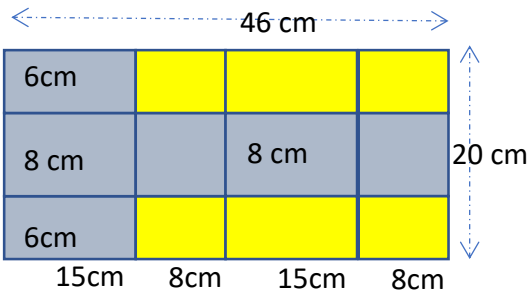
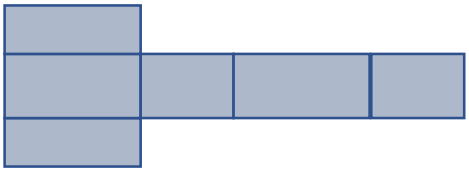
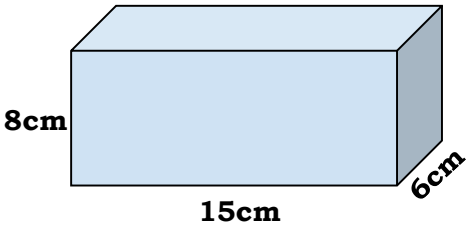
# Class- IV

## Mathematics (Class-IV)

| *Learning Outcomes* | *Resource(s)* | *Week-wise Suggestive Activities (to be guided by Parents with the help of teachers)* |
|---|---|---|
| **Child-**<br>• acquires understanding about shapes around her/him.<br>• inds out shapes that can be used for tiling<br>• makes cube/ cuboids using the given nets<br>• shows through paper folding/ paper cutting, ink blots, etc. the concept of symmetry by reflection<br>• draws top view, front view and side view of simple objects | **NCERT/State developed Textbook**<br>**Building with Bricks**<br>These theme aims at developing an understanding on various themes which include patterns made up of different shapes, properties of cuboids, volume of cuboid, and idea of large numbers integrated with daily life usage. | **WEEK-1**<br>1. Provide opportunities to the student to explore her/his surroundings to see patterns in tiles on walls, floors etc. This will help student in making an understanding of how different shapes, specially the cuboidal bricks, are arranged to form various patterns etc.<br><br>**WEEK-2**<br>1. Make a net of cuboid by taking a cardboard sheet. To make a cuboid of length 15cm, breadth 8cm, and height 6cm:<br>**Step1:** Draw a rectangle of length 46cm and breadth 14 cm, and divide it into smaller rectangles as shown in **Fig.1.**<br>  <br><br>**Step 2:** Cut out the two yellow boxes of dimensions 8cm X 8cm to obtain the final structure as depicted in **Fig. 2**<br>  |

| | | |
|---|---|---|
| | | Cut the border and fold to join the end by a tape or gum. You get the shape of a cuboid.<br>  <br><br>Make many such cuboids. Now conduct activities with these as given in the text books.<br><br>**WEEK-3**<br>1. Later the student may be asked to arrange the bricks so that they get designs of *Jaali* and the floor.<br>2. Engage children in finding the volume of a cuboid by multiplying its sides.<br><br>***e-content***<br>*https://diksha.gov.in/play/collection/do_31293722988661145614 2?contentType=TextBook&contentId=do_3129365167850291201160* |
| • estimates the length of an object/ distance between two locations, weight of various objects, volume of liquid, etc., and verifies them by actual measurement | **Chapter 2:** Long and Short | **WEEK-4**<br>1. Measurement of length and distances is a skill which is essential for all problem solving in life.<br>2. Engage the student in estimating lengths and compare them. There are many situations in a student's experiences to do so. For example comparing the heights of different family members, friends and various objects like window, doors. etc. Can an almirah be taken inside a room through a door? Let the student make an estimate and then measure to compare.<br>3. Let the student use the known units like meter and centimeter to measure lengths and compare them.<br>4. Engage the student in measuring a distance in meters and then in centimetres. Later let them compare and find how many centimetres make a |

| | | |
|---|---|---|
| | | meter. Some children may have the idea that there are 100 centimeters in a meter.<br>5. Applications of decimal number operations are also seen prominently while dealing with measurement of length and distances. Like addition and subtraction of lengths and distances. For example a cloth piece of length 4m 75cm is there out which 2m15cm is used to make a shirt, what is the length of the cloth piece left?<br>6. Finding total length of a cycling track or a jogging track of rectangular shape, etc. |

