



GOVERNMENT OF TAMILNADU

STANDARD - I

MATHEMATICS

TERM - I

TEACHER'S HAND BOOK



PREFACE

Dear teachers,

The newly designed textbook will divert the children from the rote memory learning and leads globalized child centered learning activities .The teacher resource book which is nothing but the teacher hand book helps the teacher not only to handle the new textbook but also helps as a good guide.

The salient features of the teacher hand book ;

- Required materials for each session
- Month wise model unit plan
- Tentative time allotment
- Unit wise learning outcomes
- Teacher activities for detailed teaching strategies
- Children activities for group, pair and individual
- Standardized classroom activities

Teachers can use this handbook in the following ways,

- As a tool for various teaching methods for the contents in the text book.
- As a guide for handling the activities for each and every session
- As an evaluating tool for teacher activity to ensure whether the teacher accomplished the expected learning outcomes in each unit
- As a tool for remedial and reinforcement activities among the children by utilising their individual, pair and group activities.



CONTENT



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1	MONTH WISE MODEL UNIT PLAN	IV
2	GEOMETRY	1
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TENTATIVE TIME ALLOTMENT:

Class room activities (including pre preparation) [6+ 8+20+3+3]	= 40
Buffer time	= 14
Revision	= 6
Examination	= 4
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Total : 4 periods ×16 weeks	64
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Class room transaction:

Time allotment for one period is 90 minutes. The period allocation divided as the first 30 minutes for Teacher activity and the next 30 minutes for Student's peer group activity and the rest for individual activity.



Month wise model unit plan

MONTH	WEEK	CLASSROOM ACTIVITIES	NUMBER OF PERIODS
JUNE	FIRST WEEK	PRE PREPARATION	4
	SECOND WEEK	PRE PREPARATION	2
	THIRD WEEK	UNIT 1 - GEOMETRY	2
		UNIT 1 - GEOMETRY	4
	FOURTH WEEK	UNIT 1 - GEOMETRY	2
		BUFFER TIME	2
	FIRST WEEK	UNIT 2 - NUMBERS	4
	SECOND WEEK	UNIT 2 - NUMBERS	4
JULY	THIRD WEEK	UNIT 2 - NUMBERS	2
		BUFFER TIME	2
	FOURTH WEEK	UNIT 2 - NUMBERS	4
	FIRST WEEK	UNIT 2 - NUMBERS	3
AUGUST	SECOND WEEK	BUFFER TIME	1
	THIRD WEEK	UNIT 2 - NUMBERS	3
		BUFFER TIME	1
	FOURTH WEEK	UNIT 3 - PATTERNS	3
		BUFFER TIME	1
	FIRST WEEK	UNIT 4 - INFORMATION PROCESSING	3
		BUFFER TIME	1
SEPTEMBER	SECOND WEEK	UNIT 1,2 - REVISION	3
		BUFFER TIME	1
	THIRD WEEK	UNIT 3,4 - REVISION	3
		BUFFER TIME	1
	FOURTH WEEK	EXAMINATION	4
	FIRST WEEK	BUFFER TIME	4



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Geometry



Teaching / Learning tools

blackboard, pictures, charts, clay models, multimedia, models, and so on

Mon	Tue	Wed	Thu	Fri



Spotlight

- ◆ Learning and using spatial relationship words in real life situations—top and bottom, inside and outside, on and under, above and below, and far and near.
- ◆ Learning to compare objects according to their size—big and small.
- ◆ Identifying and relating shapes to different objects seen in daily life.



Learning Objectives

Through the course of the lesson, students will learn to

- ◆ differentiate top/bottom, inside/outside, on/under, above/below, far/near, and big/small
- ◆ make use of vocabulary related to spatial relations in relevant sentences
- ◆ answer simple questions on the nature of shapes by listening
- ◆ identify corner and edge in shapes

Learning Outcomes

At the end of the lesson, students will be able to

- ◆ differentiate top/bottom, on/under, above/below, far/near, big/small
- ◆ bring the spatial relationship words into daily usage wherever necessary
- ◆ identify nature of shapes shown in pictures and models of basic shapes



1.1.1 Comparison—Top/Bottom



Transactional Strategy

Teaching-Learning method

Warm up

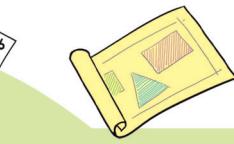
- ◆ Sing the rhyme given on page 1 in the textbook. Do the actions for the rhyme with one or two students and let the class observe the actions.



Classroom Situation



- ◆ Ask two students to pair up and ask Student 1 to go to the top of the staircase and Student 2 to stay at the bottom. Now ask the students where Student 1 is standing (answer: top) and Student 2 is standing (answer : bottom).





Teaching-Learning method

- ❖ Ask students to touch their heads when you say 'top', and touch their feet when you say 'bottom'.
- ❖ Ask the following questions to elicit answers.
 - When we go upstairs, we will reach the of the building.
 - When we are downstairs we will reach the of the building.

❖ Play the given weblink to show a video on 'top/bottom'.

Note: The aim of warm up activities is to get students to talk about the topic which is going to be taken up.



<https://www.youtube.com/watch?v=4YuP6ySZYvk>

Classroom Situation



- ❖ Ask students to relate the things they see around in school to top and bottom.

Example:

Deepti is at the top of the slide. Deepak is at the bottom of the slide.

- ❖ Show pictures and flash cards to help students observe the difference between top and bottom.

- ❖ Distribute flash cards with examples of top and bottom to students. When you call out 'top', students must show related flash cards, and similarly for bottom.

- ❖ Give colour blocks and ask students to make different towers. Students can observe and name the colour block at the top and bottom of the tower.

(video: top/bottom)

Teaching-Learning method

Ask students to give more examples of top/bottom and use the words in multiple contexts.

Examples:

- ❖ Ask students to observe things in the classroom and discuss the things they see on top and at the bottom.
- ❖ Ask students to draw examples of things that are on top and at the bottom.



Classroom Situation



Ask students to arrange books in the classroom shelf or cupboard starting from the bottom shelf to the top shelf.



Assessment

Group activity

Divide the class into groups. Students can discuss and list the things they see on top and at the bottom cupboards or shelves in their houses.

Individual activity

- ❖ Tick (✓) the boy at the bottom of the slide.
- ❖ Tick (✓) the pot at the top.
- * Colour the apple on the top row with green and the bottom row with red.
- * Tick (✓) the girl at the bottom of the staircase.

Note:

Teacher has to create activities mentioned in '*' throughout this book under assessment part.





