

MERUVAMBAYI M U P SCHOOL
TEACHING MANUAL
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Class : v
Subject: Mathematics

Unit 1 - Number World

Module : 1 [period :15]

Period : 1

Concept

- Playing with numbers
- Give practice to say the number just after a given number. We should add '1' to get a number just after the given number
- Number names

Materials

- ICT pictures, worksheet(Write the number after the given number)

Learning Activities

- Introduction by playing with numbers .Teacher will say a number and let them to find out the next number
- Discussion- How to get a number just after a given number
- Giving worksheet

Learning outcome

- Student will understand we should add '1' to get a number just after. Also they will understand the number names

Period :2

Concept

- Largest and smallest number
- Read the numbers

Materials

- ICT pictures, chart, place value pockets

Learning Activities

- Discuss the smallest and largest 3-digit,4-digit,5-digit and 6-digit numbers
- Showing ICT pictures and charts
- Using place value chart discuss how to read big numbers and how to separate numbers using commas

Learning outcome

- Students will able to understand the numbers are read according to their places. Numbers in each place reads together. Also understand we use comma to separate each period

Period :3

Concept

- 6-digit number lies between 1,00,000 and 10,00,000
- 7-digit number lies between 10,00,000 and 1,00,00,000
- When a number moves right to left the place value of each place become ten times

Materials

- ICT ,place value chart, chart

Learning Activities

- By adding '1' to largest 6-digit number get smallest 7-digit number and so on
- using place value chart discuss that a number moves from right to left it became ten times the place value of previous place

Learning outcome

- The place value become ten times when a number moves from right to left

Period :4

Concept

- Understanding very big numbers -googol
- find two numbers between which a number lies

Materials

- ICT , textbook

Learning Activities

- Teacher will write a big numbers like 10 or 12 digit number and discuss about it
- Discuss googol
- Teacher give a number to each group and try to find out between which numbers the given number lies
- Doing textual exercise

Learning outcomes

- Students will aware about big numbers

Period :5

Concept

- Read and write big numbers and the ability to identifies a number according to questions

Materials

- ICT pictures, charts(Distance of planet),charts (Number names)

Learning Activities

- Showing the charts for distance of planets from the sun, Discuss, write and read big numbers
- Give practice to put commas for separating the places

Learning outcome

- Students will able to read and write big numbers and putting commas in the appropriate places

Period :6

Concept

- A number can write in different forms

Materials

- ICT pictures, charts

Learning Activities

- Discuss in how many forms a number can make
10,000 – 10,000 ones
1,000 tens
100 hundred
10 thousand
1 ten thousand
- also find out the different forms of 1,00,000 and 10,00,000
- Show the charts of different forms and let them do practice.

Learning outcome

- Students will able to understand a number can write in different forms.

Period :7

Concept

- Understanding big numbers.

Materials

- ICT, pictures

Learning Activities

- Starting with a game with digits .introducing 15-digit number.
- Discussion-Try to read the number

Learning outcome

Students understand to read the 15-digit number

Period :8

Concept

- Write one number in different forms.

Materials

ICT, Charts, place value pockets.

Learning Activities

Using place value chart discuss how many forms a number can write.

Eg; 2784= 2 **Th** 7**H** 8**T** 4**O**

or 27**H** 8**T** 4**O** like that

Learning outcome

- Students understand to write all the forms of a number.

Period : 9

Concept

- Different forms of a number.
- Write the number of given forms.

Materials

- ICT, Charts, place value charts.

Learning Activities

- Discussion and practice to write a given number in different form.
- Practice to write a number from any given form.
- Showing charts

Learning outcome

- Students understand the place value of number thoroughly and write the number in different form.

Period :10

Concept

- Identifies the questions and find out appropriate answer from the table.

Materials

- ICT, population chart of different state.

Learning Activities

- Discussion -Showing population chart.

- Individual reading of numbers.
- Discuss and find out answer of the given questions by doing suitable operations.

Learning outcome

- Students understand and identifies the questions and able to do suitable operations.

Period :11

Concept

- Palindromic number.

Materials

- ICT, chart of palindromic number.

Learning Activities

- Starting with asking questions like find out Malayalam words that read the same both forward and backward.
- Discussion of such words
- Find out the number that read same both forward and backward
- Try to find out palindromic number by considering any number as they like.

