1.OA Boys and Girls, Variation 1

[Alignment 1: 1.OA.A.1](#)

a. 9 boys and 8 girls were in the class. How many children were in the class in all?

b. 17 children were in the class. 9 were boys and the rest were girls. How many girls were in the class?

c. 17 children were in the class. There were some boys and 8 girls. How many boys were in the class?

Commentary:
These tasks types represent the Put Together/Take Apart contexts for addition and subtraction (see Table 1 in the glossary of the CCSSM for all all addition and subtraction problem types). Students may use either addition or subtraction to solve these types of word problems, with addition related to the action of putting together and subtraction related to the action of taking apart. Depending on how students think about these word problems, either is appropriate for the "addend unknown" problems. Seeing it both ways emphasizes the relationship between addition and subtraction.

The use of "in all" or "altogether" makes result unknown problems significantly easier for students, since these words are such strong cues to put sets together. Students need experiences with problems both with and without such cues. When working with categories like boys-girls-children, it is important to be sure that students understand the contexts. Please see page 10 of the K, Counting and Cardinality; K–5, Operations and Algebraic Thinking Progressions Document for in-depth information about issues related to students' learning of these kinds of problems.

Note that while students are expected to add and subtract fluently within 10 in first grade (1.OA.6), they are not expected to add and subtract fluently within 20 until second grade (2.OA.2).

Solution: Classifications included

Please note that students may use objects, pictures, or equations to represent their solutions. Furthermore, the solutions show equations with a question mark representing the unknown value, but other symbols are often used. For example, $9 + ? = 17$ might also be written
$9 + \underline{\quad} = 17$ or $9 + \square = 17$. Note that it is important to include examples with the total written on both sides of the equation.

a. **Total Unknown:** 17 children were in the class.
   Possible equations:
   - $9 + 8 = ?$
   - $8 + 9 = ?$
   - $? = 9 + 8$
   - $? = 8 + 9$

b. **Addend Unknown:** There were 8 girls.
   Possible equations:
   - $17 = 9 + ?$
   - $17 = ? + 9$
   - $9 + ? = 17$
   - $? + 9 = 17$
   - $17 - 9 = ?$

c. **Addend Unknown:** There were 9 boys.
   Possible equations:
   - $17 = 8 + ?$
   - $17 = ? + 8$
   - $8 + ? = 17$
   - $? + 8 = 17$
   - $17 - 8 = ?$