

# Puzzle Talk - Grade 4

## Perimeter Select (Level 1)

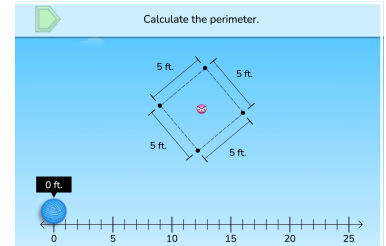


**ST Math**  
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These facilitation suggestions are what a student-led discussion might look like when looking at puzzles in Level 1. Depending on how students respond, it likely would take one session for Level 1.

### Description

- **Puzzle Location:** Grade 4 > Applying Area and Perimeter > Perimeter Select > Level 1
- **Topic:** Finding the perimeter of a quadrilateral
- **Purpose of the Puzzle Talk:** Focus on student thinking and developing problem solving skills using guiding questions for each step in the Problem Solving Process
- **Preparation:** View the [Game in a Minute](#) video
- **Gather Materials:** Provide students with whiteboards and dry-erase markers



[click here for puzzle](#)

### Notice and Wonder

- Display the first puzzle from Level 1.
- Ask: "What do you notice about this puzzle?"
- Allow a few students to share out.
- Follow up with: "What do you wonder about this puzzle?" Allow students to share out.

### Predict and Justify

- Ask students to think individually about how they could solve the puzzle, then turn and share with a partner before sharing as a class.
- Students should provide mathematical reasoning for the idea they want to try. They can use their whiteboard to represent their thinking.
- Ask students: "What strategy can you use to find the perimeter?"
- List these ideas for the class to consider.

### Test and Observe

- Select one of the students' strategies.
- Solve the puzzle and have students describe what happened.

### Analyze and Learn

- Ask students to think about how what they saw happen compares to their prediction.
  - If the answer was incorrect, discuss what was learned and what they think is best to try next. Have students share why that is the best way to solve the puzzle.
  - If the answer was correct, how can they take what they learned and apply it to the next puzzle?
- Show the next puzzle and have students discuss their strategies for solving it and why they chose those strategies.
- Select a student's strategy to try and observe the feedback.
- Continue with puzzles from Levels 1. Ask the following questions:
  - "How is this puzzle different from the other puzzles we've solved?"
  - "How many feet (or any unit that requires converting the measurements) would the perimeter be?"
  - "How would you define *perimeter*?"
- Use the animation controls to replay and examine what happens in the puzzle.
  - If the puzzle was correct, discuss why the strategy used was successful.
  - If the puzzle was incorrect, analyze what happened and consider how to adjust the strategy to try again. Ask:
    - "What is a length that will be too small? What will happen if we try it?"
    - "What is a length that will be too big? What will happen if we try it?"