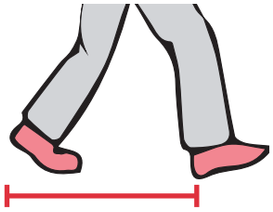
_____ Cubit

_____ Cubit

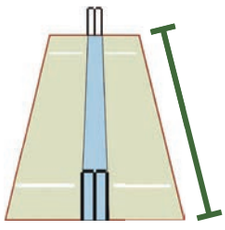
Foot span

_____ Foot span

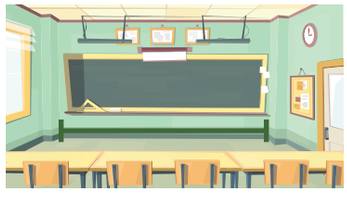
_____ Foot span



Pace



_____ Pace



_____ Pace

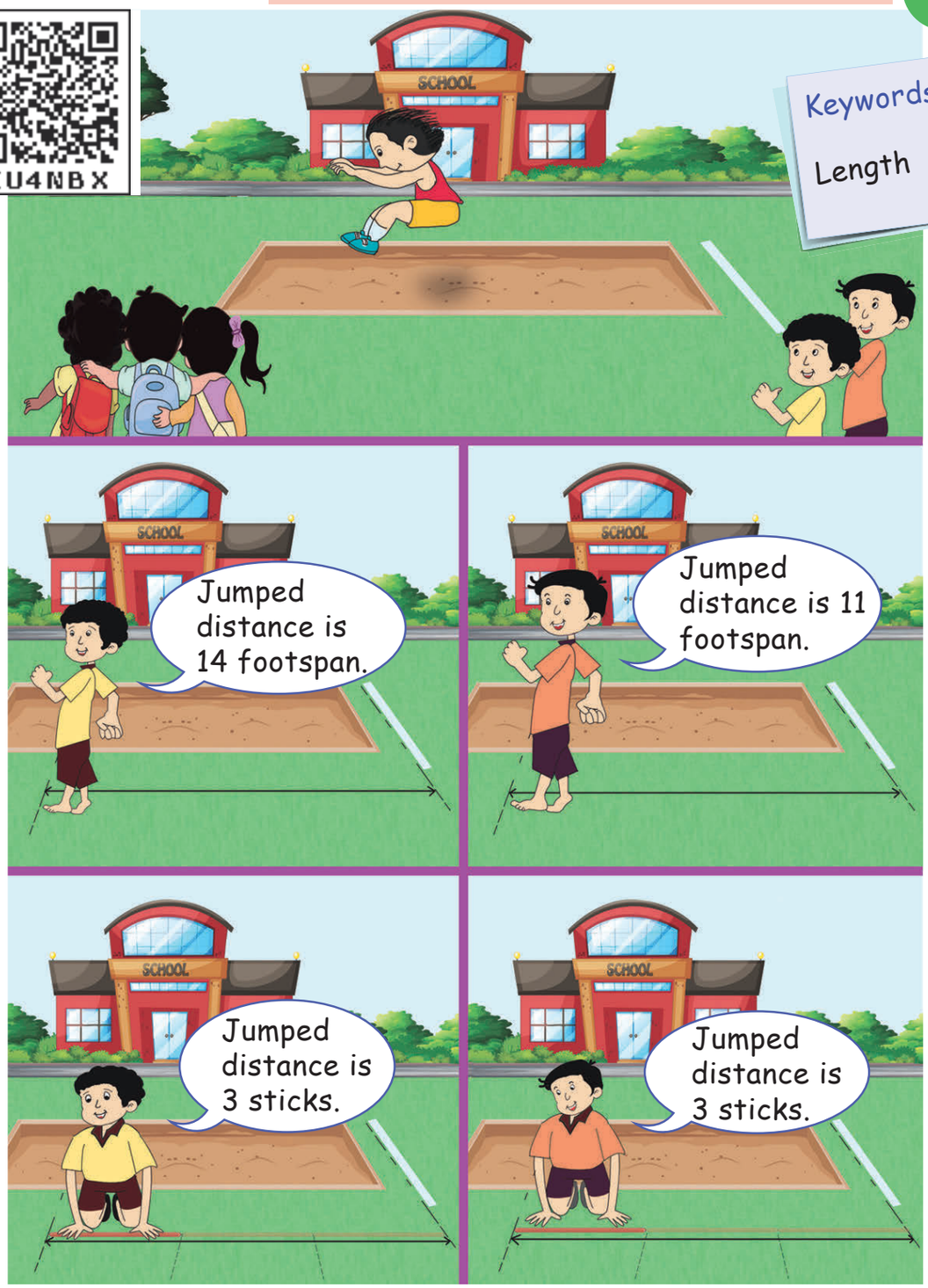
# 4.1 Measuring length using uniform non standard tools

