Vision Empower & XRCVC

Teacher Instruction KIT

Addition

Syllabus: Karnataka State Board
Subject: Math
Grade: 5
Textbook Name: Karnataka State Board
Chapter Number & Name: 2. Addition

1. OVERVIEW

1.1 OBJECTIVE & PREREQUISITES

Objective

- Revision of 4 digit number addition
- Introduction to an addition of 5 digit numbers without carrying.
- Addition of 5 digit numbers with carrying.

Prerequisite Concept

- Addition

TIK_MATH_G4 _CH3_Addition

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*Kindly Note: Activities marked with * are mandatory*

4. EXERCISES & REINFORCEMENT

4.1 PRACTICE AND EXERCISES

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Perform Textbook Activity

Provide Homework

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2. LEARN

2.1 KEY POINTS

Addition: The addition is taking two or more numbers and adding them together, that is, it is the total sum of 2 or more numbers.

2.2 LEARN MORE

3. ENGAGE

3.1 INTEREST GENERATION ACTIVITY

Activity 1: Snakes and Ladder

Materials required: Braille snakes and ladder board

Prerequisites: Counting, number recognition, simple addition, familiarity with braille numbers

Activity Flow

Number of players: 2, 3, 4

Game Overview and Basic Rules for Play

The objective of the game is to be the first to reach 100.

1. *Each player places their counter at the 'start' position. Take turns to roll the dice.*

2. *One will start moving forward only when the dice shows the number 6. The player would roll the dice again and move the counter forward to the number of spaces shown on the dice.*

3. *If the counter lands at the bottom of a ladder, the player can move up to the top of the ladder.*

4. *If the counter lands on the head of a snake, the player must slide down to the bottom of the snake.*

5. *The first player to get to the number 100 is the winner.*

Play session plans

Session 1 - Counting, Addition

- *Start the game as usual after ensuring everyone remembers the rules of the game.*
- *Ensure children are able to identify the braille numbers on the board.*
- *This time, tell children that they are going to calculate which number they would need on the dice so that they can reach the tail of any ladder ahead of them.*
- *Similarly, they would identify the numbers that would save them from getting caught by the snake which is ahead of them. The number would be one less or one more.*
- *Every time a player moves a piece, he/she would recite the numbers in form of an addition formula. Example, when one player is in number 14 and he/she gets 4 on the dice, the player says* $14+14=28$ *and then moves the counter.*
- *Continue playing until everyone reaches 100. The winner is the one who reaches first.*

Session 2 – Playing Reverse

- *Inform that this session is about starting the game from 100 and coming down to the number 1. The board would be positioned in the same manner as in the regular game.*
- *Explain the rules for this game. Here, the snakes and the ladders would function the same as in the regular game.*
- *If a player lands on the mouth of a snake, he/she would slide down to the tail of the snake and that would help the player reach his/her destination faster.*
- *On the other hand, a player will have to remember to use the ladder only when he/she is at the bottom of the ladder. In such a case, he/she would climb up the ladder and that would take the player away from the final destination.*
- *Encourage players to count the numbers aloud as they move their tokens on the board. That would help them count backwards.*
- *Continue playing the game until all the players reach the final destination (number 1) on the board. The first one to reach there first is the winner of the game.*

3.2 CONCEPT INTRODUCTION ACTIVITIES

ADDITION – 4 DIGIT NUMBERS

Activity 2: Revision of 4 digit number addition

Materials required: Braille cards from 0 to 9

Prerequisites: Addition of 4 digit number

Activity Flow

- *Make two groups, give braille cards from 0 to 9 to both the groups. And all the cards should be kept face down.*
- *One of the students in group A should turn 4 cards and make a 4 digit number and give that number to group B.*
- *Now group B should retain the given 4 digit number on a Taylor frame.*
- *Next group B will do the same and give 4 digit number to group A. Group A has to retain the number on a Taylor frame.*
- *So, both the groups get alternate turns to give the numbers to each other. Groups should be aware that the numbers formed should be in such a way that after 3 turns of giving numbers among them and then, when they add those 4 digit numbers the sum should be 5000 and should not exceed 5000.*
- *Whichever group reaches 5000 first will be the winner.*
- *The same game can be played for 5 digit numbers and range/limit can also be changed to 6000 or 10,000 or any 5 digit number.*

Ask the students to add the following numbers.

1. $456+123$. *Answer is 579*
2. $7632+1252$. *Answer is 8884*
3. $3653+4213+1156$. *Answer is 9022*
4. *The number of students of 1st standard is 1278, 2nd standard is 455 and 3rd standard is 871 then find the total number of students in a school.*
   Answer: Total number of students = $1278+455+871=2604$.
5. *The population of the village is 3,389. The population of another village is 4,893. Find the total population in both the villages.*
   Answer: Total population = $3389+4893=8282$.
6. *Suma deposited rupees 5480 on Monday and 2340 on Tuesday. Find the total amount deposited on both the days.*
   Answer: Total amount= $5480+2340=7820$ *rupees.*

ADDITION – WITHOUT CARRY

Activity 3: Addition of 5 digit numbers without carrying
Materials required: Taylor frame
Prerequisites: Addition

Activity Flow

Ask the students, how will they add 5 digit numbers?
So, addition of 5 digit number is same as that of addition of 4 digit number.
Let us recall that the digits are added in this order – units, tens, hundreds, thousands and ten thousands.

Example: Write the numbers 25237 and 11210 in a place value chart, add them and tell the answer orally.
Answer is 36447.
Ask the students to observe the place value chart (pg.no-18). The digits in each place are added.