# Class IV

## Subject: Mathematics (Class IV)

| *Learning outcomes* | *Resource(s)* | *Week-wise suggestive activities (to be guided by parents with the help of teachers)* |
|---|---|---|
| ***The learner***<br>• solves problem involving daily life situations related to length, distance, weight, volume and time involving four basic arithmetic operations<br>• converts metre into centimetres and vice-versa<br>• applies operations of numbers in daily life<br>• multiplies 2 and 3 digit numbers<br>• divides a number by another number using different methods like pictorially (by drawing dots),equal grouping or repeated subtraction and by using inter-relationship between division and multiplication<br>• creates and solves simple real life situations/ problems including money, length, mass and capacity by using the four operations | **NCERT Textbook**<br>**Math Magic IV**<br><br>**Chapter 2**<br>Long and Short<br>**Chapter 3**<br>A trip to Bhopal<br>**Chapter 4**<br>Tick-Tick-Tick<br>**Chapter 5**<br>The way the world looks<br>**Chapter 11**<br>Tables and Shares<br><br>https://diksha.gov.in/play/collection/do_3129372298866114561422?contentType=TextBook&contentId=do_312936516860264448112 9<br>**QR codes content related to these chapters available on NROER** | **Week 5**<br>**Theme**<br>Measurement of length and distance (Standard Units)<br><br>**Activity:** Make your own scale: Ask the child to make a scale on the wall and then measure the heights of the family members and to note down the heights in their notebooks. They may also be asked to calculate the difference between your height and your mother's height, and other family members.<br>• Ask them to find things that are of one centimetre length in their toys or in their room.Let them first estimate and then actually measure and finally arrange them from shortest to longest<br>• Children can also make a one meter-long measuring tape to measure circular things, encourage the child to measure as many things at home which are within their reach.<br>• Ask children to observe that while writing the distances generally a dot is placed between metre and centimetre measure. For example, 2m35cm is generally written as 2.35 m. Note that now only meters are written along the number.<br>• Children can use the internet to find the world records for the longest jump or the highest jump and try to estimate how long/ high it would be by drawing on the floor.<br>• Children can also be asked to make the longest jump possible and measure it in metre and centimetre compared with theirsiblings' jump or the world record holder.<br>• The children may be given the idea that 1000 metres are equal toone kilometer by taking them for a walk in the park. Once the children have some idea with kilometers, they may be asked to estimate how many kilometers is theirhome from school, market or a friend's home. |

| | | |
|---|---|---|
| | | • The child may also be engaged to solve problems, like, "If there are 2 objects of length 120 cm and 1 metre 30 centimetre, then the length of which object is more and by how much?" , "Sunita bought 9.75 metre of cloth. She used 2.30 metre from it. How much cloth is left?"<br>**e-content**<br>• https://diksha.gov.in/play/collection/do_31293722988611456142?contentType=TextBook&contentId=do_31293651684090675211 24<br>• https://diksha.gov.in/play/collection/do_31300293277363404818 8?contentType=TextBook&contentId=do_312770945564409856117 27<br>**Week 6**<br>**Theme** Problem solving in daily life<br>• Provide opportunities to the child to explore where math and mathematical calculations are used in her/his everyday life. For example, if 200 gm of flour is used in making one cupcake, how much flour is used for making 12 such cupcakes, using repeated addition.<br>• Activity: Making bill<br>• The parent may ask the child to make an inventory of the groceries bought at home. Ask the child to note down the prices of the items and the number of items purchased. Then the parent may ask the child to calculate the total of the bill. In this activity the child will use multiplication to calculate the price of one item multiple times and then add the prices to obtain the total price.<br>• Let the child calculate using any method they want. Ask them how are they adding the numbers of the list, How are they calculating for 12 packets when cost of one is known etc.<br>• Provide the child with situational problems which can be solved by applying the basic number operation- addition and subtraction. The child must understand in which situation/problem which operation could be used. Also, help the child to find out different ways of solving a particular problem.<br>• Encourage the child to create contextual questions based on mathematical statements, e.g., the statement 25 – 10 =15 may trigger different questions from different children. A child may create: "I had 25 apples, ten were eaten.How many apples are still left?" |

**e-content**

https://diksha.gov.in/play/collection/do_31293722988611456142?contentType=TextBook&contentId=do_31293651686026444811129