**Travel Through** Measuring length in a long jump ground

KU4NBX

Keywords

Length




Teacher's Note:

Teacher can guide the students to know the difference in measurements observed by measuring footspan (non uniform non standard) and a stick (uniform non standard).

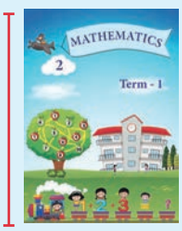
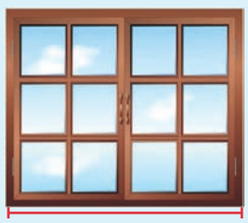
## Learn


**Teacher's Note:**

Encourage the students to guess the measurement and verify it by actually measuring them. Try to make the guess close to actual measure by providing various opportunities.

## Practice

Observe the measuring tool, guess and write the length of the real object by guessing. Then, use the measuring tool and write the measured value.

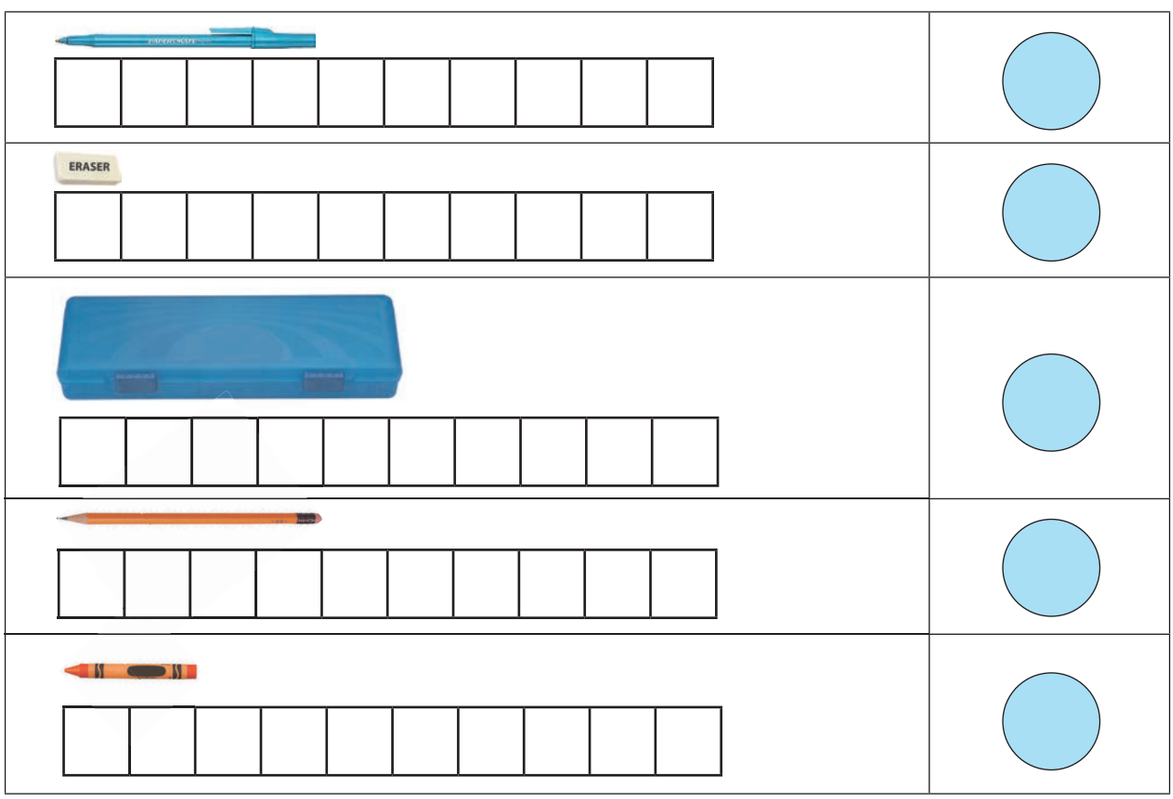
| Objects to be measured | Measuring tool | Guess value | Measured value |
|---|---|---|---|
|  |  | | |
|  |  | | |
|  |  | | |
|   | Sharpener | | |
|  | Colour pencil | | |

Teacher's Note:

Teacher can make the students to measure various objects in the surrounding by guessing and by actual measurement using non standard tools.