1.1.2 Comparison—Inside/Outside

Teaching-Learning method

warm up

- ❖ Show flashcards of various things kept inside and outside. Ask the class to say 'outside' or 'inside' when you show each flash card.
- ❖ Ask the following questions to elicit answers.
 - What are the things you observe inside the classroom?
 - What are the things you observe outside the classroom?
- ❖ Play the given weblink to show a video on 'inside/outside'.



https://www.youtube.com/watch?v=Nn_C4JxgMw0



Classroom Situation



- ❖ Give each student flash cards or clay models and ask them to show the correct picture when questions are asked.
 - What are the things you see inside the classroom?
 - What are the things you see outside the classroom?
- ❖ Divide the class into groups. Give each group a bowl and small colourful balls on a big tray. Ask students to put only one particular colour of ball inside the bowl. For the next activity, ask students to place all the small colourful balls inside the bowl. Ask students to pick out only one particular colour of ball outside on the tray.
- ❖ Draw a circle. Ask five students to come forward and stand in front of the circle. When you say, 'inside', students should jump inside the circle. When you say, 'outside', students must jump outside the circle.

(video: inside/outside)

Teaching-Learning method

Give examples for students to understand the difference between inside and outside a place. For example, inside a room/outside a room.

Examples:

Explain that in some vegetables and fruits seeds grow on the inside. In some vegetables and fruits, seeds grow on the outside.

- Papaya has its seeds inside the fruit.
- Cashew nut has seed outside the fruit.



Classroom Situation



- ❖ Show pictures or flash cards of different games and ask students where do they play these games.

Examples:

- carom, chess [indoor games are played inside the house/games room.]
- football, hockey [outdoor games are played outside.]

- ❖ Call a student forward and ask him/her to pick up one particular colour of gems and put it inside an empty bowl while the other colours remain outside. Ask the class to name the colours inside and outside the bowl.





Assessment

Group activity

Divide the class into two groups. Ask one group to play a set of games inside the classroom (indoor games) and the other group to play a set of games outside the classroom (outdoor games). After sometime, have a discussion with the students and talk about the games that they played.



Individual activity

- ❖ Tick (✓) the dog inside the kennel.
- ❖ Circle the sparrow outside the nest.
- ❖ Tick (✓) the animals that are outside the cage.
- ❖ Circle the objects which are inside the house. Colour the objects that are outside the house.
- ❖ Tick (✓) the outdoor games.
- ❖ Colour outdoor games in green and indoor games in red inside the circle.
- ❖ Colour the apples inside the basket in green and the apples outside the basket in red.



1.1.3 Comparison—On/Under

Teaching-Learning method

warm up

- ❖ Explain the concept of *on* and *under* by keeping things on the table and under the table.
- ❖ Show pictures and flash cards of various things kept on the table and under the table.
- ❖ Ask the following questions to elicit answers.
 - What are the things you observe on the table?
 - What are the things you observe under the table?
- ❖ Play the given weblink to show a video on 'on/under'.



<https://www.youtube.com/watch?v=k3Aq4r3d4tA>

Classroom Situation



Help students understand the difference between *on* and *under* using pictures and following activities.

- ❖ Play a game of musical chair. Ask students to form a circle around a set of chairs arranged in a circle and play the music. Once the music stops, ask the students to sit on the chair.
- ❖ Play a simple game in class to teach the difference between *on* and *under*. When you say '*on*' students must place a book or a pencil on their desk. When you say '*under*' students must place a book or a pencil under their desk.

(video: on/under)





Teaching-Learning method

Help students differentiate between *on* and *under* by giving examples.

Examples:

- ❖ Show pictures and ask questions based on them.
 - The ice cubes are floating the lemonade.
 - Dog is sleeping the tree.
- ❖ Draw a picture of a pot with a lid and a stand. Explain that the lid is kept on top of the pot and the stand is kept under the pot.



Classroom Situation



❖ Narrate the story of '*Monkeys and the cap seller*' for enabling the usage of the words '*on*' and '*under*'.

❖ Divide the class into two groups. Ask one group to arrange books on the table and the other group to arrange their bags under the table.



Assessment

Group activity

- ❖ Divide the class into groups. Ask each group to enact the story, '*Monkey and the cap seller*'.
- ❖ Encourage students to use the words '*on*' and '*under*' while performing the skit.

Individual activity

- ❖ Tick (✓) the ball lying on the bed.
- ❖ Circle the toy kept under the table.
- ❖ Colour the train on the bridge in brown and the boat under the bridge in red.

(Use pictures/models the following activities.)

- ❖ Match the similar objects based on on-under concept.
- ❖ Colour the part of the plant in brown which is under the ground. Colour the part of the plant in green which is found on the ground



1.1.4 Comparison—Above/Below

Teaching-Learning method

warm up

- ❖ Show flash cards of various things kept above and below.
- ❖ Ask the following questions to elicit answers.
 - What are the things you see above in the sky?
 - What are the things you see below on the ground?
- ❖ Play the given weblink to show a video on 'above/below'



https://www.youtube.com/watch?v=1w6uHpYDb_8&t=3s

Classroom Situation



❖ Help students to differentiate between *above* and *below* using pictures and examples.

Examples:

- Eyes are **above** the nose.
- Mouth is **below** the nose.

❖ Ask students to draw a line and ask them to draw stars above the line and draw stones below the line.

(video: above/below)





Teaching-Learning method

- Help students understand the difference between above and below using example sentences and pictures.

Examples:

- The plane is (above/below) the bridge.
- The boat is (above/below) the bridge.



Classroom Situation

- Take students to the playground. Ask them to look above and tell what they see. {birds flying, leaves on the trees, and so on} Ask them to look below on the ground and tell what they see. {fallen leaves, mud}
- Ask students to imagine that they are travelling on a boat. Ask them to list the things that they would see above and below the boat.

Assessment

Group activity



Divide the class into groups, give each group a chart paper, a picture of grass, and colour papers. Ask them to cut out butterfly and stone shapes from the colour papers under adult supervision. Ask students to paste the picture of grass on the chart paper. They can stick the stone shapes below and the butterfly shapes above the grass.

Individual activity



- Circle the bird flying above the hill.
- Circle the bird sitting under the tree.
- Colour the plane flying above the clouds in blue and the kite below the clouds in orange.



1.1.5 Comparison—Far/Near

Teaching-Learning method

warm up

- Show flash cards of various things kept far and near.
- Ask the following questions to elicit answers.
 - What are the things you see near you?
 - What are the things you see far away from you?
- Use the words 'far' and 'near' to differentiate between domestic and wild animals.

Example:

The dog lives in a kennel which is built near our home. The lion lives in a jungle which is far away from where we live.

- Play the given weblink to show a video on 'far/near'



https://www.youtube.com/watch?v=87Xd_QrgILQ

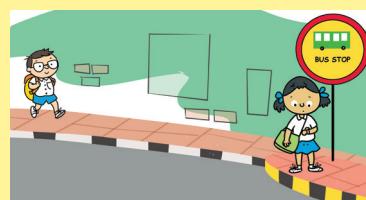
Classroom Situation



Help students differentiate between *far* and *near* using pictures and examples.

