

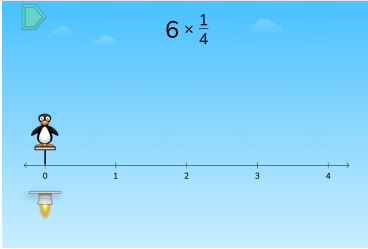
Puzzle Talk - Grade 5

Unit Multiplication on the Number Line (Level 1)



ST Math
Created by MIND Education

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	<ul style="list-style-type: none"> • Puzzle Location: Grade 5 > Multiplying Fractions > Unit Multiplication on the Number Line > Level 1 • Topic: Find the product of fractions and graph 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 a 0-5 Number Line Math Mat, fraction manipulatives, whiteboards, and a dry-erase marker with an eraser 	 <p>click here for puzzle</p>
Notice and Wonder	<ul style="list-style-type: none"> • Display the first puzzle from Level 1. • Ask: "What do you notice about this puzzle? What do you wonder about this puzzle?" • Allow students to share out. 	
Predict and Justify	<ul style="list-style-type: none"> • Ask students to think individually about how they could solve the puzzle, then turn and share with a partner before sharing as a class. • Have students use the 0-5 Number Line Math Mat and work with a partner to use their math tools and determine where to place Jiji's launch pad. • Have partners share their strategies and list these ideas for the class to consider. 	
Test and Observe	<ul style="list-style-type: none"> • Select one of the pairs' strategies. Before trying the strategy, have students describe what they think will happen in the feedback animation. • Ask: "What size jumps do they think Jiji will make?" • Solve the puzzle and have students describe what happened. 	
Analyze and Learn	<ul style="list-style-type: none"> • Ask students to think about how what they saw happen compares to their prediction. • Replay the puzzle and pause the animation. Discuss the puzzle by asking questions such as: <ul style="list-style-type: none"> ◦ "What is happening in this equation?" ◦ "What size are the jumps Jiji makes?" ◦ "How many jumps does Jiji make?" (e.g., $6 \times \frac{1}{3}$ would represent 6 groups of $\frac{1}{3}$ or 6 jumps of $\frac{1}{3}$ each.) • Ask students how they would represent the feedback in this puzzle using repeated addition. • As you engage students in discussion, help connect the whole number times a fraction repeated addition sentence (e.g., $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3}$) to a whole number multiplication repeated addition sentence (e.g., 6×3 would be $3 + 3 + 3 + 3 + 3 + 3$). Say to students: "This equation represents ___ groups of ___." (e.g., 6 groups of 3) • Repeat with additional puzzles in Level 1. 	