

Mental Math Strategies

Thinking Strategies for Addition

Counting On: Students start with a number and count on 1, 2, 3. For example, if the question is $5 + 2$, students count 5, 6, 7.

Using Doubles: The first fact combinations students often learn are doubles. Examples:
 $2 + 2 =$
 $3 + 3 =$
 $8 + 8 =$

Making Ten: Students make combinations that equal 10. Then they extend to make combinations that are multiples of 10. Examples: $6 + 4 = 10$ extends to $76 + 4 = 80$. This can then be extended to $10 + 4 = 14$ or $50 + 8 = 58$.

Thinking Strategies for Subtraction

Counting Back: Students start with a number and count backwards. If the question is $5 - 2$, students count 5, 4, 3. Note:

Counting Up: Students start with a number being subtracted and count up to the number from which it is being subtracted. For example, for the question $9 - 7$, students can count 8, 9.

Using Part, Part, Whole:

Given: Part + Part = Whole
 Therefore: Whole - Part = Part

Examples:

a. Thinking Addition:

$$15 - 8 = ?$$

$$\text{Whole} - \text{Part} = \text{Part} (?)$$

Students think $8 + 7 = 15$ (Part + Part = Whole)

$$\text{Therefore: } 15 - 8 = 7$$

b. Partitioning:

$$9 - 7 = ?$$

Numbers include 9, 7, 2.

Students make all possible combinations for Part + Part = Whole

$$7 + 2 = 9$$

$$2 + 7 = 9$$

$$\text{so } 9 - 2 = 7 \text{ or } 9 - 7 = 2$$