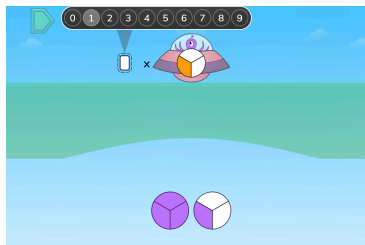
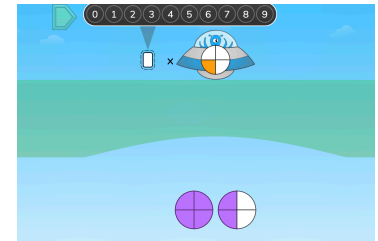


Materials

whiteboards, dry erase markers
fraction tools such as number lines, Cuisenaire rods, fraction strips, etc.

Directions

- Give students whiteboards, dry erase markers and fraction tools, such as number lines, Cuisenaire rods, fraction strips, etc. Display the first puzzle in Level 1. Ask students, “What do you notice? How do you think we solve this puzzle?”
- Have students Think, Pair, Share their ideas and solutions.
- Ask students, “What is known in this puzzle? What is unknown? How is this problem similar to multiplying whole numbers? How is it different?”
- Try a student’s solution. Pause the puzzle before Jiji crosses the screen and ask students, “How could we represent what is happening in this puzzle using an equation?” Display student’s equations and prove whether or not they match the puzzle.
- Repeat with the remaining puzzles in Level 1.



- Display the first puzzle in Level 2. Ask students, “How could we represent this puzzle in an equation? What is known? What is unknown?” Have students use a ? to represent the unknown, write an equation and then solve for the unknown. Share student’s equations and solutions.
- Ask students, “Is the sum greater than, less than, or equal to 1? How do you know? Is the sum a whole number? How do you know?”
- Discuss students’ strategies . How do the strategies compare to the strategies they use to multiply whole numbers?”
- Repeat with the remaining puzzles in Level 2.

Sample Questions

- What is the name of each fraction in the alien ship?
- What does the numerator represent?
- What does the denominator represent?
- How many total equal pieces do we have?
- How do we write the solution as a fraction?
- What is known in this puzzle? Unknown?
- Is the sum greater than, less than or equal to 1? How do you know?
- What is your strategy for solving this puzzle?

What to look for

How does the student:

- name the fraction in the alien ship and the fraction that represents the sum?
- determine whether the sum is greater than, less than or equal to 1?
- explain the strategy they used to solve the puzzle?
- identify the known and unknown in the puzzle?
- represent the puzzle using an equation?
- compare multiplying a whole number by a whole number to multiplying a whole number times a fraction?