## WEEK 7

**Theme**

Multiplication and construction of multiplication Tables

- Encourage the child to explore and write multiplication facts through various ways like skip counting, extending patterns, etc., that they have learnt in earlier classes. For example, for developing a multiplication table of 3, children could use either skip counting or repetitive addition. Provide the child with a number of real life examples which implies multiplication.
- Encourage the child to do multiplication in different ways. For example, to expand the two digit number and multiply, 23 multiplied by 6 could be solved as follows:

  $23\times6=(20+3)\times6 = 20\times6+3\times6$

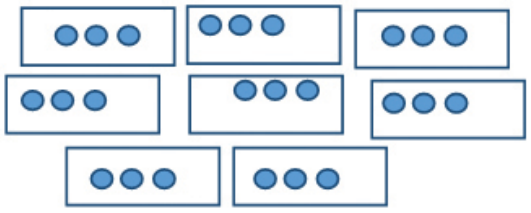
  $120+18=138$
- Further the parent may discuss and evolve standard algorithms for multiplication.
- Give more practice to children to multiply two digit numbers.

## WEEK 8

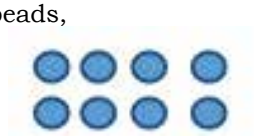
**Theme**

Division

- Encourage the child to observe that division is dividing a collection into equal groups. For example, 24÷3 means to find how many groups of 3 can be there in 24 or how many 3's make 24? This could be done by giving the child 24 beads or coins and asking them to divide the beads into groups of 3 and then asking them to observe how many groups of 3 are there.



| | | |
|---|---|---|
| | | • Let the students explore the concept of division. Give them opportunities to use their knowledge of division in situations like dividing chapatis equally among the family members, etc.<br>• Provide the child with a bunch of word problems that involves division, like, "How will you equally divide 50 sweets among 5 members of the family?"<br>• In life situations division also occurs with a different context i.e. 24÷3 means to find how many items in a group will be there if 24 objects are divided equally in 3 groups?<br>• Ask the child to frame such problems and solve them. For example 12 bananas are to be given equally to three monkeys, how many will each monkey get?<br>• Once the child is familiar with this type of problem, increase the complexity of the problem like- "Can you equally divide 49 sweets among 5 members of the family? Will any family member be left with only 4 sweets? What if there are 51 sweets, how will you divide then?" Encourage the child to think of some situations of her/his own and make statement problems.<br>**Week 9**<br>**Theme** Division (continued) and its relationship with multiplication.<br>• Division by subtraction is another way of performing division. Help the child to get familiar with both the division methods i.e. division by subtraction and division using groups.<br>• Encourage the child to perform division by repeated subtraction. For example, to divide 24 by 3, provide the child with 24 beads or any other similar objects and then ask them to first form a group of 3 and move it away i.e.<br>24-3=21<br>24-3-3=18<br>24-3-3-3=15<br>24-3-3-3-3=12<br>24-3-3-3-3-3=9<br>24-3-3-3-3-3-3=6<br>24-3-3-3-3-3-3-3=3<br>24-3-3-3-3-3-3-3-3=0<br>• Now ask the child to identify how many groups of 3 did they subtract? |

<table>
<tr>
<td></td>
<td></td>
<td>
• This is equal to 24 ÷3 which is 8.<br>
• Once the child is familiar with the concept, the parent may ask to find similarities between the two ways of division.<br>
• Provide the child with word problems involving division, like, “If there are 84 people invited to a party and on each table 12 people can sit, then how many tables are required for the party?” Children can take the help of visual representations initially.<br>
• If instead of 84, 89 people come to the party, then how many people will not get a table to sit? What if instead of 12, only 6 people can sit on one table, then how many tables will be required for 84 people?”, etc<br>
• Encouraging children to observe the relationship between multiplication and division, For instance,<br>
consider 8 beads,<br>