Learning outcome

- Students understand the number which the same forward and backward are called palindromic numbers.

Period :12

Concept

- Make smallest and the largest number using the given digits.
- Find digit sum and digital root.
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Materials

- Number cards

Learning activities

- By showing number cards students try to make different numbers
- Find out smallest and largest number
- With the help of examples discuss digit sum and digital root

Learning outcome

- Students able to make smallest and largest numbers using digits
- Also they will understand what is digit sum and digital root

Period : 13

Concept

- Number chain

Materials

ICT projector, chart

Learning Activities

- Try to find out the missing numerals by subtracting the numbers given in the instructions
- Completing the number chain

Learning Outcome

- Students will understand the subtraction of big numbers

Period 14

Concept

- Ability to identifies the questions and doing corresponding operations
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Materials

- ICT ,budget charts

Learning Activities

- In the budget of Panchayat money allotted for various sectors are shown in the table. Using the table try to find out the answers of given questions

Period 15

Concept

- Kaprekar Constant

Materials

- Charts

Learning Activities

- Make the smallest and largest 4-digit number using the given four digits
- Find the difference till to get Kaprekar Constant 6174
- If not again make the smallest and the largest 4-digit number from the difference
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Learning Outcome

- Students will understand the Kaprekar Constant

MODULE 2 (Period :10)

Period :16

Concept

- Different way of Multiplication

Materials

- ICT projector , Textbook

Learning Activities

- The school decided to distribute ladoos on the first day of re-opening. Cost of one ladoos 4 rupees. Then how much they will spend to distribute ladoos for 315 Students?
- Discuss this question in the class and try to find out the answer

Cost of 1 ladoo = Rs 4

- Therefore cost of 315 ladoos = 315×4

For this , $300 \times 4 = 1200$

$$\underline{15 \times 4 = 60}$$

$$\underline{315 \times 4 = 1260}$$

- Also we can use

$$\begin{array}{r} 315 \times \\ \underline{4} \\ 1260 \end{array}$$

- Practising different ways of multiplication

Learning Outcomes

- Multiplication of 3-digit number with 1-digit number

Period : 17

concept

- Different way of multiplying two numbers
- The way of multiplying a number with 10,100,1000,....

Materials

- ICT Projector, Textbook

Learning Activities

- Discussion – The last digit of the product of numbers 1 to 5
 $1 \times 2 \times 3 \times 4 \times 5 = 1 \times 3 \times 4 \times 10$
 $=240$

- Discuss what about the product of numbers 1 to 10

- Doing text book problem

$$12 \times 3 = 36$$

$$12 \times 2 = 24$$

$$12 \times 5 = 60$$

- This is same as

$$12 \times (3+2) = 12 \times 5 = 60$$

$$\text{So } 12 \times (3+2) = 12 \times 3 + 12 \times 2$$

Learning Outcomes

- Understanding different way of multiplication

Period : 18

Concept

- Multiple multiplication
- Multiplication of 3- digit number with 2-digit number

Materials

- ICT projector, textbook

Learning Activities

- A Panchayat decided to provide furniture for the primary school. The price of a desk is Rs 3456 What would be the total cost for 85 such desk
- Discuss the question – We want to find out 3456×85
- For this we can write
- $3456 \times 85 = (3456 \times 80)+ (3456 \times 5)$

$$3456 \times 80 = 276480$$

$$3456 \times 5 = 17280$$

$$3456 \times 85 = 293760$$

- Another way

$$\begin{array}{r} 3456 \times \\ 85 \end{array}$$

$$\begin{array}{r} 17280 \\ 27648 \end{array}$$

$$293760$$

- Practise more questions
- Learning Outcomes
- Students will understand different way of multiplication

Period : 19

Concept

- Mental math

Materials

- ICT projector, textbook

Learning Activities

- Do without pen and paper
- $(115 \times 88) + (115 \times 12)$
- Discussion – How can we write this in easy form
 $(115 \times 88) + (115 \times 12) = 115 \times (88+12)$
 $= 115 \times 100$
 $= 11500$
- Practising more questions

Learning Outcomes

- Students can able to multiply numbers by converting into simple form

Period : 20

Concept

- Different way of multiplication
- Number relation for the product of any four consecutive numbers

