

Puzzle Talk - Grade 3

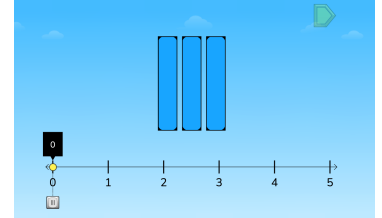
Scale Fraction (Level 2)



These facilitation suggestions are what a student-led discussion might look like when looking at puzzles in Level 2. Depending on how students respond, it likely would take one session for Level 2.

Description

- **Puzzle Location:** Grade 3 > Fractions on a Number Line > Scale Fraction > Level 2
- **Topic:** Plot fractions on a number line
- **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 the [0-5 Number Line Math Mat](#), whiteboards, and dry-erase markers



[click here for puzzle](#)

Notice and Wonder

- Begin with puzzles from Level 2.
- Ask: "What do you notice about this puzzle?" What do you wonder about this puzzle?"
- Allow students to share out.

Predict and Justify

- Ask students to think about how they might solve this puzzle.
- Have students model the problem and how they will solve it using their 0-5 Number Line Math Mat or whiteboard.
- Ask students to turn to a neighbor and share their model and strategy. Remind them to justify their thinking. Ask students to share an idea that they would like to try.
- Students should provide mathematical reasoning for the idea they want to try.
- As students share their strategies, list these ideas for the class to consider.

Test and Observe

- Select one of their solutions to try.
- 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.
- Use the animation controls to pause the puzzle and engage students in discussions around the feedback they observed by asking questions such as:
 - "What did we learn from the animation?"
 - "Can you describe the mathematics that is happening in this puzzle?" They might notice:
 - One bar matches the space between the whole numbers.
 - The number bars match the distance we need to show on the number line.
 - If we were to line up the bars on the number line, Jiji needs us to plot a point to show where the bars end.
- Discuss the different students' solutions. Then try a student's solution and have the students observe the feedback.
- Continue with additional puzzles from Level 2.
- Engage students in discussions by asking questions such as:
 - "What number will be too low? What will happen if we try that number?"
 - "What number will be too high? What will happen if we try that number?"