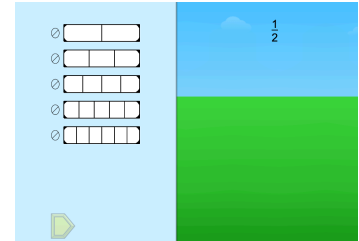




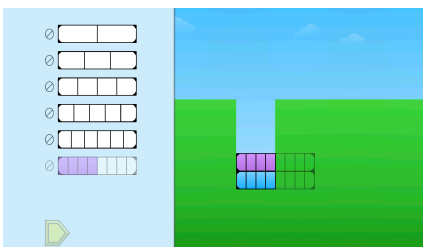
Materials

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 Think, Pair, Share with a partner. Try a student’s solution and watch the feedback. Say to students, “Is there another fraction that is equal to this fraction? Can you figure out which fraction will fill this hole too?”
- Have students determine an equivalent fraction. Try the student’s solution. Ask students to record the solution on their whiteboards by writing a number sentence using the equal sign.
- If the puzzle has more equivalent fractions, have students determine the missing fractions and record the comparisons as a number sentence.
- Repeat with the remaining puzzles in Level 1.

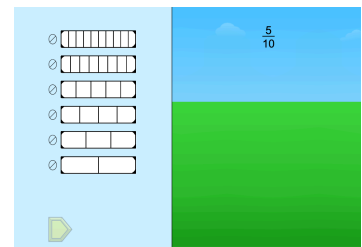


Directions



- Display the first puzzle in Level 2. Ask students to write down the fraction they think will fill the hole.
- Have students draw a number line and place the given fraction on the number line. Then ask students to place all of the equivalent fractions on the number line too. Discuss why equivalent fractions are at the same spot on the number line.
- Solve 2-3 more puzzles in Level 2. All of the denominators in Level 2 are eighths, so continue to add equivalent fractions to the number line as students solve puzzles.
- Display the next puzzle in Level 2.

- Ask students to then write down a fraction that is less than the fraction shown. Have students share their fraction with a partner and work to prove that each fraction is less than the fraction shown in the puzzle. Share some students’s solutions and prove they are correct.
- Ask students to then write down a fraction that is greater than the fraction shown. Have students share their fraction with a partner and work to prove that each fraction is greater than the fraction shown in the puzzle. Share some students’s solutions and prove they are correct.
- Solve the remaining puzzles in Level 2.



Sample Questions

- What do you know about the fraction in the sky?
- Why are these fractions equivalent?
- How did you use the denominator to partition the number line?
- Why are equivalent fractions at the same spot on the number line?
- How do these fractions compare?
- How can we write this as an equation?

What to look for

- How does the student:
- write equations to show equivalence of fractions?
  - discuss the size of the fractions (denominator) and the number of unit fractions (numerator) of that size to compare equivalent fractions?
  - partition a number line to place fractions?
  - add fractions to a number line?