## Try This

Colour the squares to match the length of the objects. Count the coloured squares and write the count inside the circle.




Observe the above table and answer the following questions.

1. Which two objects have the same length?
2. Which is the longest object?
3. What is the total length of the pencil and crayon?
4. Is the pencil box longer than the pencil? If yes, by how many squares?
5. Which is the shortest object?

## Think Like A Mathematician

Which among the given tools would be appropriate to measure the brim of the round table?

Measuring tools

# 4.2 Standard units of measuring length

## Travel Through

M4FCE9

Keywords

Centimetre
Metre
Scale

Teacher's Note:

Teacher can facilitate the children to discuss about the use of standard units of measurement.

## Learn

### Measuring by standard unit

Objects of greater length are measured in metre (m) and objects of smaller length are measured in centimetre (cm).

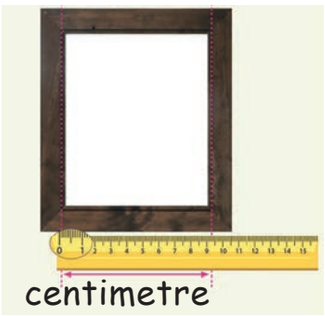
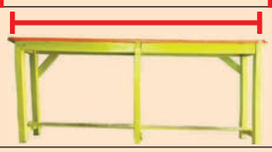



Photo frame is measured in Centimetre.


Saree is measured in metre.

## Practice

Tick (✓) the appropriate unit to measure the following objects.

| Object | Metre | Centimetre |
|---|---|---|
|  | | |
|  | | |
|  | | |
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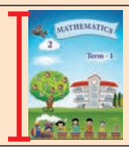
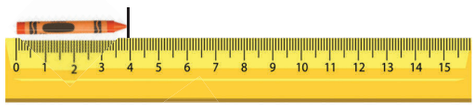
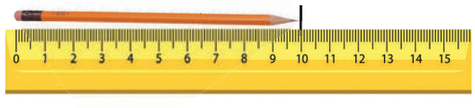
|  | | |

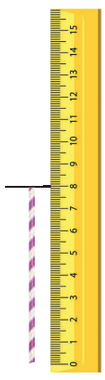
## Learn

### Measuring length

Let us learn to measure the length of the objects using scale.







**Teacher's Note:**

Teacher should encourge children to count the centimetre. The object can be kept at different value say 3cm or 5cm instead of 0 to ensure the children count and right the length of the object.

## Practice

Observe the picture in previous page and write the length of the objects. One is done for you.

Length of the comb is 12 cm.



Length of the straw is ___ cm.



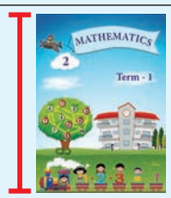
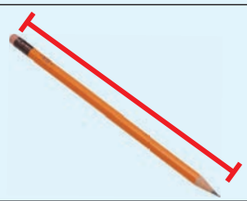
Length of the pencil is ___ cm.

Length of the crayon is ___ cm.

MIY7FK

## Activity

Fill in the boxes by measuring the length of the objects using handspan, eraser and centimetre scale.

| Objects to be measured |  |   |  |
|---|---|---|---|
|  | | | |
|   | | | |
|  | | | |

**Teacher's Note:**

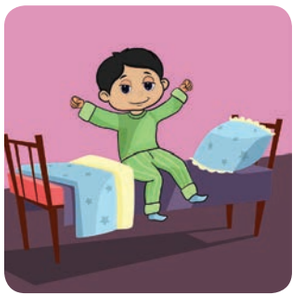
i. Teacher can make the students to measure various objects in the surrounding by guessing and by actual measurement.

ii. Enable the students to appreciate the need for standard tool for measuring length.

