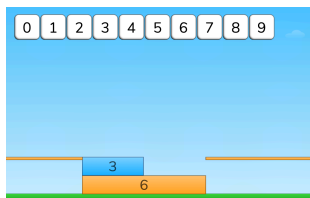
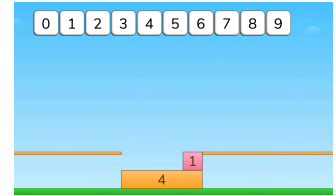




Materials

math tools
whiteboard and dry erase marker for each student

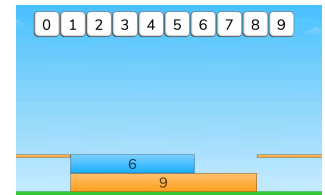
- Give students math tools, whiteboards and dry erase markers. Display the first puzzle from Level 1. Ask students, “What do you notice? How would you solve this puzzle?” Have students Think, Pair, Share their ideas.
- Discuss an equation that could represent the puzzle. Have students record the equation on their whiteboards, including a letter or symbol for the unknown.
- Share students’ equations and discuss strategies for finding the unknown. For example, if the puzzle shows $? + 2 = 5$ students could count on from 2 to get to 5, use the problem $5 - 2 = ?$, etc.) Solve the puzzle and repeat with other puzzles in Level 1.
- After playing a few puzzles, ask students what their equation would be if they moved the block over to the other side. Discuss the Commutative Property of Addition. Use the animation in the puzzles to prove that order doesn’t matter when you add.



- Before showing puzzles in Level 2, have students record 1 combination of 2 numbers that add up to 6, 7, 8, and 9 (one combination for each number). (For example, students might write $5 + 1$, $4 + 3$, $4 + 4$ and $3 + 6$ on their whiteboards.)
- Say to students, “Now we will play a game. When we see a puzzle in Level 2, if you have the combination that is represented in the puzzle you get a point (or cheer, pat on the back, etc.).”
- Show 3 -4 puzzles from Level 2. If a student has the expression for that puzzle, allow them to click on the number to check.

Directions

- Discuss and record other combinations of numbers that could be placed on top of the bottom number.
- Choose a puzzle in Level 2 and solve together, but pause the puzzle before JiJi gets all of the way across the screen. Say to students, “JiJi just walked over a part-part-whole model of this puzzle. These numbers form a number bond (or fact family). We can use the numbers in a number bond (or fact family) to create two addition and two subtraction equations.”
- Have students write addition and subtraction equations to represent the puzzle. Share whole group.
- Discuss the relationship of addition and subtraction and how you can use one to find the other.
- Repeat with the remaining puzzles in Level 2.



Sample Questions

- What is the unknown in this puzzle?
- Can you represent this puzzle with an equation that includes a symbol or letter for the unknown?
- What was your strategy for solving this puzzle?
- How could you prove your answer is correct?
- Is there more than one combination of numbers to create this whole?
- How could you use subtraction to solve this addition problem?

What to look for

- How does the student:
- represent the puzzle with an equation?
 - identify the unknown in the puzzle?
 - explain the Commutative Property of Addition?
 - understand the relationship between addition and subtraction?
 - use number bonds (or fact families) to solve for the unknown?