**Vision Empower & XRCVC**

Teacher Instruction KIT

# Division

Syllabus: Karnataka State Board
Subject: Mathematics
Grade: III
Textbook Name: Mathematics Text cum Workbook
Chapter Number & Name: 6, Division

## 1. OVERVIEW

1.1 OBJECTIVE AND PREREQUISITES

**Objective**

Students will be able to:

- relate division with multiplication.
- explain division from the context of equal grouping and sharing.

**Prerequisite Concept**

- Grouping, multiplication, multiplication tables

*TIK_MATH_G2_CH6_Division*

**Content Index**

*Kindly Note: Activities marked with * are mandatory*

## 2. LEARN

2.1 KEY POINTS

- Any number divided by 1 gives the number itself as a quotient. Example: $3 \div 1 = 3$, $4 \div 1 = 4$, $5 \div 1 = 5$.
- Any number (except 0) divided by itself gives 1 as the quotient. Example: $3 \div 3 = 1$, $4 \div 4 = 1$, $5 \div 5 = 1$.

2.2 LEARN MORE

## 3. ENGAGE

3. 1 INTEREST GENERATION ACTIVITY

**GROUPING**

**Activity 1: Grouping**

*Materials Required*: counters/marbles

*Prerequisites:* Subtraction

*Activity Flow*

1. *Divide the students into groups of 5.*
2. *Tell them to assume those 50 marbles are chocolates. How will you share the chocolates equally among yourselves?*
    a. *First, give one chocolate to each, again one chocolate to each till they have done with all the chocolates.*
3. *How many chocolates did each one get?*

4. *Discuss, how did they share?*
    a. *First, one chocolate to each.*
    $50 - 5 = 45$
    b. *In the second round, one chocolate to each (* $45 - 5 = 40$ *)*
    c. *In the third round, one chocolate to each (* $40 - 5 = 35$ *)*
    d. *Fourth round, (* $35 - 5 = 30$ *)*
    e. *Fifth-round, (* $30 - 5 = 25$ *)*
    f. *Sixth-round, (* $25 - 5 = 50$ *)*
    g. *Seventh-round, (* $20 - 5 = 15$ *)*
    h. *Eight - round, (* $15 - 5 = 10$ *)*
    i. *Ninth-round, (* $10 - 5 = 5$ *)*
    j. *Tenth - round, (* $5 - 5 = 0$ *)*
5. *Explain, they had 50 chocolates and shared among 5 members which nothing but 50 divided by 5. i.e.* $50 / 5 = 10$ *.*
6. *50 is shared among 5 each having 10*
    *∴ 50 is divided into 5 groups of 10 each.*
    *∴ 50 divided by 5 is 10. The process of sharing or grouping equally is called division.*
7. *Repeat the same activity with different numbers.*

**Activity 2: Grouping - rows and columns**

*Materials Required*: counters

*Prerequisites:* Subtraction

*Activity Flow*

1. *Distribute a bowl and 30 counters to each student.*
2. *Tell them to keep the marbles in the given bowl.*

*Consider 16 divided by 4*

3. *Tell the students 4 is the divisor and 16 is the dividend. They have to divide 16 counters into 4 groups.*
4. *Ask them to take 16 counters which is the dividend. The divisor is 4 so, ask them to place 4 counters one after the other (vertically). Because the divisor is 4, we can have 4 rows only. Then move to the next column to fill 4 rows. Similarly, ask them to place all the counters.*
    *The structure will be like 4 rows and 4 columns*

| | | | |
|---|---|---|---|
| *C* | *C* | *C* | *C* |
| *C* | *C* | *C* | *C* |
| *C* | *C* | *C* | *C* |
| *C* | *C* | *C* | *C* |

5. *Ask the total number of columns. Answer is 4 columns. Therefore 16 divided by 4 is 4.*
6. *Repeat the same activity for different numbers.*

*Note: This activity can be done using Taylor frame and types.*

3.2 CONCEPT INTRODUCTION ACTIVITIES

## Equal distribution and grouping

**Activity 3: Equal distribution and grouping**

*Materials Required: Paper cups, marbles*

*Prerequisites:* None

*Activity Flow*

1. *Divide the students into groups of 4.*
2. *Distribute the paper cups and marbles to each group.*
3. *Tell them to put 9 marbles into 3 cups.*
4. *Let them do the activity and find the answer. Ask the dividend, divisor and the quotient.*
   *9 is the dividend- the number of marbles needs to be shared.*
   *3 is the divisor - number of cups (groups).*

*Hint: each time put one marble into the cup.*

5. *Similarly, ask them to find the answer to the following questions.*
   a. *Put 20 marbles into 5 cups.*
   b. *Put 24 marbles into 4 cups.*
   c. *Put 36 marbles into 6 cups.*
   d. *Put 14 marbles in 2 cups.*
   e. *Put 5 marbles in 5 cups. (Any number (except 0) divided by itself gives 1 as the quotient).*

