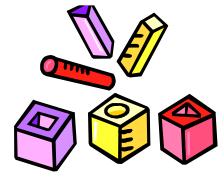


# Computation Strategies in First Grade



## Counting Strategies

Children in first grade will develop a strong number sense and efficient strategies for addition and subtraction. They build on work done in Kindergarten, continuing to model problems using objects with a focus on combinations making ten.

## Direct Modeling

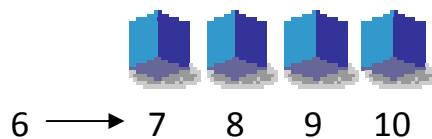
Children use objects to count and solve number problems:  $4 + 6 = 10$



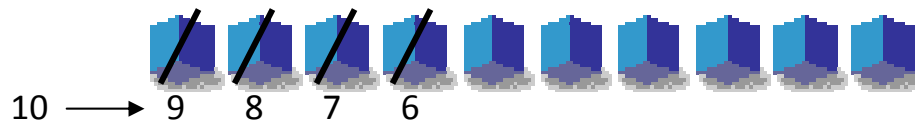
## Counting Strategies

Children start developing quicker ways to solve problems using counting. This happens as they develop more confidence and understanding in number sense:

- **Counting On:**  $6 + 4 = 10$



- **Counting Back:**  $10 - 4 = 6$



## Breaking Apart Numbers

Children start breaking numbers apart into numbers that are easier to add or subtract (like tens). This way they can use problems they know to solve more difficult problems without counting.

- **Breaking Apart** and **Finding a Ten:**

$$\begin{array}{l} 8 + 4 = \square \\ \quad \swarrow \downarrow \\ 8 + \underline{2+2} = \underline{8+2} + 2 \\ 10 + 2 = 12 \end{array}$$

$$\begin{array}{l} 8 + 4 = \square \\ \quad \swarrow \downarrow \\ \underline{2+6} + 4 = 2 + \underline{6+4} \\ 2 + 10 = 12 \end{array}$$

## First Grade Computational Fluency

First grade students work on addition and subtraction combinations with an emphasis on combinations that make ten. By the end of first grade, children will use efficient counting strategies, like counting on. They will begin to use numbers and number combinations they know to learn new facts.