Example:

Show a picture of a girl standing near the bus stop and a boy standing far away from the bus stop.



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Teaching-Learning method

Help students understand the difference between *far* and *near* with examples.

Examples:

Show pictures in the textbook and ask questions to elicit answers.

- Cat is sitting the milk bowl.
- Cat is sitting away from the dog.



Classroom Situation



- ❖ Narrate the story, '*The hare and the tortoise*'. Ask questions based on the story. (For example, who will win the race and why.)
- ❖ Keep a basket far away from students and ask them to throw a ball into it. Similarly, keep a basket near them ask them to throw a ball into it. Start a discussion asking if it was easy to throw the ball inside the basket when it was kept far or near.
- ❖ Play carom in class. While playing, discuss the position of the coins using the words 'near' and 'far'.

Assessment

Group activity



Spread out things inside and outside the classroom. Divide the class into two groups and make them stand in the centre of the classroom. Ask one of the groups to collect things near them and another group to collect the things far away from them.



Individual activity



- ❖ Colour the t-shirt of the boy who is near the ball.
- ❖ Circle the cat which is far away from the milk bowl.
- ❖ Circle the butterflies which are near the flower.
- ❖ Draw a line to connect the objects which are far from the boy.



1.1.6 Comparison—Big/Small

Teaching-Learning method

warm up

- ❖ Show pictures and flash cards of various examples of big and small.
- ❖ Ask the following questions to elicit answers.
 - Name some big animals.
 - Name some small animals.
- ❖ Play the given weblink to show a video on 'big/small'.



<https://www.youtube.com/watch?v=XAMtgyiUhlo&feature=youtu.be>

Classroom Situation



- ❖ Help students understand the difference between *big* and *small* using pictures.
- ❖ Ask students to form a group and collect pencils or scales or books. Ask each group to make a collection of small pencils and another collection of big pencils, or big scales and small scales, or big books and small books.
- ❖ Show a cricket ball and a football and ask students to tell which is small and big.

(video: big/small)





Teaching-Learning method

Help students understand the difference between *big* and *small* by giving examples.

Examples:

- ✧ Ask students to draw a line in their notebook and tell them that they have to make it small without erasing any part of the line. (Answer: They should draw a bigger line near it.)
- ✧ Show pictures of animals and ask questions to elicit answers.
 - Elephant is a animal.
 - Rat is a animal when compared to a cat.



Classroom situation



- ✧ Narrate the story of '*The lion and the mouse*'. Help students understand how a small animal, the mouse, helped the big animal, the lion.
- ✧ Divide the class into groups. Give each group a collection of objects including a box, a bag, and so on. Ask students to segregate the collection by placing small objects in a box and big things in a bag.

Assessment

Group activity



Divide the class into groups. Ask students to visualise and enact the big and small concept. For example, students can show two bags and say, 'His/Her bag is big', 'His/Her bag is small'.

Individual activity



- ✧ Circle the small animal.
- ✧ Tick (✓) the big fish and circle the small fish.
- ✧ Colour the big animal in yellow and the small animal in brown.
- ✧ Tick (✓) the big objects and colour the circle next to the small objects.



1.2 Shapes

Teaching-Learning method

warm up

- ✧ Introduce the concept of flat, round, edge, corner using pencil boxes, books, and so on.
- ✧ Ask the following questions to elicit answers.
 - Show different shapes and ask students to say aloud if the shape of the object is round or flat.
 - Show a round or a flat shape and ask students to give another example that is round or flat.
 - Do round objects have corners? Discuss.
- ✧ Play the given weblink to show a video on shapes.



Classroom situation



- ✧ Help students relate a round or a flat shape to a common household object.
For example, show the model of a shape and the object.
 - round—ball, beads
 - flat—slate, door
- ✧ Explain corner and edges with the above examples.



<https://www.youtube.com/watch?v=UkizrZ5QTOI>

(video: shapes)





Teaching-Learning method

Help students differentiate flat and round. Show objects such as ball, globe, pencil box, book, and so on to the class. If the object is flat, students must keep their palms flat. If the object is round, students must draw a circle in the air using their fingers.



<https://www.youtube.com/watch?v=ggb6We9k6eU&feature=youtu.be>

Classroom Situation



- ❖ Play the weblink to show a video on shapes.
- ❖ Divide the class into two groups. Each group of students must form a circle and sing the song, 'Ringa ringa roses'.
- ❖ Students can be given clay and asked to make flat and round shapes.
- ❖ Ask students to give examples for flat and round shapes.
Example:
 - round—sun, moon ball
 - flat—cupboard, pencil box, door
- ❖ Explain corner and edges using the above examples.

(video: shapes)

Assessment

Group activity



- ❖ Divide the class into groups. Distribute clay or chart paper to each group and ask students to make or draw a round or a flat shape. For example (round-ball) (flat--book)
- ❖ Ask students to select any object in the classroom and identify the number of corner and edges it has.

Individual activity



(Use pictures/models while doing the following activities.)

Observe the given objects and pictures and do the following activities.

- Trace the edges of the given flat objects.
- Colour only the round shapes.
- Colour the house according to the colours specified for round objects and flat objects.



Self-Evaluation

- ❖ I can compare things and use appropriate words to describe size/position.
- ❖ I can identify shapes that are round or flat and relate objects to it.

