 PUZZLE TALK

| First Grade | **Addition and Subtraction Situations with Unknowns** | **Critter Addition LI** |

Materials

Math tools
whiteboards and dry erase markers

Directions

- Give students whiteboards, dry erase markers and math tools. Display the first puzzle from Level 1. Ask students, "What do you notice? What does each part of the puzzle represent?"
- Have students turn and talk to a neighbor to share their ideas. Discuss what the number by each critter represents and ask students, "How is this different from the other Critter Addition puzzles we worked on? How do we know how many critters we have to start with in this puzzle?"
- Discuss the known and unknown in this puzzle. Ask students to work with a partner to find how many Critters were added to the first group to get the sum shown in the puzzle. Have students write the puzzle as an equation with a letter or symbol to represent the unknown (e.g., $4 + ? = 9$).
- Have student groups share their solutions. Point out to students the way they have to enter their answer in the puzzle. Ask, "How many tens does your answer have? How do you know?"
- Solve the puzzle and repeat with the remaining puzzles in Level 1.

- Show a puzzle from Level 2. Have students discuss what they notice with a partner.
- Discuss how this puzzle compares to the Level 1 puzzles. Say to students, "The puzzles in Level 1 had the second number (or the change) unknown. What is unknown in this puzzle?"
- Have students work with a partner to solve the puzzle, sharing their strategies and equations with the whole class.
- Repeat with the remaining puzzles in Level 2. Continue to have students represent the puzzles, discuss knowns and unknowns, and write equations for the puzzles.

Sample Questions

- What is known and unknown in this puzzle?
- How can you represent the solution as an equation?
- What is your strategy for solving this puzzle?
- How can you use the benchmark of 5 and 10 to help you solve this problem?

What to look for

How does the student:
- write and discuss equations with a symbol for the unknown?
- write addition and subtraction equations to represent the puzzles.
- understand commutative property of addition?
- write different combinations to make the number?
- understand the relationship of addition and subtraction?