# UNIT 5 Time

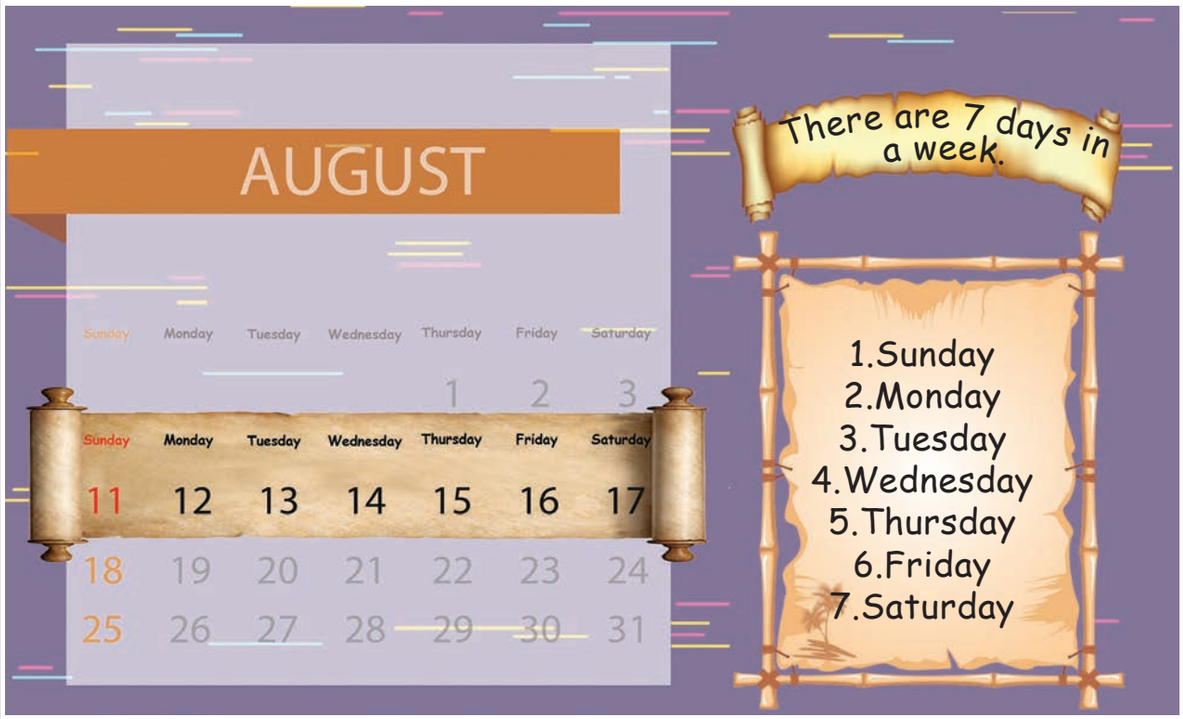

## Recall

Order the activities as 1,2,3 and so on upto 9 from morning to night.




## Learn

# 5.1 Days of the week




Sunday is the first day of the week.

## Practice

Answer the following.

1. What is the fourth day of the week?
2. What is the seventh day of the week?
3. Which day comes after Thursday?
4. Which day comes before Wednesday?
5. How many days are there in a week?

## Try this

Answer the following.

1. Which day comes 2 days after Monday?
2. Which day comes 3 days after Wednesday?
3. Which day comes a day before Sunday?
4. Which day comes 2 days before Saturday?
5. Which day comes 3 days before Friday?

## Try This

### Time table of class 2

| Day \ Period | 1 | Interval | 2 | Lunch break | 3 | Interval | 4 |
|---|---|---|---|---|---|---|---|
| Monday | Tamil | | Maths | | English | | Singing |
| Tuesday | English | | EVS | | Maths | | Art and Craft |
| Wednes-day | EVS | | Tamil | | English | | Drama |
| Thursday | Tamil | | Maths | | EVS | | Computer |
| Friday | Maths | | English | | Tamil | | Yoga |

Observe and fill in the table.

| Period | Conducted on which day? |
|---|---|
| Art and Craft | |
| Drama | |
| Computer | |
| Singing | |
| Yoga | |

# 5.2 Months of the year

## Travel Through

**Keywords**

January, February, March, April, May, June, July, August, September, October, November, December