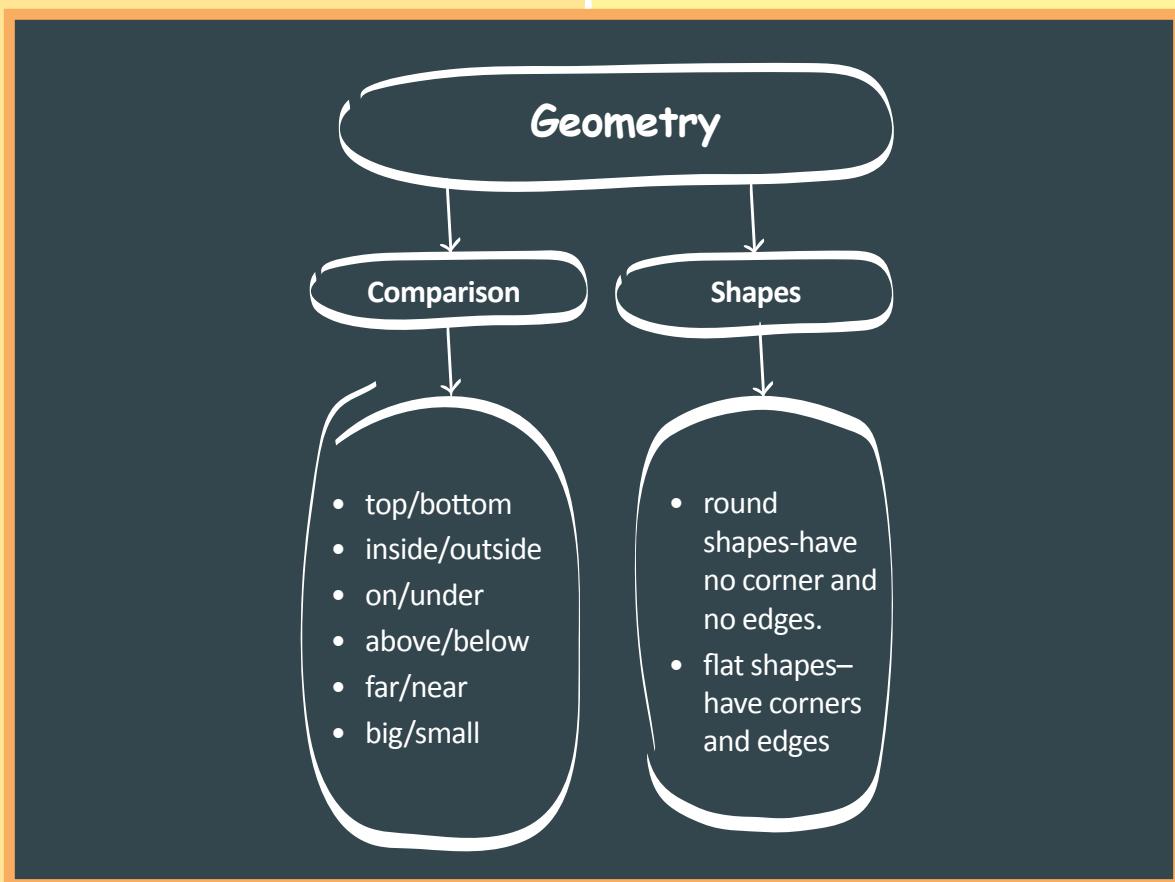




Consolidation

- ❖ Students are able to understand the concepts clearly and make comparison between top-bottom, inside-outside, on-under, above-below, far-near, and big-small.
- ❖ Students are able to identify flat and round shapes and relate objects or things that they see and use in their daily life.

Mind Mapping



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Numbers



Teaching / Learning tools

blackboard, pictures, charts, clay models, multimedia, models, number cards, flash cards, SLMS

MON TUE WED THU FRI



Spotlight

- ◆ Learning numbers from 1 to 9.
- ◆ Learning the concept of ordinal numbers.
- ◆ Learning to add two numbers using addition symbol (+) to get the sum total of two numbers.
- ◆ Learning to take away by means of subtracting with the minus symbol (-) to find the difference between two numbers.
- ◆ Understanding that zero is also a number.



Learning Objectives

Through the course of the lesson, students will learn to

- ◆ identify numbers
- ◆ name the position numbers
- ◆ add numbers to get their sum total
- ◆ subtract to find the difference between two numbers
- ◆ understand the value of zero
- ◆ answer simple questions by listening

Learning Outcomes

At the end of the lesson, students will be able to



- ◆ learn numbers from 1 to 9
- ◆ learn that ordinal numbers are position numbers
- ◆ understand the concept of addition and learn the symbol used for addition
- ◆ understand the concept of subtraction and learn the symbol used for subtraction
- ◆ understand that zero gains value when numbers are added to it

2.1 Numbers from 1 to 9 (Introduction)



Transactional Strategy

Teaching-Learning method

Warm up: Visual and oral activity

- ◆ Sing the rhyme given on page 11 in the textbook. Repeat the rhyme with actions using fingers to show the numbers.
- ◆ Show flash cards of different numbers and say the number aloud.

Note: The aim of warm up activities is to get students to talk about the topic that is going to be taken up.



Classroom Situation



- ◆ Sing the number rhyme with actions and count numbers one to nine.
- ◆ Draw an outline of a clock and fill in numbers 10, 11, and 12 in their correct places. Ask students to come up to the blackboard one by one and fill in numbers from 1 to 9.





Teaching-Learning method

- Help students identify numbers by showing pictures and flash cards related to the number from 1 to 9.

Examples:

1 – one (one bus, one ball)

5 – five (we have five sense organs, five objects)

- Teach students to count numbers using fingers.

- Ask the following questions to elicit answers.

- How many dustbins are there in the classroom?
- How many cupboards/shelves are there in the classroom?
- How many fans are there in the classroom?

Note: Teacher has to give warm up activities relevant to sub units in this book

Classroom Situation



Play the given weblink to show a video on how to count numbers.



<https://www.youtube.com/watch?v=WoKJSN-H4NU> (video: counting numbers)

2.1.1–2.1.5 Numbers from 1 to 5



Transactional Strategy

Teaching-Learning method

- Teach numbers from 1 to 5 using pictures and examples.

Examples:

- We have one tongue inside our mouth.
- We have two eyes.
- An autorickshaw has three wheels.
- There are four main directions: north, south, east, and west.
- We have five sense organs.

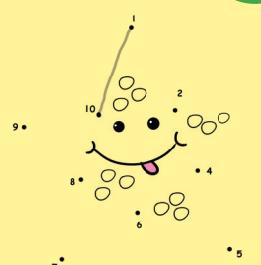
- Ask students to give more such examples for numbers from 1 to 5.



Classroom Situation



- Ask students to join the dots in order and colour a picture as shown in the example.



- Ask students to create numbers from 1 to 5 using matchsticks.

- Ask students to count the number of objects and match with the number of dots.

- Play the given weblink to show a video on counting numbers from 1 to 5.



<https://www.youtube.com/watch?v=03vGK5wlIME> (video: counting numbers 1 to 5)

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Assessment

You can follow the questions given in the textbook.

Group activity



- ❖ Divide the class into groups. Ask each group to draw a caterpillar with numbers from 1 to 5 written on its body.
- ❖ Divide the class into groups. Ask each group to complete the activity on page 20 given in the textbook.



Individual activity



- ❖ Shade the stars that are numbered 2 and describe the pattern in your own words.
- ❖ Circle the figures that are repeated thrice.
- ❖ Circle the figures that are repeated four times.
- ❖ Colour any five pots.
- ❖ Count the objects and match them with the number of dots.
- ❖ Write numbers from 1 to 5.



2.1.6–2.1.9 Numbers from 6 to 9



Transactional Strategy

Teaching-Learning method

- ❖ Begin the class by asking students to count numbers from 1 to 5 using their fingers.
- ❖ Give examples for numbers from 6 to 9.
 - I have got 6 balls in my hand.
 - There are 7 colours in the rainbow.
 - There are 8 chalk pieces.
 - There are 9 books on the table.