<table>
<tr><td>Multiplication</td><td>Division</td></tr>
<tr><td>2 groups of 4 equals 8</td><td>8 divided by 2 equals 4</td></tr>
<tr><td>4 groups of 2 equals 8</td><td>8 divided by 4 equals 2</td></tr>
</table>
• Ask the child to develop division facts for each of the given multiplication facts. One is done for you:<br>
9X8=72 72÷8=9 72÷9=8<br>
10X7=70<br>
12X8=96<br>
Let children do a lot of such practice.
</td>
</tr>
<tr>
<td>
• tellstime from the clock in hours and minutes and expresses the time in a.m. and p.m.<br>
• calculates time intervals/ duration of familiar daily life events by using forward or backward counting/ addition and subtraction
</td>
<td></td>
<td>
Week 10<br>
Theme<br>
Reading Time and Calculating Time Interval<br>
• A discussion could be carried out about a clock with the child. This will help the child to get accustomed to various features and vocabulary of a clock and find answers to the questions like: What do the numbers 1 to 12 show? What do the hands on the clock show? How much an hour hand moves in an hour, quarter day, half day and full day?, etc.
</td>
</tr>
</table>

| | | |
|---|---|---|
| • draws top view, front view and side view of simple objects | | • The parent may discuss the hour hand and minute hand with the child. The parent may ask the child to show a particular time on the clock by moving the hour and minute hand of the clock. Provide enough practice to read time on a clock and then encourage them to write.<br>• Ask the child to note the time of sunrise and sunset from the newspaper.<br>• Familiarise the child with 24-hour clock and why is it widely used.<br>• For calculating the time interval the parent may discuss the child's favorite activity like- for how many minutes do you watch cartoons? At what time did the cartoon start? At what time the cartoon ends? What is the time duration that you watch cartoons?<br>• Encourage the child to talk about how she calculates the time lapsed in an event.Talk about different strategies: Is it by counting forward or using subtraction/ addition?<br>• Activity: The child will enjoy doing activities to see all the things they can do in one minute. So the parent may give them challenges which they have to complete in any particular time. Observing activities at home will give her/him a sense of time. For example for how much time one can hold breath? For how much time one can keep standing on one leg?, etc.<br>**e-content**<br>https://diksha.gov.in/play/collection/do_1130029327736340481888?contentType=TextBook&contentId=do_312770945733165056119 39<br>https://diksha.gov.in/play/collection do_1130029327736340481888?contentType=TextBook&contentId=do_3128714259850608641154 9<br>https://diksha.gov.in/play/collection/do_3129372298866114561428?contentType=TextBook&contentId=do_3129365168982671361161<br>**WEEK 11**<br>**Theme**<br>Reading calendar<br>• Ask the child to observe and study the calendar note the days in a month, number of weeks in a month/in a year, leap year, etc. |

| | | |
|---|---|---|
| | | • Let children explore the pattern in the number of days in each month and how days are associated with dates in a month,etc.<br>• Carry out a discussion with the child involving reading a calendar. Ask her/him questions like- What month is going on? When is your birthday? After how many days or months will your birthday arrive? Engage children in calculation in months, weeks and days.<br>• Carry out discussion with them about at what interval new electricity or water bills are generated.<br>• Ask children to observe the date of manufacturing and best before time and calculate the expiry date or the shelf life of different things.<br>• Help the child to calculate the number of holidays they have in a whole year including all vacations.<br><br>**Week 12**<br><br>**Theme:** Different Views of an object<br>• The parent may ask the child to look at various objects from different viewpoints and ask them to make a drawing of the view. For example, a glass may look differently from the front, side and top.<br>• The parent may ask questions like, 'But how would our house look from the top?' Or 'how it would look like from below?' Encourage the child to use his visualisation to think about different views of different objects which he cannot view practically.<br>• The parent may carry out discussion on how things look differently in shape and size when you see it from different views and distances.<br>• The parent may further talk about how things look different from different angles and encourage them to draw the shapes. This will help the child to improve her/his spatial understanding and visualisation skills.<br>• Help the child to construct maps from his house to his school or his friends' house.<br>• Let them observe the differences between pictures of an object and a map. Like a picture may look different from different views but a map looks the same.<br>• Young children tend to think of directions like left, right front etc. in absolute terms. It is important for the development of spatial |

| | | |
|---|---|---|
| | | understanding to make them aware that directions are relative to one's position. Something that is towards the left from one position can be towards the right from another position.<br>• Discuss about the google maps with children considering the top view of a locality and try to locate the roads and intersections.<br>**e-content**<br>https://diksha.gov.in/play/collection/do_31293722988661145614 2?contentType=TextBook&contentId=do_31293651694009548811 30<br><br>https://diksha.gov.in/play/collection/do_31300293277363404818 8?contentType=TextBook&contentId=do_31277094607831859211728 |