Materials

- ICT projector, textbook

Learning Activities

- Doing textbook questions – Discussion, Doing in notebook
- Consider any four consecutive numbers 1,2,3,4 and add '1' to it
 $1 \times 2 \times 3 \times 4 = 24 + 1$
 $= 25$
Find the product of 1 st and last of this number and add '1' to it
ie $1 \times 4 = 4 + 1$
 $= 5$

Now see the relation square of 5=25

- Check with other number

Learning outcomes

- Multiplication
- number puzzle

Period : 21

Concept

- Doing word problems

Materials

- ICT projector, TB

Learning Activities

- In an educational district, there are 215 schools; and the district panchayath allotted 4850 rupees to each of these, for setting up Math Lab. And also 76500 rupees each for 36 schools for a Computer Lab. How much is the total allotment for labs?
- Discuss the problem in the class by asking various questions
- students try to find out solutions in Group wise

Total number of schools in that district	= 215
Money allotted for setting math lab in one school	= RS 4850
Total money allotted for math lab in 215 school	= 4850 x 215 =10,42,750
Money allotted for setting computer lab in one school	=76500
Total money allotted for computer lab in 36 school	=76500x36 =27,54,000

total allotment for labs	= 10,42,750 + 27,54,000
	<hr/>
	37,96,750
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- Practising more problems

Learning outcomes

- Students will understand the word problems and able to develop their problem solving skill

Period : 22

Concept

Problem solving

Materials

- ICT projector, TB

Learning Activities

- Under the Noon Meal Scheme, 150 grams of rice is allotted per day for each child. In a High School, 1240 children are in this scheme. How many kilograms of rice is needed per day
- Discussion- About noon meal scheme ? How many children are there ? etc
- All try to solve problem individually

Total number of children = 1240

Rice allotted for i child = 150 gms

Rice needed for all

$$\begin{aligned} \text{children in one day} &= 1240 \times 150 \\ &= 1240 \times (100+50) \\ &= (1240 \times 100) + (1240 \times 50) \\ &= 124000 + 62000 \\ &= 186000 \text{ gms} \end{aligned}$$

Convert gm into kg-Divide by 1000

$$= 186\text{kg}$$

Period : 23

Concept

- Problem solving

Materials

- ICT projector, TB

Learning Activities

- In an Upper Primary School, the PTA collected 236465 rupees to build a computer lab. It is in 1000, 500, 100, 50, 10 and 5 rupee notes. There are hundred 1000 rupee notes. What are the possible numbers of others? Write at least three different possibilities.

- Discuss the problems
- Discuss in how many ways a number can write?
 Money collected to build a computer lab = 236465 rupees
 hundred 1000 rupee notes. = 1,00,000

236465 = hundred 1000 + two hundred 500 + fifty 50 + hundred 100
 + twenty 50 + forty 10 + thirteen 5

236465 = two hundred 1000 + fifty 500 + hundred 100 + twenty
 50 + forty 10 + thirteen 5

236465 = hundred 1000 + hundred 500 + seven hundred 100 + three
 hundred 50 + one hundred forty 10 + thirteen 5

- Discuss and find out other possibilities also

Learning outcomes

- Students can write a number in different ways

Period : 24

Concept

- Doing word problems

Materials

- ICT projector, TB

Learning Activities

- In an election, contested by two candidates, the winner got 374436 votes and his rival got 293760 votes. What is the winner's majority? 1436 votes were invalid. How many votes were polled?

- Discuss the problem in the class

The votes got by the winner = 374436

The votes got by the rival = 293760

winner's majority = 374436 – 293760

= 80676

Number of votes invalid = 1436

votes were polled = The votes gained by the winner + The
 votes gained by the rival + Number
 of votes invalid

= 374436 + 293760 + 1436

= 669632

- Practice more questions

Learning outcomes

- Students will understand the problem and they are able to solve it

Period : 25

Concept

- Doing word problems

Materials

- ICT projector, TB, chart

Learning Activities

- Discuss the textbook problem in the class
- Number patterns

$$\begin{array}{r} 1*1 = 1 \\ 11*11 = 121 \\ 111*111 = 12321 \end{array}$$

- Discuss the pattern in the class and try to make new patterns
- Giving project

Learning outcomes

- Students will understand the word problems and can able to solve it