Classroom situation



- ❖ Ask students to write and practise numbers from 6 to 9.
- ❖ Ask students to make nine finger prints. Tell them to make it to look like a flower by drawing a stem and a leaf.
- ❖ Play the given weblink to show a video on counting numbers from 6 to 9.



<https://www.youtube.com/watch?v=zZzo4FyXRkM> (video: counting numbers from 6 to 9)





Assessment

Group activity

- ✧ Divide the class into groups. Give a chart paper to each group and ask students to draw a number train. They can number the bogies from 1 to 9.
- ✧ Divide the class into groups. Ask each group to complete the activity on page 25 in the textbook.
- ✧ Play the game of slide and ladder in groups.



Individual activity

- ✧ Make a star using six matchsticks.
- * Colour only six butterflies.
- * Colour the rainbow.
- ✧ Colour seven trees.
- * Colour the penguins.
- ✧ Circle eight balls.
- ✧ Colour nine flowers.



2.1.10 Comparison, Forward-Backward



Transactional Strategy

Teaching-Learning method

- ✧ Set different groups of objects and flash cards of numbers. Ask students to match the numbers to the number of objects.
- ✧ Ask students to identify the smallest and biggest numbers using examples.
- ✧ Ask students to count and write the numbers forward and backward using number line.



Classroom Situation

- ✧ Bring sweets to class. Divide the sweets into two groups—a small group of sweets (3) and a big group of sweets (9). Ask the class to point to the bigger group of sweets without counting.
- ✧ Now, divide the sweets again into two groups—a group of 4 sweets and a group of 3 sweets. Now ask students to point to the bigger group. They may find it difficult to find the bigger group of sweets. Teach them to count the number of sweets and then find the bigger group of sweets.
- ✧ Play the given weblinks to show a video on comparison of numbers.
- ✧ Form a group of 10 students and ask them stand in a line. Ask the class to count the line of students from 1 to 10. Now ask the class to count backwards from 10 to 1. As they are counting, each student in the line can walk back to his/her place when his/her number is called out by the class.



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Teaching-Learning method



https://www.youtube.com/watch?v=1a9id_nNrYs (video: comparison)

<https://www.youtube.com/watch?v=MirAEFk2F10> (video: counting forward and backward)

Assessment

Group activity



Divide the class into three groups. Give flash cards of objects or pictures of objects to each group. Ask students to arrange the pictures or flash cards according to the number of objects in them starting from 1 to 9 in a line. In case there are pictures missing for a number, they can write the missing numbers on a piece of paper and insert them in the correct place.

Individual activity



- ❖ Tick (✓) the bigger number.
- ❖ Circle the bigger and smaller number.
- ❖ Write the number before, after, and between.
- ❖ Fill in the missing numbers.



2.1.11 Ordinal Numbers



Transactional Strategy

Teaching-Learning method

- ❖ Help students understand the difference between cardinal and ordinal numbers.
- ❖ Explain what an ordinal number is.
Ordinal number—a number defining the position of something in a series. For example, first, second, third, and so on.



Classroom Situation

- ❖ Show students the picture of children given on page 28 in the textbook. Ask them to count from left to right. For every cardinal number they say, you can say the corresponding ordinal number.
- Examples:
one-first





Teaching-Learning method

Classroom situation



two-second

three-third, and so on.

- ❖ Discuss and answer the questions given below the picture in the textbook.
- ❖ Play the given weblink to show a video on ordinal numbers.



<https://www.youtube.com/watch?v=0CWWNzprEQ4> (video: ordinal numbers)

Assessment

Group activity



Divide the class into groups of 9. Make the students of each group stand in a line. Number the students from 1 to 9 from left to right. When you say first, all the students standing in the first position in each line should step forward. Play the first few rounds calling out the numbers in order. Later, you can call the ordinal numbers in a jumbled up order.

Individual activity



- ❖ Circle the correct position according to the given number.
- ❖ Join the dots and colour the picture.
- ❖ Create a caterpillar using bind is for the given numbers.
- ❖ Write the position of the bulbs.



2.2 Addition



Transactional Strategy

Teaching-Learning method

Classroom situation



- ❖ Introduce the concept of addition with the help of the story given on page 32 in the textbook. You can extend the story up to number 9. Role play the story in class.
- ❖ Teach students that plus sign (+) is the symbol of addition.



- ❖ Demonstrate addition using students or objects.

Example:

- Call one student forward and ask the class to tell the number of students standing. The class will respond 'one'.
- Ask one more student to come forward and ask the class to tell the number of students standing now. The class will respond 'two'.





Teaching-Learning method

Assessment

You can follow the questions given in the textbook.

Group activity

Divide the class into groups. Distribute addition statements to each group and ask them to draw pictures for the given addition statement.

Example:

$$1 + 1 = 2$$

and make

Individual activity

- ❖ Write addition facts.
- ❖ Count and draw the pictures.
- ❖ Add and write.
- ❖ Match the following.



Transactional Strategy

Teaching-Learning method

- ❖ Teach students how to add using beads.
- ❖ Teach students how to add using fingers.
- ❖ Teach students to add in vertical and horizontal methods.

Examples:

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

(Or)

$$2 + 3 = \dots$$



<https://www.youtube.com/watch?v=IFCGEExyoYw> (video: addition)



Classroom Situation

- ❖ Help students practise vertical and horizontal addition by giving them sums to solve.
- ❖ Encourage students to practise mind or mental math (to be done orally).

Example:

Five flowers have blossomed in a rose plant. Three flowers have blossomed in another rose plant. How many flowers are there altogether?

- ❖ Play the given weblink to show a video on addition.





Assessment

You can follow the questions given in the textbook.

Group activity

Divide the class into groups. Give the same addition statements to two groups. Of the two groups, one group can find out the total sum with the help of beads. The other group can find the total sum by counting using fingers.

Individual activity

- ❖ Count the objects and write the number.
- ❖ Add the numbers and write the sum total.
- ❖ Colour the correct numbers to get the sum total as 6 and 7.
- ❖ Add and tick (✓) the correct answer.
- ❖ Circle the number that give the sum of nine.
- ❖ Mind math to be done orally.



2.3 Subtraction



Transactional Strategy

Teaching-Learning method



- ❖ Introduce the concept of subtraction with the help of the story given on page 41 in the textbook. You can extend the story up to number 9. Role play the story in class.
- ❖ Teach students that 'take away' means subtraction and minus sign (-) is the symbol of subtraction.

Classroom Situation



- ❖ Solve subtraction statements using the words 'from' and 'take away'.
- ❖ Teach subtraction with the help of pictures.
Example:
 $3 - 1 = 2$





Transactional Strategy

Teaching-Learning method

- ❖ Teach students how to complete the subtraction facts by circling.
- ❖ Teach students how to do subtraction using lines.
- ❖ Practise mind math in class orally. You can gradually reduce the time given to think and answer.
- ❖ Teach students to subtract in vertical and horizontal methods.

