### Problem Types

This table shows how problem types are incorporated across the grades. A specific grade level problem types chart can be found at the back of each Student Book or Teacher Edition.

<table>
<thead>
<tr>
<th>Add to</th>
<th>Change Unknown</th>
<th>Start Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result Unknown</td>
<td>Six children were playing tag in the yard. Three more children came to play. How many children are playing in the yard now? Situation and Solution Equation: 6 + 3 = c</td>
<td>Some children were playing tag in the yard. Three more children came to play. Now there are 9 children in the yard. How many children were in the yard at first? Situation Equation: c + 3 = 9 Solution Equation: 3 + c = 9 or 9 – 3 = c</td>
</tr>
<tr>
<td>Take from</td>
<td>Jake has 10 trading cards. He gave 3 to his brother. How many trading cards does he have left? Situation and Solution Equation: 10 – t = 7</td>
<td>Jake has 10 trading cards. He gave 3 to his brother. Now Jake has 7 trading cards left. How many cards did he give to his brother? Situation Equation: t – 3 = 7 Solution Equation: 7 + 3 = t</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Unknown</th>
<th>Addend Unknown</th>
<th>Other Addend Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Put Together/Take Apart</td>
<td>Ana put 9 dimes and 4 nickels in her pocket. How many coins did she put in her pocket? Situation and Solution Equation: 9 + 4 = c</td>
<td>Ana put 13 coins in her pocket. Nine coins are dimes and the rest are nickels. How many are nickels? Situation Equation: 13 = d + 4 Solution Equation: 13 – 9 = n</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Difference Unknown</th>
<th>Bigger Unknown</th>
<th>Smaller Unknown</th>
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<tbody>
<tr>
<td>Compare</td>
<td>Aki has 8 apples. Sofia has 14 apples. How many more apples does Sofia have than Aki? Solution Equation: 8 + a = 14 or 14 – 8 = a</td>
<td>Aki has 8 apples. Sofia has 14 apples. Aki has 6 fewer apples than Sofia. How many apples does Aki have? Solution Equation: 14 – 6 = a or 6 + a = 14</td>
</tr>
</tbody>
</table>

1The comparing sentence can always be said in two ways: One uses more, and the other uses fewer. Misleading language suggests the wrong operation. For example, it says Aki has 6 fewer apples than Sofia, but you have to add 6 to Aki’s 8 apples to get 14 apples.
### Equal Groups

Seth has 5 bags with 2 apples in each bag. How many apples does Seth have in all?

**Solution Equation:**

\[ 5 \times 2 = n \]

- Seth has 5 bags with the same number of apples in each bag. He has 10 apples in all. How many apples are in each bag?
  - **Situation Equation:**
    \[ 5 \times n = 10 \]
  - **Solution Equation:**
    \[ 10 \div 5 = n \]

- Seth has some bags of apples. Each bag has 2 apples in it. He has 10 apples in all. How many bags of apples does Seth have?
  - **Situation Equation:**
    \[ n \times 2 = 10 \]
  - **Solution Equation:**
    \[ 10 \div 2 = n \]

### Arrays

Jenna has 2 rows of stamps with 5 stamps in each row. How many stamps does Jenna have in all?

**Solution Equation:**

\[ 2 \times 5 = s \]

- Jenna has 2 rows of stamps with the same number of stamps in each row. She has 10 stamps in all. How many stamps are in each row?
  - **Situation Equation:**
    \[ 2 \times s = 10 \]
  - **Solution Equation:**
    \[ 10 \div 2 = s \]

- Jenna has a certain number of rows of stamps. There are 5 stamps in each row. She has 10 stamps in all. How many rows of stamps does Jenna have?
  - **Situation Equation:**
    \[ r \times 5 = 10 \]
  - **Solution Equation:**
    \[ 10 \div 5 = r \]

### Area

The floor of the kitchen is 2 meters by 5 meters. What is the area of the floor?

**Solution Equation:**

\[ 2 \times 5 = a \]

- The floor of the kitchen is 2 meters long. The area of the floor is 10 square meters. How wide is the floor?
  - **Situation Equation:**
    \[ 2 \times s = 10 \]
  - **Solution Equation:**
    \[ 10 \div 2 = s \]

- The width of the kitchen is 5 meters long. The area of the floor is 10 square meters. What is the length of the floor?
  - **Situation Equation:**
    \[ r \times 5 = 10 \]
  - **Solution Equation:**
    \[ 10 \div 5 = r \]

### Compare

Katie picked 5 times as many flowers as Benardo. Benardo picked 2 flowers. How many flowers did Katie pick?

**Solution Equation:**

\[ 5 \times 2 = k \]

- Katie picked 5 times as many flowers as Benardo. Katie picked 10 flowers. How many flowers did Bernardo pick?
  - **Situation Equation:**
    \[ 5 \times b = 10 \]
  - **Solution Equation:**
    \[ 10 \div 5 = b \]

- Katie picked 10 flowers. Bernardo picked 2 flowers. How many times as many flowers did Katie pick as Bernardo?
  - **Situation Equation:**
    \[ m \times 2 = 10 \]
  - **Solution Equation:**
    \[ 10 \div 2 = m \]

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*Array problems can also be stated using the number of rows and columns in the array: The apples in the grocery window are in 3 rows and 6 columns. How many apples are there?*

*Note: All of the division situations could also have the multiplication equation as the solution equation because you can solve division by finding the unknown factor.*