NT9VHW

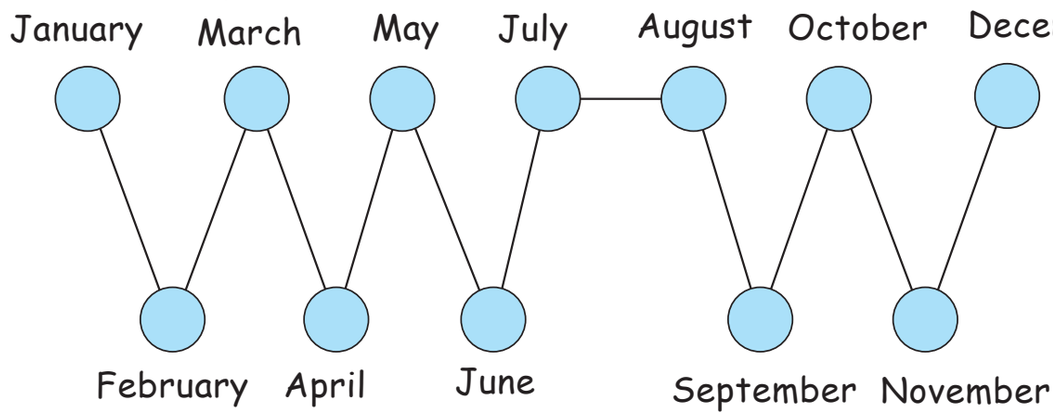
- There are 12 months in a year.
- January is the first month of a year and December is the last month of a year. January 1 is the first day in a year.
- There are 7 months with 31 days and 4 months with 30 days.
- February month has either 28 or 29 days.

**Teacher's Note:**

Teacher can discuss the festivals celebrated in each month to motivate the children to know the months in a year.

## Practice

Observe the calendar given in the previous page and write the number of days in each month.




## Practice

Write the names of the months in order in the following table.

| Months | | | |
|---|---|---|---|
| 1 | | 7 | |
| 2 | | 8 | |
| 3 | | 9 | |
| 4 | | 10 | |
| 5 | | 11 | |
| 6 | | 12 | |

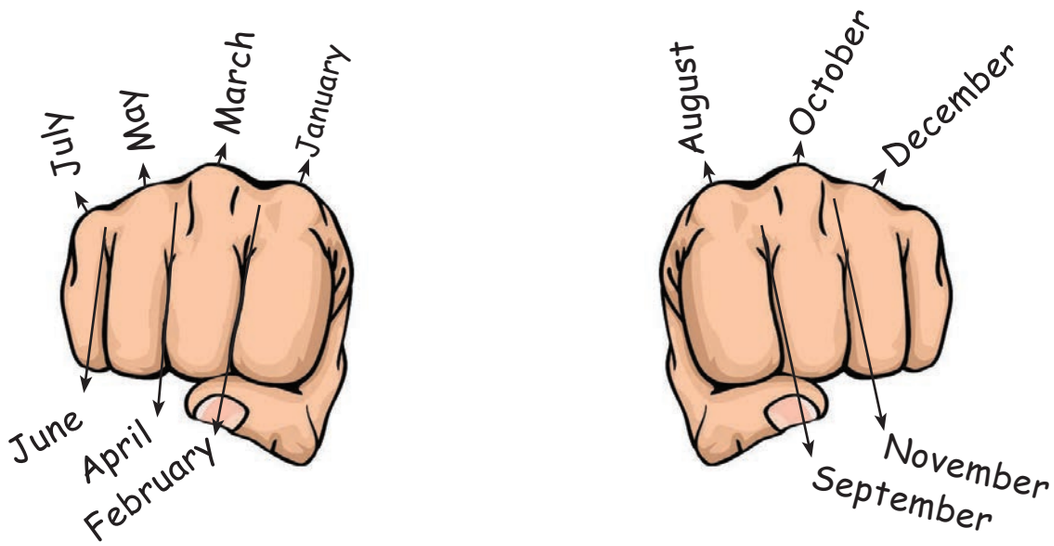
## Pleasure Time

Match the following.

| Festival | Month |
|---|---|
| Republic Day   | November |
| Independence Day   | January |
| Teacher's Day   | August |
| Children's Day   | September |

## Know more

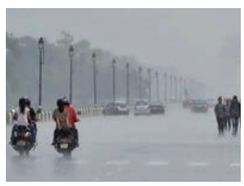
Fix the names of the months in each knuckle as shown in the figure. The months represented by each knuckle has 31 days and the spaces in between have 30 days. But, February has either 28 or 29 days.




