## **Puzzle Talk - Grade 5** Scale Fraction Visual (Level 1)



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 5 > Adding and Subtracting Fractions with Unlike<br>Denominators > Scale Fraction Visual > Level 1<br>Topic: Add and subtract fractions<br>Purpose of the Puzzle Talk: Focus on student thinking and developing<br>problem solving skills using guiding questions for each step in the Problem<br>Solving Process<br>Preparation: View the <u>Game in a Minute</u> video<br>Gather Materials: Provide students with fraction manipulatives,<br>whiteboards, and dry-erase markers with erasers  |
|-------------|---------------------------|--|
|             | Notice<br>and<br>Wonder   | <ul> <li>Display the first puzzle from Level 1.</li> <li>Ask: "What do you notice about this puzzle? What do you wonder about this puzzle?"</li> <li>Allow students to share out.</li> </ul>   |
|             | Predict<br>and<br>Justify | <ul> <li>Ask students to think individually about how they could solve the puzzle, then turn and share with a partner before sharing as a class.</li> <li>Students should provide mathematical reasoning for the idea they want to try. They can build representations of the puzzle using their fraction tools or sketch on the whiteboard.</li> <li>As students share their strategies, list these ideas for the class to consider.</li> </ul>   |
|             | Test<br>and<br>Observe    | <ul> <li>Select one of the students' strategies.</li> <li>Discuss the size of partitions and denominators as you move the cursor to select how the number line will be partitioned.</li> <li>Solve the puzzle and have students describe what happened.</li> </ul>   |
|             | Analyze<br>and<br>Learn   | <ul> <li>Use the animation controls to pause the puzzle while students check if their answer matches the one on the screen.</li> <li>Ask students to think about how what they saw happen compares to their prediction. <ul> <li>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.</li> <li>If the answer was correct, how can they take what was learned and apply it to the next puzzle?</li> </ul> </li> <li>Show the next puzzle. With a partner, have students discuss their strategies for solving it and why they chose those strategies.</li> <li>Engage the class in a discussion about why they selected a particular denominator to partition the number line. Ask students questions such as: <ul> <li>"What denominator did you use? Why?"</li> <li>"Could a different denominator be selected? How could we prove it?"</li> </ul> </li> <li>Select a student's strategy to try, and observe the feedback.</li> <li>Discuss how this might provide evidence as to why the solution will work or not work.</li> </ul> |