Ask them to explain the steps involved in addition orally.

Example: Ask them to add 25,237 and 11,210 using the Taylor frame. First add digits in the units place $0+7=7$, *digits in tens place* $3+1=4$, *digits in hundreds place* $2+2=4$, *digits in thousands place* $5+1=6$ *then digits in ten thousands place* $2+1=3$ *in an order from right to left.*
Answer is 36447.

Solve the following questions.

1. *Find the sum of 23,567 and 34,131.*
   Answer is 57698.
2. *Mallappa bought a scooter for himself and a motorcycle for his son. The cost of a scooter is 35,678 and the cost of a motorcycle is 34,221. Find the total amount paid.*

Ask the students to solve it by writing it in place of a value chart and with steps.
Answer: Total amount paid = Cost of Scooter + Cost of motorcycle= $35678+34221=69899$.

ADDITION WITH CARRY

Activity 4: Addition of 5 digit numbers with carrying
Materials required: Taylor frame, Paper cups, Ice cream sticks or Plastic toothpicks
Prerequisites: Addition

Activity Flow

We will go to a shop to buy 10 liters of oil, but there are only two cans of 9 liters each. So, what does a shopkeeper do?
Answer: First, he will fill the 9 liters can then he will carry the remaining 1 liter to the second can.

To introduce the concept of addition with carry for any digit number.

- *Arrange the paper cups in 3 rows (horizontally) and 3 columns (vertically) total 9 paper cups in each place value.*
- *Then explain to them that each cup in units place represents a chair where only one person can sit and in total 9 people will sit.*
- *There are 9 sofas in tens place, where 10 people can sit on each sofa. Therefore 90 people will be there in tens place.*
- *There are 9 rooms in hundreds place, in each room 100 people can stay. Therefore 900 people will be there in hundreds place.*
- *There are 9 big halls, in each hall 1000 people can stay. Therefore 9000 people will be there in thousands place.*
- *Similarly, there will be 9 playgrounds, in each hall 10,000 people can stay. Therefore 90,000 people will be there in ten thousands place.*
- *Place single ice cream sticks in units place in all 9 paper cups, if we want to place one more, since every cup is occupied, then combine one stick with 9 sticks and place it in tens place.*
- *In the same way, if all ten places are filled and if one or more than one group of 10 sticks can't place in tens instead, move the group of 100 to the hundreds place.*

Example:
Adding 735 plus 456 equal to 1191.
Adding number 5 and 6 in units place will be 11. We know that in units place only 9 can sit. So, we can only take 10 of them from 11 and place it in tens place and keep one stick in units place. So there is a carry of 1 ten, then add it to the number 3 and 5 in tens place and the sum will be 9. Adding numbers 7 and 4 in hundreds place will give 11 hundreds, as we know even in hundreds place only 9 hundreds can be placed. So, now there is a carry of 10 hundreds which is 1000 and move it to thousands place and keep 100 in hundreds place.
Similarly, the concept of addition with carry can be explained in this way for any digit number of digit.
Addition of 5 digit number is the same as that of 4 digit number. As we have seen above, if the sum of digits in units is equal or more than 10 then will retain the digit in units place and carry the digit to the tens place. Similarly with the other place value.
Ask the students to add the numbers by writing it on Taylor frame.

Example: To add 38,765 and 25,978.

1. *Add the digits in the units place,* $5+8=13$. *Write 3 in units place and carry 1 to tens place.*
2. *Add the digits in the tens place,* $6+7+1=14$. *Write 4 in tens place and carry 1 to hundreds place.*
3. *Add the digits in the hundreds place,* $7+9+1=17$. *Write 7 in hundreds place and carry 1 to thousands place.*
4. *Add the digits in the thousands place,* $8+5+1=14$. *Write 4 in hundreds place and carry 1 to ten thousands place.*
5. *Add the digits in the ten thousands place,* $3+2+1=6$.
   Final answer is 64,743.

Similarly, ask the students to solve the following questions.

a. *Find the sum of* $36417+32532$. *Answer is 68949.*
b. *Find the sum of 43,374 and 36,654. Answer is 80028.*
c. *There were 26,759 trees in a protected area of forest and 13,842 trees were planted during Vanamahotsava. Find the total number of trees in the protected area of forest.*
    a. *Answer is 40,601.*
d. *Public library in the city has 17,943 books in Kannada, 14,635 books in Hindi and 10,284 books in English. How many books are there in a library altogether?*
    a. *Answer: There are 42,862 books.*

3.3 LET'S DISCUSS: RELATE TO DAILY LIFE*

- Shopping
- Ordering things
- Travel
- Daily expenditure

4. EXERCISES & REINFORCEMENT

4.1 PRACTICE AND EXERCISES

Activity 5: Homework

Materials required: None

Prerequisites: Addition with and without carry

Activity Flow

A. *Find the sum of each of the following.*

1. $28,490 + 61,306$
2. $42,806 + 34,063$

B. Find the sum of each of the following.

1. $25,700 + 2,346 + 16,413$
2. $75,467 + 34,651 + 8,369$

C. Solve the following problems

1. *A public library in a city has 17,943 books in kannada, 14,635 books in Hindi and 10,284 books in English. How many books are there in the library altogether.*
2. *An Indian cricketer scored 16,076 runs in the test cricket matches and 13,092 runs in one day cricket matches. How many runs did the cricketer score in all?*
3. *There were 29,759 trees in the protected area of a forest. 17,645 trees were planted during vanamahotsava. Find the total number of trees in the protected area of the forest.*

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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