

## 3rd Grade Math: Mental Addition

### Lesson Objective:

By the end of this lesson, students will be able to:

- Perform addition mentally using various strategies.
- Solve addition problems quickly without using paper and pencil.
- Apply mental addition strategies to real-world problems.

### 1. Introduction to Mental Addition

#### What is Mental Addition?

- **Mental Addition** is adding numbers in your head without writing them down or using a calculator. It involves using strategies to make addition easier and faster.

#### Why is Mental Addition Important?

- It helps you solve problems quickly and efficiently.
- It improves number sense and helps with more complex math tasks.

### 2. Strategies for Mental Addition

#### Activity 1: Using Number Bonds

1. **Materials:** Number cards, paper, and pencils.
2. **Instructions:**
  - Explain that number bonds are pairs of numbers that add up to a specific total.
  - Show examples with simple number bonds (e.g.,  $8 + 7 = 15$ ).
  - Have students practice finding number bonds for different totals (e.g., 12, 20) using number cards.

#### Activity 2: Using Friendly Numbers

1. **Materials:** Number cards, paper, and pencils.
2. **Instructions:**
  - Introduce **friendly numbers** (e.g., numbers that are easy to add, like 10, 20, 50).
  - Show how to round numbers to the nearest ten to make addition easier (e.g.,  $38 + 47$  can be thought of as  $40 + 45 = 85$ ).
  - Practice with a few examples and have students solve similar problems using friendly numbers.

#### Activity 3: Breaking Numbers Apart

1. **Materials:** Paper and pencils.

**2. Instructions:**

- Explain how to break numbers into smaller, more manageable parts (e.g.,  $43 + 29$  can be broken into  $40 + 20$  and  $3 + 9$ ).
- Practice breaking numbers apart and adding them (e.g.,  $56 + 27 = (50 + 20) + (6 + 7) = 70 + 13 = 83$ ).
- Have students try this strategy with different pairs of numbers.

**Activity 4: Using Doubles**

**1. Materials:** Paper and pencils.

**2. Instructions:**

- Explain that knowing the doubles can help with addition (e.g.,  $6 + 6 = 12$ , so  $6 + 7 = 13$ ).
- Practice with double facts and use them to solve related addition problems (e.g., if you know  $7 + 7 = 14$ , then  $7 + 8 = 15$ ).
- Have students solve addition problems using doubles and nearby numbers.

**3. Practice Problems**

**1. Problem 1:** Use number bonds to solve the following:

- $7 + 6$
- $9 + 4$
- $11 + 8$

**2. Problem 2:** Use friendly numbers to solve the following:

- $45 + 38$
- $62 + 19$
- $84 + 29$

**3. Problem 3:** Break the numbers apart and add:

- $56 + 34$
- $72 + 19$
- $89 + 27$

**4. Problem 4:** Use doubles to solve:

- $7 + 8$
- $9 + 10$
- $5 + 6$

**4. Real-World Applications**

**Activity: Shopping with Mental Addition**

**1. Materials:** Play money, price tags for items.

**2. Instructions:**

- Set up a mock store with items priced at different amounts (e.g., \$3, \$5, \$7).
- Have students mentally add the prices of items they "buy" (e.g., if they buy items costing \$3 and \$7, they mentally add  $3 + 7 = 10$ ).
- Discuss how mental addition helps in everyday situations like shopping.

## Activity: Mental Math Relay

1. **Materials:** Number cards, timer.
2. **Instructions:**
  - Divide students into teams.
  - Call out a series of addition problems (e.g.,  $14 + 16$ ,  $23 + 12$ ).
  - Teams must solve the problems mentally and call out the answers.
  - Review answers and discuss different strategies used.

## 5. Homework

1. **Problem 1:** Solve the following mental addition problems:
  - $29 + 33$
  - $47 + 15$
  - $58 + 21$
2. **Problem 2:** Use friendly numbers to solve:
  - $74 + 19$
  - $39 + 48$
  - $56 + 27$
3. **Problem 3:** Write and solve your own addition problems using one of the strategies learned (number bonds, friendly numbers, breaking numbers apart, or doubles).

## 6. Review and Wrap-Up

### Key Points to Remember:

- **Mental Addition** involves using strategies to quickly and accurately add numbers in your head.
- Strategies like number bonds, friendly numbers, breaking numbers apart, and using doubles can make mental addition easier.
- Practice helps improve speed and accuracy in mental addition.

**Exit Question:** Can you solve the problem  $15 + 26$  in your head and explain the strategy you used?