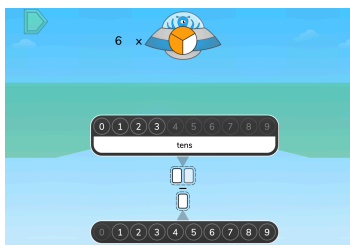
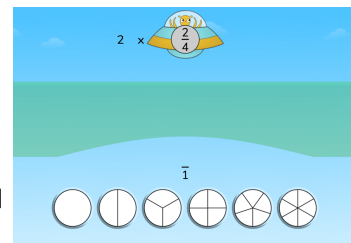


**Materials**

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

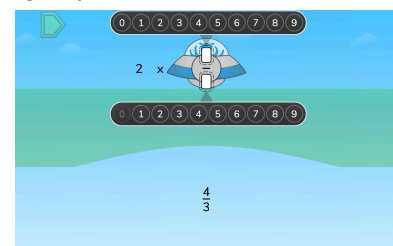
**Directions**

- Give students whiteboards, dry eraser markers, and fraction tools, such as fraction strips, Cuisenaire rods , number lines, etc. Display the first puzzle in level 1. Ask students, “What do you see? Have students turn and talk to a neighbor about that they see in the puzzle.
- Say to students, “What does the problem mean at the top of the puzzle? How is it like other multiplication problems we have solved? How do you think we solve this puzzle?” Have students Think, Pair, Share their ideas.
- Try a student’s solution. Ask the students what the denominator represents and how they knew which denominator to choose.
- Once the denominator has been chosen, have students decide how many shaded pieces to choose and why. Solve the puzzle and watch the feedback.



- Display the next puzzle and also display the problem  $3 \times 5$ . Say to students, “We learned that this problem,  $3 \times 5$ , is the same as 3 groups of 5. What does the fraction number sentence in this puzzle say?” Read the problem as \_\_\_ groups of \_\_\_.
- Have students draw a picture to represent the fraction number sentence as \_\_\_ groups of \_\_\_. Share and try students’ solutions.
- Repeat with a couple more puzzles from Level 1.
- Display the first puzzle in Level 2. Ask students, “How is this puzzle different from the puzzles we just solved?” Ask students to represent the puzzle using an equation and then solve the puzzle. Ask students to write their solution as both a fraction and mixed number (if applicable).
- Share students’ solutions and strategies. Connect the multiplication of fractions to whole number multiplication by creating a repeated addition sentence to match the puzzle and reading the puzzle as \_\_\_ groups of \_\_\_.
- Repeat with the remaining puzzles in Level 2

- Display the first puzzle from Level 3. Ask students, “How is this puzzle different from the puzzles we just solved?” Have students use their whiteboards and fraction tools to solve the puzzles. Share students’ solutions and strategies (e.g., Did they draw a picture? Did they write a repeated addition sentence?)
- Repeat with the remaining puzzles in Level 3.


**Sample Questions**

- How did you determine the numerator?
- How did you determine the denominator?
- How many total pieces are shaded in?
- What number sentence would represent this puzzle?
- Can you write your answer as a fraction and a mixed number?
- What strategy did you use to solve this puzzle?

**What to look for**

How does the student:

- determine the correct denominator?
- determine the correct numerator?
- find the total number of shaded pieces?
- represent the puzzle and solution with an equation?
- write a number as both a fraction and a mixed number?
- connect multiplication of fractions to multiplication of whole numbers?