

Vision Empower & XRCVC

Teacher Instruction KIT

Subtraction (Difference Not More Than 20)

Syllabus: Karnataka State Board

Subject: Mathematics

Grade: 1

Textbook Name: Text cum Workbook (Revised)-First Standard

Chapter Number & Name: 11. Subtraction (Difference Not more than 20)

1.OVERVIEW

1.1 OBJECTIVE AND PREREQUISITES

OBJECTIVES

- To subtract numbers (difference not more than 20).

PREREQUISITE CONCEPT

- Counting
- Numbers
- Addition
- Subtraction of single-digit numbers

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*Kindly Note: Activities marked with * are mandatory*

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2. LEARN

2.1 KEY POINTS

- The process of taking one number or amount away from another is called subtraction.
- When we subtract, the number of things in the group reduces or becomes less.
- The result of subtraction is called the difference.
- Subtraction is signified by the minus sign, $-$.

2.2 LEARN MORE

None

3. ENGAGE

3.1 INTEREST GENERATION ACTIVITY

INTRODUCTION TO THE CONCEPT

Activity 1: Lego Subtraction Race*

Materials Required: Lego blocks and tactile dice

Pre-requisites: The child should know how to use the dice.

Activity Flow

Ask the children if they remember how to subtract. Where do they use subtraction in their daily life?

Now, distribute lego pieces and a dice to each child. It is recommended that you start with 10 lego pieces before moving on to bigger numbers. The object of the game is to see who can lose all of their bricks first.

First, ask the children to stack up their blocks and make a tower.

Now, each child should roll the die and subtract the number they got from the total. For instance, if a child rolled a 3 on the die, she should now physically remove 3 blocks from the top of the tower, and then count how many are left. As they do this, encourage them to speak aloud their numbers. For example, "I had 10 bricks. I took away 2 and now have 8."

The child who hits 0 first, wins the game.

3.2 CONCEPT INTRODUCTION ACTIVITIES

Activity 2: Human Number Line*

Materials Required: Braille number cards (0-15), cards with simple math equations

Pre-requisites: Understanding of number line

Activity Flow

Distribute one card to each child. If there are more than sixteen students in a class, divide the children into groups of 15.

Now, urge the children with the number cards to form a line and stand in order of their numbers from left (0) to right (15).

One student (apart from the students forming the human number line) should be the card reader. He or she can pick up any equation cards from the deck. Encourage the child to read it aloud to the class.

Now, encourage the child to physically solve the equation on the human number line.

For example, if the equation on the card was $15-8=?$, the child should first stand in front of the child with the number card 15, and then jump steps to the left, each time touching the shoulder of the person she passes, and calling out the number. In this case, she would jump from 15 to 14 to 13 to 12 to 11 to 10 to 9 to 8 to 7, calling out each number. She should stop when she has jumped 8 times (as 8 is the number to be subtracted in this example), and call out the number she is at.

Once a student solves the equation correctly, she can take the place of the student whose number was the answer to the question she solved. The next student then takes his place. This continues until everyone has had the chance to both be a part of the number line as well as solve equations.

Once the activity is done, discuss what they just did. The children not only subtracted between digits from 1 to 9, but also numbers from 10 to 15. It is possible to subtract double digit numbers as well.

Activity 3: Cup Subtraction with 2-Digit Numbers*

Materials Required: 6 paper cups and 20 ice-cream sticks per student

Pre-requisites: Subtraction of single-digit numbers, Place value, grouping into 10.

Activity Flow

Firstly orient children to the placement of the cups. Tell them that the first and second row will be used to work out the subtraction problems and the third row will show the answer. The right hand cup in all the rows is the unit's place and the left hand is the Tens place.

Use the paper cups to demonstrate subtraction to the students. Lay out the cups in 3 rows of 2 cups each. Now, set out a problem in the cups. For instance, to subtract 15 from 17, set out one bundle of ten sticks in the first cup and 7 sticks in the second cup of the first row. 1 ten and 7 ones make 17.

Now we need to subtract 15 from this. One ten and 5 ones makes 15. So guide the students to pick 1 bundle of ten sticks from the first row and place it in the second row left cup and

five sticks from row one and place it in the second row right hand cup. So how many sticks remain in the first row.

Ask students to move the remaining sticks to the third row. So here we have 2 sticks remaining. Hence $17 - 15 = 2$. Guide students to place the sticks in the correct cup.

Practice a few more problems in this way.

Activity 4: Subtraction War

Materials Required: A deck of playing cards.

Pre-requisites: Basic subtraction

Activity Flow

Deal the entire deck to all players. Jacks, queens and kings become 11, 12, and 13 respectively.

Each player turns over 2 cards to find the difference between the numbers, the larger number first.

The student with the smallest difference gets all the cards.

The person who finishes their cards wins the game.

Then, once the children are used to playing this game, play it with a variation. Start with a target number such as 20. Both players turn over 1 card each, and then subtract this number from 20. In the next round, as the users turn over a card, they subtract it from the difference of the previous round. The person who reaches 0 first wins the game.

3.3 LET'S DISCUSS: RELATE TO DAILY LIFE*

Real life is full of opportunities for children to subtract. Now, using the children's own daily lives and routines at school and at home, discuss how we use subtraction in our everyday lives. Here are some examples you could talk about:

"You have 3 toy cars. How many will you have left if you let your friend play with 1?"

"I have 20 braille slates with me. How many will I have if I give you all 1 each?"

What about chapatis that you get for lunch/dinner? Is there subtraction there? Or samosas or biscuits?

What about money? When your parents pay for something while shopping they are giving money for it. What would happen to the total money they have when they give the money to the shopkeeper?

Ask the children to give examples of their own.

4. EXERCISES & REINFORCEMENT

4.1 REINFORCEMENT

Activity 5: Close Call Card Game*

Materials Required: A deck of braille cards

Pre-requisites: NA

Activity Flow

The object of this game is to accumulate the highest score by coming closer to the goal than your opponent.

Start with a complete deck of cards. Ace = 1, Joker = 0 and all tens and other face cards are removed. Shuffle the deck and deal each player 6 cards.

Players then select 4 of the cards to create two 2-digit numbers. The object is to create two numbers that when subtracted come as close to 0 as possible.

The player with the difference closest to 0 wins the round and gets 1 point. In the event of a tie, each player receives a point.

After playing 5 rounds, the player with the most points wins.

Teaching Tips:

If there are any additional teaching tips then utilize this section to mention them.

References:None

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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