## RELATIONSHIP BETWEEN DIVISION AND MULTIPLICATION

**Activity 4: Relationship between division and multiplication**

*Materials Required: Paper cups, marbles*

*Prerequisites:* Multiplication

*Activity Flow*

1. *Divide the students into groups of 4 and distribute the paper cups and marbles to each group.*
2. *Ask them, what is 3 times 4?*

3. *Ask them to represent 3 times 4 using paper cups and marbles (put 4 marbles in each cup, 3 cups).*
    - *The answer is 3 groups of 4 is 3 times 4, which is equal to 12. The multiplication form is* $3 \times 4 = 12$ *.*
    - *We can also represent it as 12 divided by 3. 12 marbles are divided into 3 groups of 4. The division form is* $12 \div 3 = 4$ *.*
4. *Explain the multiplication form and its corresponding division form.*
    - $3 \times 4 = 12$ *, corresponding division form is* $12 \div 3 = 4$ *.*
    - *Similarly,* $4 \times 3 = 12$ *, the corresponding division form is* $12 \div 4 = 3$ *.*

*Note: Division and multiplication are related to one another.*

## DIVISION USING TABLES

**Activity 5: Division using tables**

*Materials Required: None*

*Prerequisites:* Multiplication tables

*Activity Flow*

*We can divide by using multiplication tables.*

*Example:* $15 \div 5$ *.*

- *5 threes are 15.*
- *1* $5 \times 3 = 15$ *.*
- *Therefore, 15 divided by 5 = 3.*

*Example 2:*

*45 divided by 5.*

- *Ask, how many fives are 45?*
- *9 fives are 45. It can be written as* $9 \times 5 = 45$
- *Therefore, 45 divided by 5 = 9*

*Note: Any number divided by 1 gives the number itself as the quotient.*

*For example,* $4 \div 1$ *. 4 ones are 4 (* $4 \times 1 = 4$ *). Therefore,* $4 \div 1 = 4$

3.3 LET'S DISCUSS: RELATE TO DAILY LIFE*

Division is something that we use daily.
For example,

1. To make small groups to conduct an activity, the teacher will divide the number of students by the number of groups she wants to make.

Assume, there are 30 students in a class. The teacher wants to make 6 groups. $30/6 = 5$.
So in each group, she will allocate 5 students.

2. If you want to share 14 chocolates equally with your sister. How many chocolates will your sister get? $14/2 = 7$ so you need to give 7 chocolates.

## 4. EXERCISES & REINFORCEMENT

4.1 PRACTICE EXERCISES

**Activity 6: Practice**
*Materials Required:* None
*Prerequisites: Multiplication and division*

*Activity Flow*

1. *Divide 12 balls into groups of 3. How many groups will be there?*
2. *Divide 20 into groups of 4. What is the total number of groups?*
3. *Fill in the blanks.*
   a. *If* $7 \times 3 = 21$ *then,* $21 \div 3 = ?$
   b. *If* $9 \times 6 = 54$ *then,* $54 \div 6 = ?$
   c. *If* $5 \times 8 = 40$ *then,* $40 \div ? = 5$
   d. *If* $5 \times 2 = 10$ *then,* $10 \div 2 = ?$
4. *For each multiplication form write the corresponding division form:*
   a. $9 \times 8 = 72$
   b. $7 \times 6 = 42$
   c. $8 \times 7 = 56$

d. $10 \times 5 = 50$

5. *Akbar had 12 pens. He puts all of them equally into 4 pen stands. How many pens does he put in each pen stand?*
6. *Group the following and write the division form for each.*
    a. *Total eggs = 16; Eggs in each group = 4; Number of groups = 4*
    b. *Total Apples = 30; Apples in each group = 6; Number of group = ____*
7. *Write the division form using the multiplication table:*
    a. *16 girls are there 2 in each team. How many teams are there?*
    b. *18 trees are there in 3 rows. How many trees are there in each row?*
    c. *10 pieces of bread are there. 2 pieces in each sandwich. How many sandwiches can be prepared?*

4.2 IMPORTANT GUIDELINES*

**Exercise Reading**

It is very important that the children practice their learnings as well as their Reading. Hence have the children read out the newly learned concepts from their textbooks or other available resources.

**Perform Textbook Activity**

It is good practice to have the children perform the textbook activities. Your textbook activities might not be accessible hence go through this resource to learn how to make textbook content accessible

**Provide Homework**

To evaluate their understanding and to help the student revise and implement the new learnt concept ensure to provide them with homework. Students should perform one or two of the questions mentioned above or from the textbook exercises with the teacher in Class and the remaining may be given for homework. Also, ensure that the student knows their special skills linked to independently using their accessible books as it will be critical to doing homework independently

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