Examples:

$$\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$$

(or) $6 - 4 = \dots$



Classroom situation

- ❖ Solve problems on the blackboard to show the class how to do subtraction in vertical and horizontal methods.

- ❖ Teach students to practise mind math (to be done orally).

Example:

Leena has six eggs. Three of them fell down and broken. How many eggs are left with her?

- ❖ Divide the class into groups. Give subtraction statements to each group and ask them to come up with a number story for the statement.

Example:

$$6 - 3 = 3$$

Leena has six eggs. Three of them fell down and broken. Three eggs are left with her.

- ❖ Play the weblink to show a video on subtraction.



<https://www.youtube.com/watch?v=7oiLU3jQH-E> (video: subtraction)

Assessment

You can follow the questions given in the textbook.

Group activity



Divide the class into groups. Give each group 10 balloons and ask them to fill the balloons with air. Give a number to each group. Students of a group must deflate balloons according to the number given to them. Then they must count and tell the remaining number of balloons filled with air.

Individual activity



- ❖ Circle the correct answer after subtracting.
- ❖ Subtract using lines.
- ❖ Complete the subtraction fact by striking out.
- ❖ Do subtraction by circling.
- ❖ Do the mind math.





2.4 Zero



Transactional Strategy

Teaching-Learning method

warm up

- ❖ Sing the rhyme given on page 48 in the textbook.
- ❖ Explain how zero is also a number. Talk about the value of zero.
- ❖ Encourage students to practice writing zero (0).



Classroom Situation

- ❖ Sing the rhyme on number zero. Repeat the rhyme with actions.
- ❖ Explain the story of parrots in the cage given on page 48 in the textbook.
- ❖ Use the spindle board of SLM kit for explaining the concept of zero.
- ❖ Play the given weblink to show a video explaining the concept of zero.
- ❖ Write the number 0 on the blackboard and ask students to write 0 in their textbooks in the same way.



<https://www.youtube.com/watch?v=ZlsyWhfvvVg> (video: concept of zero)

Assessment

Group activity



Place a glass bowl with 9 marbles in it. Ask ten students to come forward. Ask each student to pick one marble. Ask the class to count the number of marbles remaining in the bowl as the students are picking out the marbles one by one.

Individual activity



- ❖ Trace the number 0.
- ❖ Count and write the number of pencils in a cup.
- ❖ Count and write the number of tomatoes.
- ❖ Count and match the numbers to the correct number of objects.



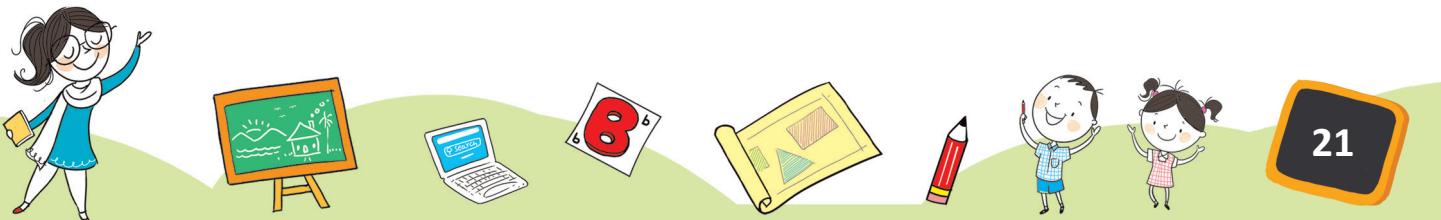


Self-Evaluation

- ❖ I can count numbers from 1 to 9.
- ❖ I can add and subtract numbers.
- ❖ I can use ordinal numbers to name the positions of things.
- ❖ I can compare numbers and find the bigger and smaller number.
- ❖ I know the importance of zero.

