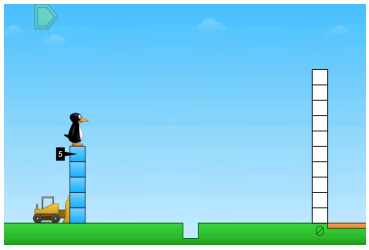
PUZZLE TALK

Kindergarten | **Understanding Addition and Subtraction within 10** | **Push Box Subtraction**

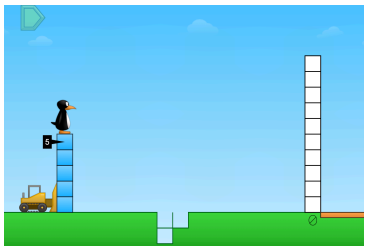
Materials

Push Box Game Mat 01
dry erase marker and math tools

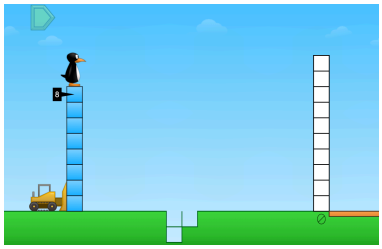
Directions



- Give students a Push Box Game Mat 01, dry erase marker and math tools. Display the first puzzle from Level 1 and ask students, "What do you notice? How do you think we solve this puzzle?"
- Have students come up with a strategy and illustrate their thinking using their game mat. Give them a few minutes to discuss with a partner. Have students explain to each other what they think is going to happen.
- Have a volunteer share their strategy. Before trying the strategy, discuss it with the other students and ask if they agree/disagree. Try the strategy and watch the feedback.



- Display the next puzzle in Level 1. Ask students what they notice on the screen now. Say to students, "What do you think will happen when JiJi's Push Box passes over that hole? What do you think we need to do to solve this puzzle?" Have students Think, Pair, Share with a neighbor.
- Have students share their answers and try an answer together. Watch the feedback. Discuss with students what is happening as the boxes move over the hole in the ground. Ask students, "Does JiJi end up with more or less boxes than JiJi had at the beginning? Why?"
- Solve a couple more puzzles in Level 1 and then work together to write an equation to represent the puzzle. Remind students that the minus sign is used for subtraction. Ask students, "How do we know boxes are being subtracted in this puzzle?"
- Repeat with the remaining puzzles in Level 1.



- Display the first puzzle from Level 2.
- Ask the students what this puzzle would look like with numbers and symbols? How would they represent it? Have students represent it on their game mat and solve it.
- Continue to work on the puzzles from Level 2. Ask students if the position of the holes in the ground matters in the puzzle. Have students share their strategies for solving the puzzles and record students' strategies.
- Repeat with the remaining puzzles in Level 2 and a few puzzles in Level 3.

Sample Questions

- What is happening in this puzzle?
- How do we represent the puzzle using an equation?
- What does the minus sign represent?
- Does JiJi end up with more or less boxes? Why?
- What does each number in the equation represent in the puzzle?

What to look for

How does the student:

- model the problem on the Push Box Game Mat?
- write equations to represent the problem and solution?
- discuss what the numbers in their equation represent in the puzzle?
- explain the strategy they use to solve a subtraction problem?