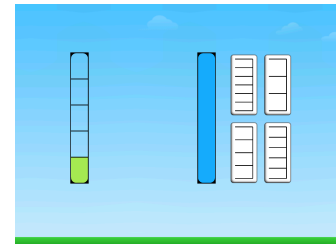




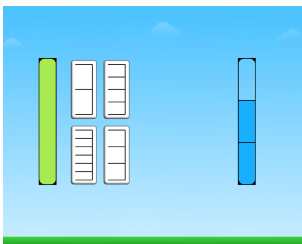
Materials

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

- 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 use their tools and whiteboard to record their solution. Ask students, “How did you determine which cutter to select?” Select a cutter and pause the puzzle before the pieces fall down to the ground. Have students name the two fractions represented by the two bars.
- Ask students, “Are the two fractions equivalent? What do they have in common? How do the two fractions compare?” Prove that the denominator is the same and one of the bars represents 1 whole.
- Repeat with several puzzles from Levels 1 and 2.

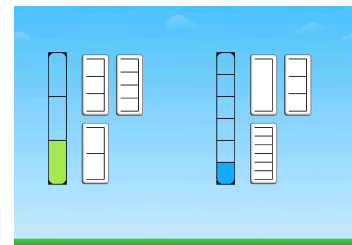


Directions



- Display the first puzzle in Level 3. Ask students, “How is this puzzle different from the puzzles we just solved? What can we do to solve this puzzle with the cutters we have?”
- Have students record the names for each fraction before they begin to solve the puzzle.
- Have students use their fraction tools to help them solve the puzzle. Have students share their thinking with a partner. As a whole group, discuss different strategies that students used (e.g., Did they try to match up the two bars visually? Did they know something about the fractions already? Did they find a common denominator).

- Try a student’s solution and watch the feedback. Pause the puzzle before the pieces fall down to the ground. Ask students to name the new fractions that have been made and record that on their whiteboards.
- Work together to write to write equations and inequalities to compare the two fractions before and after they are cut. Ask students if the total size of the fraction bar changed (e.g., $\frac{1}{2}$ and $\frac{1}{4}$ became $\frac{2}{4}$ and $\frac{1}{4}$) or the names of the fractions changed.
- Repeat with the remaining puzzles in Level 3.



Sample Questions

- What is the name of each fraction?
- How do the two fractions compare?
- How did you decide which cutter to choose?
- Has the size of the fraction changed? Has the name of the fraction changed? Why?
- Which strategy did you use to compare the fractions?
- How could we write our solution as an equation or inequality?

What to look for

How does the student:

- write equations and inequalities to compare fractions?
- discuss what happens to the numerator and denominator of the fractions when they are cut?
- compare original unit fractions to the fraction after it is cut?
- write an equation to compare fractions before and after they are cut?