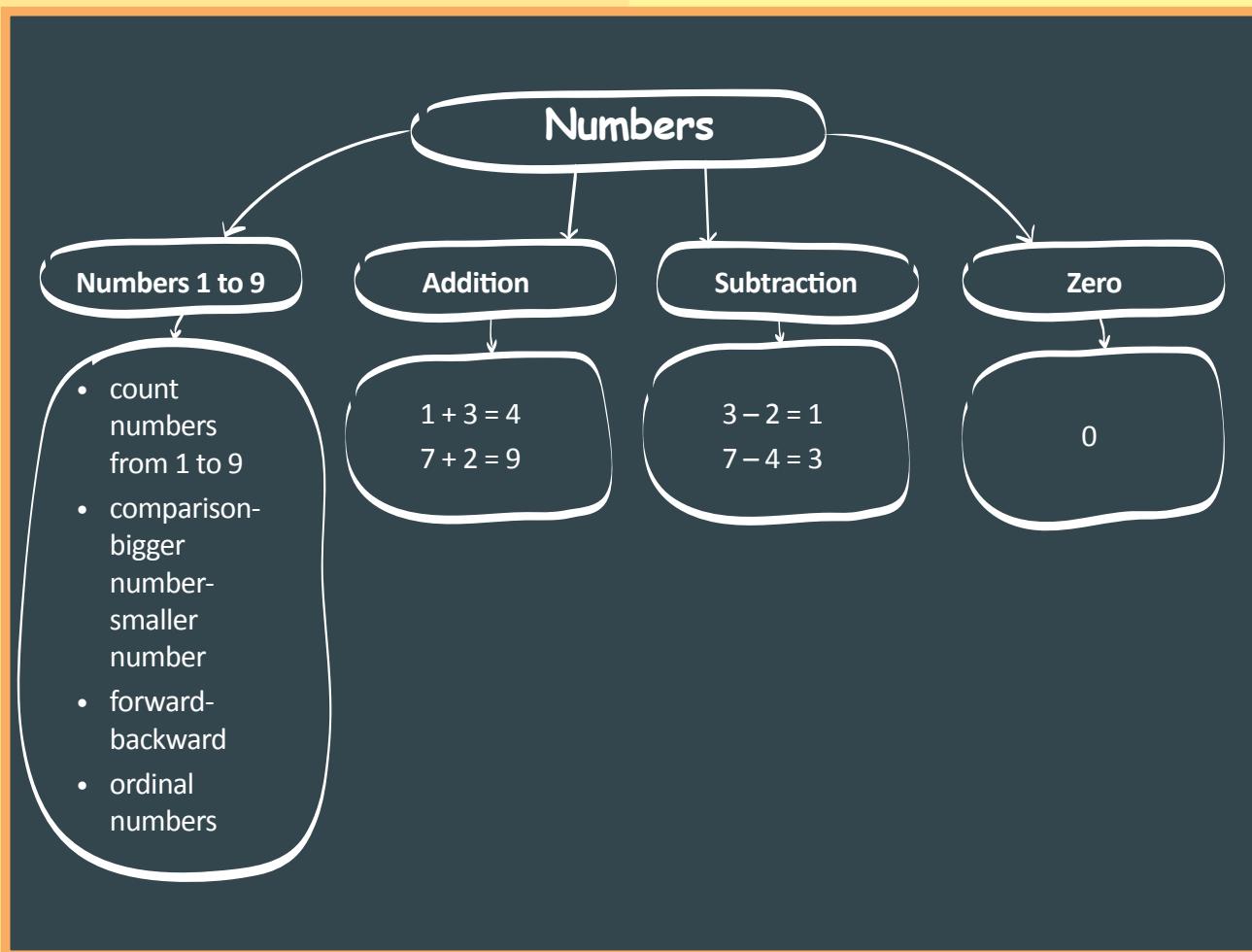
Consolidation

- ❖ Students are able to count numbers, do addition, subtraction and understand the value of zero.
- ❖ Students are able to name the ordinal numbers.
- ❖ Students are able to come up with number stories for addition and subtraction statements.





Mind Mapping



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3

Patterns



Teaching / Learning tools

blackboard, pictures, charts, multimedia, toys

MON	TUE	WED	THU	FRI



Spotlight

- ◆ Learning, hearing, and observing sound patterns.
- ◆ Learning and observing different colour patterns around us.



Learning Objectives

Through the course of the lesson, students will learn to

- ◆ identify different sounds and relate them to their source
- ◆ read and make use of words in sentences relevantly
- ◆ answer simple questions by listening the given patterns

Learning Outcomes



At the end of the lesson, students will be able to

- ◆ listen and differentiate sounds they hear in day-to-day life
- ◆ identify different colour patterns seen in day-to-day life
- ◆ create different colour patterns

3.1 Patterns in Sounds



Transactional Strategy

Teaching-Learning method

Warm up—Visual and oral activity

- ◆ Ask students to and listen to the sounds they hear around them. Ask them to describe the sounds they hear.
- ◆ Students can mimic animal sounds. Show a flash card of an animal and ask what sound the animal makes.



Classroom situation

- ◆ Sing the rhyme 'I am happy!' and ask students to clap hands. Ask them to sing the rhyme first and then repeat it with actions.
- ◆ Sing the rhyme 'Clap Your Hands' in the class. Ask students to sing the rhyme first and then repeat it with actions. Show them different patterns of clapping that can be done as they sing the rhyme.





Teaching-Learning method

- ❖ Ask the following question to elicit answers.
 - What are the different kinds of sound you hear on the way to school?
 - What are the sounds you hear inside your house?

Note: The aim of warm up activities is to get students to talk about the topic that is going to be taken up.

Classroom situation

*Clap your hands, clap your hands
Listen to the music and clap your hands.
Stamp your feet, stamp your feet,
Listen to the music and stamp your feet.
Turn around, turn around,
Listen to the music and turn around.
Jump up high, jump up high
Listen to the music
And jump up high.*



<https://www.youtube.com/watch?v=Q4q9IVfNWC0&feature=youtu.be> (audio: patterns in sounds)

Assessment

Group activity

- ❖ Ask students to pair up and create their own rhyme based on sounds of animals. You can use *Old MacDonald had a farm* as an example. This activity will help to assess their understanding of patterns in sounds.
- ❖ Ask students to do the activity on patterns in sounds using pencils, spoons, and plastic scales. Inform students to bring the necessary things to do the class activity a day before teaching this lesson.
- ❖ Ask students to clap hands as many times as the numbers assigned to them.

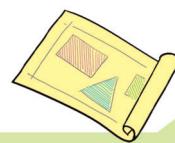


Individual activity

- ❖ Play different sounds and ask students one by one if he/she can identify the sound pattern.



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3.2 Patterns in Colour



Transactional Strategy

Teaching-Learning method

- ❖ Visit the school garden with the class or show a picture of a colourful garden. Ask students to name the colours of the flowers seen in the garden/picture.
- ❖ Ask students to observe the different colours around them and name the colours.
- ❖ Ask the following questions to elicit answers.
 - Which is your favourite colour?
 - Name the colours in a rainbow. (You can teach students the colours of the rainbow using the acronym VIBGYOR)
- ❖ Play the given weblink to show a video on patterns in colours.



Class-room Situation

- ❖ Divide the class into groups. Ask each group to draw vegetables and fruits on a chart paper and name the colour of each fruit and vegetable. (group activity)
- ❖ Sing a rhyme on colours.

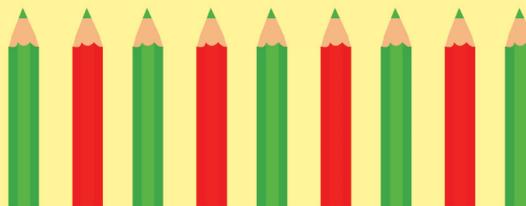
We are walking in the green grass, green grass, green grass,

*We are walking in the green grass,
So early in the morning!*

*We are swimming in the blue sea, blue sea, blue sea
We are swimming in the blue sea,*

So early in the morning!

- ❖ Show a picture of pattern in colours similar to the one given below. Ask students to name the colours one by one starting from left to right.



Individual activity

- ❖ Create your own finger print with different colours and draw figures on the patterns. Observe the finger print pattern.



<https://youtu.be/VMxiOA9zOIQ> (video: patterns in colours)





Assessment

Group activity

Divide the class into groups. Distribute colour papers and a chart paper to each group. Students can cut similar size of shapes of fruits and vegetables under adult supervision. After cutting the shapes of fruits and vegetables, ask students to stick them on the chart paper and create their own patterns.



Individual activity

Students can do the activities given in the textbook.

Colour the outlines of birds, fish, envelopes, and so on and continue the patterns in colours.



- * Observe the patterns of colour and match the correct colour.
- * Draw a rainbow using seven colours of the rainbow.
- * Create your own patterns in colours.
- * Observe the pattern and choose the correct one by ticking it.

Self-Evaluation

- ❖ I can understand different patterns in sounds.
- ❖ I can understand different patterns in colour.