# 5.3 Seasons

## Travel Through

Keywords
Summer
Winter
Rainy









**Teacher's Note:**

Teacher can ask questions about the fruits, things etc., given in the above picture and elicit answers regarding the seasons.

## Learn

### SUMMER MONTHS

March, April, May, June

### RAINY MONTHS

July, August, September, October

Q3KJK8

### WINTER MONTHS

November, December, January, February

## Game

**Procedure**

1. Teacher can prepare picture cards depicting seasons.
   (Example: Walking with an umbrella)
2. Select a student at random and tell him/her to pick a picture card.
3. Now, the student should explain the picture card by mono acting.
4. Other students must find out the action and tell the relevant season acted by the student.

## Practice

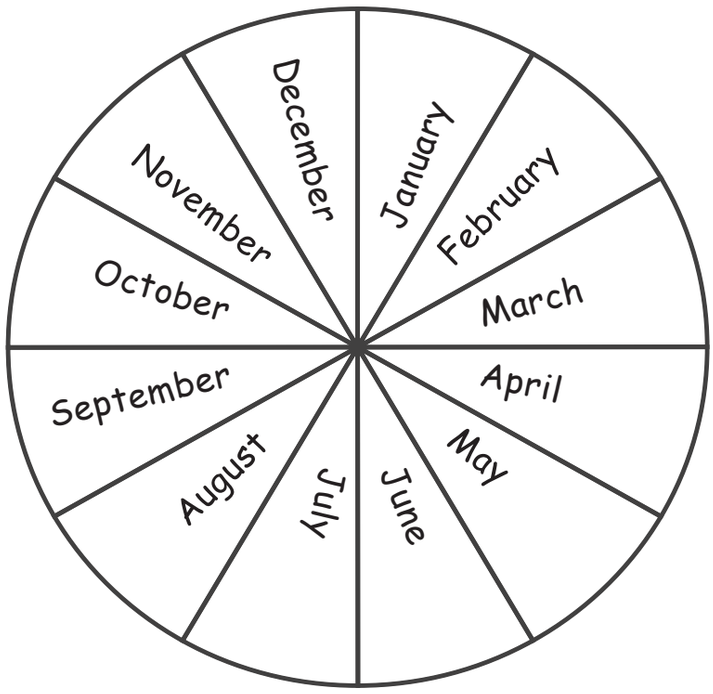
Tick (✓) the suitable food items we eat in the seasons given.

| Season | Food items | | |
|---|---|---|---|
|  |  |  | |
|  |  |  | |
|  |  |  | |

## Pleasure Time

Colour the months according to their seasons. Use '**green**' for Winter '**Yellow**' for Summer and '**blue**' for Rainy seasons.

QI4ELJ



UNIT 6

# Information Processing

## 6.1 Systematic listing

Keywords
Systematic list
Pair
Way

### Travel Through

Arun wants to reach the school from his house. One way is shown for you. List down all the other possible ways.

RSF3NV


Teacher's Note:

Teacher may explain one way shown in the picture and let the children discuss about other possible ways.

## Learn

### Possible ways of pairing

Let us learn the number of ways of dressing oneself with two shirts and two shorts.

Way 1

Way 2

Way 3

Way 4

There are four ways to wear the dress.

**Teacher's Note:**

Teacher can use things like pen and cap, bottle and lid,etc., available in the classroom to show different ways of pairing.

## Practice

Find all possible ways of arranging a pair of cups among the four cups.

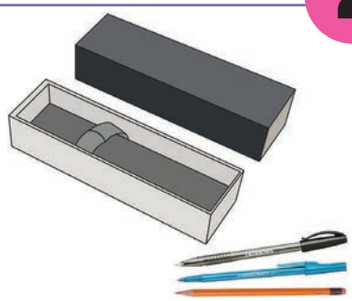
Way 1

Way 2

One way is shown. Find all the other possible ways.

## Try This

- Sathya has a pencil, a blue pen and a black Pen.
- She likes to gift two out of these three things to her friend.
- Find all the possible ways to place them in the gift box.



