

Building Mathematical Thinkers: Mini-Activities

Fractions Make 3

Objective: 4th grade Number Sense – Adding Fractions

Theoretical Foundation: Fourth graders focus on adding fractions with *like denominators*. This game provides practice with three denominators: halves, fourths, and sixths. Students use a concrete model to build their understanding and record their work symbolically to help them progress toward abstract algorithms. This game also boosts student understanding of the size of various fractions compared to each other and compared to one whole.

Estimated Time: 20 minutes

Materials: Halves, fourths, and sixths fraction bars for each student (if you don't have commercially made fraction bars, use blackline masters available with textbooks and on the internet), Game boards, Paper, Pencil, & Paper clip for each group

Description:

1. Show students the game board for Fractions Make 3 and review the directions.
2. Play a brief model game to be sure students understand what is expected.
3. Allow students time to play the game.
4. Circulate to check procedural and mathematical accuracy
5. Ask probing questions to check mathematical understanding.

Differentiation Suggestions:

- For struggling learners try playing an entire game as class versus the teacher.
- This game can be modified to use different, fewer, or more fractions by creating new spinners. In this way the teacher can make adjustments to meet the needs of advanced and struggling students.

Probing Questions:

- How did you know when you had reached one whole?
- What made the game more difficult as it went on?
- How did using the fraction bars help you add?
- What do you notice about adding fractions?

Assessment:

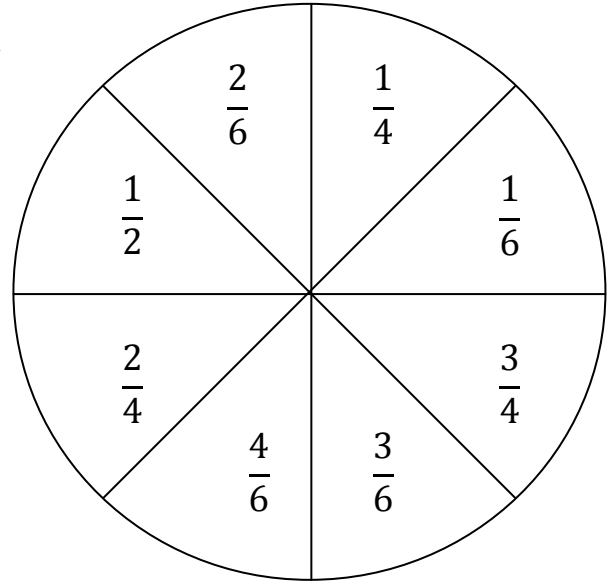
- How successfully can students transcribe their work from fraction bars to symbols?
- How well do students demonstrate an understanding of fraction addition?
- How well do students demonstrate an understanding of one whole?

Name _____

Fractions Make 3!

Materials:

- * Fraction Bars (halves, fourths, and sixths)
Be sure you have one complete set of each size for each person playing the game
- * Pencil & paper clip for the spinner
- * Paper & pencil for recording your work



Directions:

1. On your turn spin the spinner.
2. Each of your sets (halves, fourths, and sixths) start at 0.
3. Use your fraction bars to add the amount you spin.
4. Record this amount on your paper as an addition sentence.
5. If you spin an amount that takes you over one whole for that denominator, you lose your turn.
6. If you spin an amount for a denominator you've already completed, you lose your turn.
7. The first player to complete 3 wholes ($\frac{2}{2}$, $\frac{4}{4}$, and $\frac{6}{6}$) is the winner.

Examples:

- On your first turn you spin $\frac{3}{4}$. Set out and write on your paper: $0 + \frac{3}{4} = \frac{3}{4}$
- If you spin $\frac{2}{6}$ and you already have and write: $\frac{2}{6} + \frac{2}{6} = \frac{4}{6}$