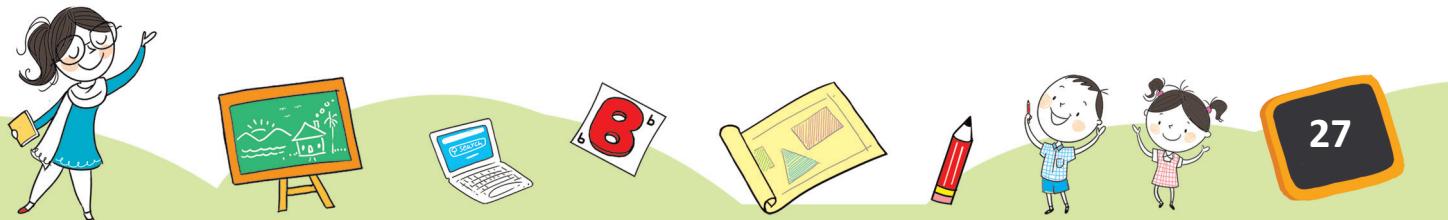
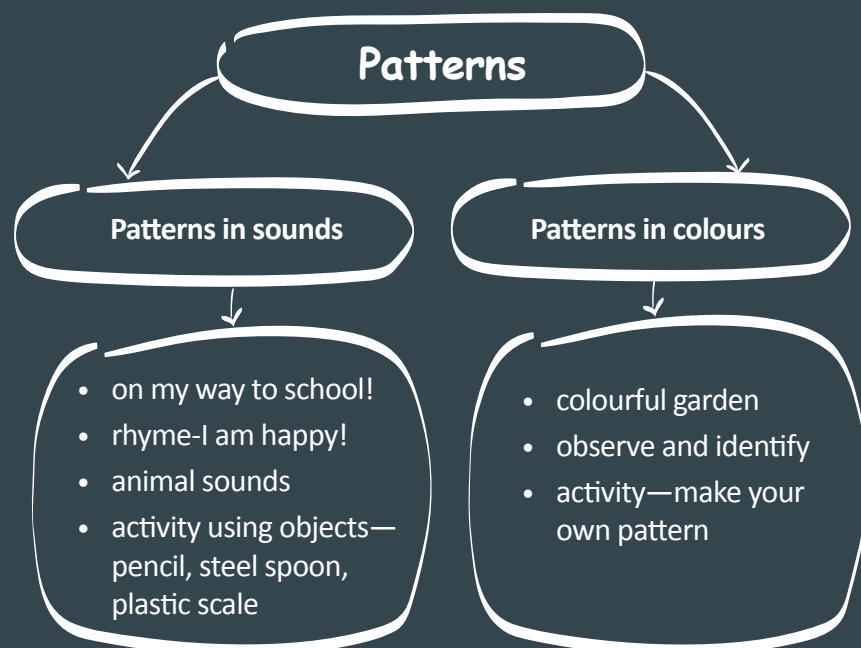
Consolidation

- ❖ Students are able to understand patterns in sounds of animals, birds, and vehicles.
- ❖ Students are able to identify patterns in colour.





Mind Mapping





4

Information Processing



Teaching / Learning tools

blackboard, pictures, charts, multimedia, models, toys

MON TUE WED THU FRI



Spotlight

- ◆ Learning to collect information and data.
- ◆ Learning to analyze information and prepare a list.



Learning Objectives

Through the course of the lesson, students will learn to

- ◆ collect information in a systematic manner
- ◆ tabulate information, analyse it, and draw conclusions

Learning Outcomes



At the end of the lesson, students will be able to

- ◆ understand that information can be organized
- ◆ learn how to collect information and data
- ◆ learn related vocabulary and bring it into daily usage wherever necessary

4.1 Systematic Listing



Transactional Strategy

Teaching-Learning method

Warm up: Visual and oral activity

- ◆ Ask students to do the warm up activity given on page 56 in the textbook.
- ◆ Discuss the uses of making a list with real life examples.
Example:

Listing will help in organizing information.

For example, names of students of different classes and sections are listed in a register.



Classroom Situation



- ◆ Show them the picture on page 56 in the textbook. Ask them to count and colour accordingly in the worksheet.
- ◆ Ask students to do the activity on page 57 in the textbook. Help students answer questions given below the picture.





Teaching-Learning method

Note: The aim of warm up activity is to get students to talk about the topic that is going to be taken up.



<https://www.youtube.com/watch?v=qMJsBoSOn3A> (video: information processing)

Assessment

You can follow the questions given in the textbook.

Group activity

Divide the class into groups. Assign each group a topic such as picnic, birthday party. Ask students to list out the things required for the event.

Individual activity

* Ask students to do the activity on listing the shapes in the picture.



4.2 Organising Information



Transactional Strategy

Teaching-Learning method

- ❖ Ask students to make a list of their family members.
- ❖ Discuss in class how each of them came to school. Draw a table on the board. Ask students who came in the school bus to raise their hands. Count and write the number against school bus. Repeat the same steps for trains, cars, cycles, and so on.
- ❖ Play the weblink to show a video on organising information.



Classroom Situation

Divide the class into groups. Ask each group to list the different means of transport they use to reach school. Give each group a worksheet and ask them to complete the table by keeping a dot.

For example, each student will keep a dot against the picture that shows how they come to school—(by walk, cycle, auto, van, bus, and so on).

<https://www.youtube.com/watch?v=w-m5YtEkLiU> (video: organising information)





Assessment

Group activity

- Divide the class into groups. Ask each group to write a list of the names of students in the group. After the activity is done, find all students whose names start with 'A'. Each group will count the number of names that start with the letter A and tell you the number. You can add the numbers given by each group to get the total number of students in class whose names start with the letter 'A'. Explain how it was easy to find the total number because of organising information.
- Students can complete the activity on means of transport.

Individual activity

- Students can complete the activity on making a list of their relatives.
- Students can complete the activity listing their favourite snacks.

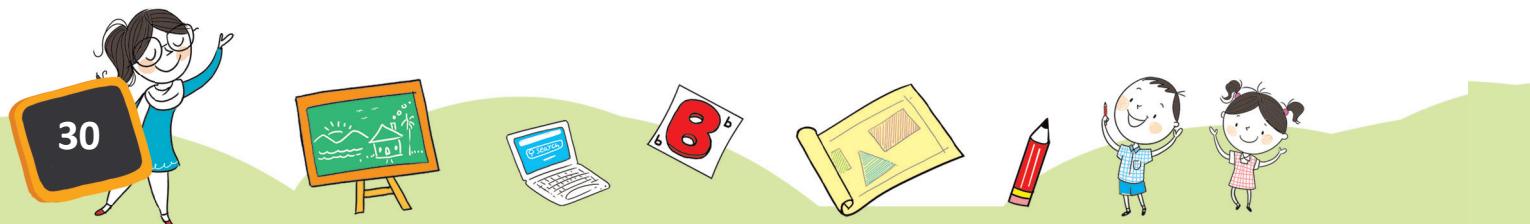


Self-Evaluation

- I am able to collect information and data.
- I am able to list things and find meaning from the data collected.

Consolidation

- Students learn to organise data and make lists.
- Students are able to collect information and data on their own.
- Students are able to categorise and list things given as a collection.





Mind Mapping