# 6.2 Selection

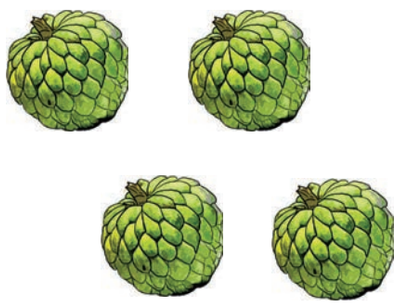
## Learn

### Selection of two numbers

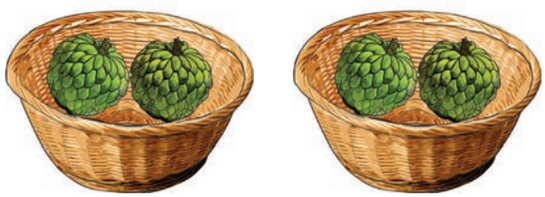
Let us see the possible ways of keeping 4 custard apples in two baskets.

**Keywords**

Selection



One of the ways is shown here.



| Number of ways | Number of fruits | |
|---|---|---|
| |  |  |
| Way 1 | 0 | 4 |
| Way 2 | 1 | 3 |
| Way 3 | 2 | 2 |
| Way 4 | 3 | 1 |
| Way 5 | 4 | 0 |

**Teacher's Note:**

Teacher may extend the activity by varying the number of objects and encourage the students to find all the possible ways.

## Practice

There are two pots, one with 10 red roses and another with 5 yellow roses in the garden. List down all the possible ways of choosing ten flowers from the pots.

Pot 1

Pot 2

| Ways | Flowers Pot 1 | Flowers Pot 2 | Total |
|---|---|---|---|
| Way 1 | 10 | 0 | 10 |
| Way 2 | | | 10 |
| Way 3 | | | 10 |
| Way 4 | | | 10 |
| Way 5 | | | 10 |
| Way 6 | | | 10 |

Teacher's Note:

Teacher can extend the same activity and encourage the students to find the number of ways of getting the sum as 11, 12 and so on .

# 6.3 Collection of Data

**Travel Through** Collection of data through measurement.

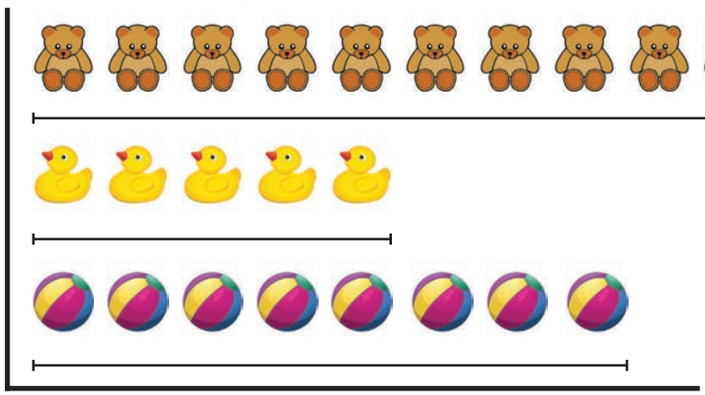
Abishek and his father visit a toy shop. His father promises to buy him a toy if he answers the questions correctly. Can you help him?

**Keywords**

Data

To find the answer, Abishek groups the toys as shown below.

T2QRR7



Speak Out:

1. Which toy is most in number? How many is that item?
2. Which toy is found to be least in the shop?
3. Can you place the rocket and lorry toys in the same shelf? Discuss.

## Learn

Observe the height of the trees in the given picture and write the answer.


Banana Tree | Palm Tree | Mango Tree | Coconut Tree

1. What is the height(in metre) of the following trees?

| | | | |
|---|---|---|---|
| 3 | 6 | | |

2. Which is the tallest tree ? Palm tree

3. Which is the shortest tree ? Banana tree

4. Name the tree which is 4 - metre tall. _____

5. Name the tree whose height is between 4 metres and 6 metres. ___

## Practice

Children group themselves to take part in three different games.

Running race

Walking race

TH9LSI

Frog race

Observe the above picture and answer the following question:

1. How many students like to take part in Walking race?
   _____ Boys _____ Girls.
2. How many students like to take part in Frog race?
   _____ Boys _____ Girls.
3. How many students like to take part in Running race?
   _____ Boys _____ Girls.
4. Which game is played by maximum number of children?
5. How many girls are there in both Walking race and Frog race?
6. Which game is played by minimum number of children?
7. How many students play the game Walking race and Running race in total?

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