Building Mathematical Thinkers: Mini-Activities

Fraction Stand Up

Objective: Number Sense – Common Fractional Equivalents

Theoretical Foundation: This activity provides a quick engaging way to practice fractions of a set and equivalent fractions. It reinforces student understanding about the meaning of fractions and encourages students to reason together with a partner. Work with fractions should take place repeatedly throughout the year in a variety of formats. This activity also provides a quick way to reach kinesthetic learners.

Estimated Time: 15 minutes

Materials: Spinner (attached) with a paper clip & pencil; each student's name on a small slip of paper, Container for drawing names

Description:
1. Invite six students to sit down at the front of the room. Place the names of these six students in a container.
2. Begin with 2 simple fractions – 4/6 and ½. Ask, "If ½ of the students at the front were to stand, how many would be standing?" Invite students to talk in pairs about how many should be standing. Have them report their thinking to the class. On the board use student input to write these 2 fractions: ½ = 3/6.
3. To determine which students stand up (3 in this example) draw names from the container.
4. Use the same process for 4/6. "If 4/6 of the students at the front are standing, how many are standing?" Students should share their ideas with a partner and report to the class.
5. Draw names to determine which 4 students should stand.
6. Show students the sixths spinner and call their attention to the various fractions listed.
7. Invite a student to spin the spinner and report out the fraction indicated. Ex: 1/3
8. Ask the students to talk in pairs about how many students need to stand up.
9. Have students share their ideas with the class and engage them in a discussion. Would one student stand up because the numerator is 1? Would 3 students stand up because the denominator is 3? What do the numerator and denominator mean?
10. If a student doesn't suggest it, reinforce the notion that the denominator tells how many parts are in the whole so the six students should be split into 3 parts (2 students in each part) and the numerator indicates how many parts are counted so 1 part should be counted (2 students).
11. Repeat this process: Spin, talk in pairs about how many should stand, share ideas, draw names to determine which students stand.
12. Be sure to change which six students are seated at the front so that everyone has the chance to participate.

Differentiation Suggestions:
- Advanced students can complete this activity on their own in groups of six.
- To provide practice with other common equivalent fractions use 8 students and the eighths spinner.
- If possible pair students with others of similar ability for their discussions. This allows each student to freely express their own ideas rather than relying on someone who is more advanced.

Probing Questions:
- What is the meaning of the denominator? What is the meaning of the numerator?

- How is it possible that two fractions could be equivalent? (Ex. How is it possible that 2/3 = 4/6?)
- How did you start thinking about how many students should stand?

Assessment:
- Did each student share relevant thinking with a partner?
- How are students thinking about equivalent fractions?
- How are students reasoning about numerators and denominators?
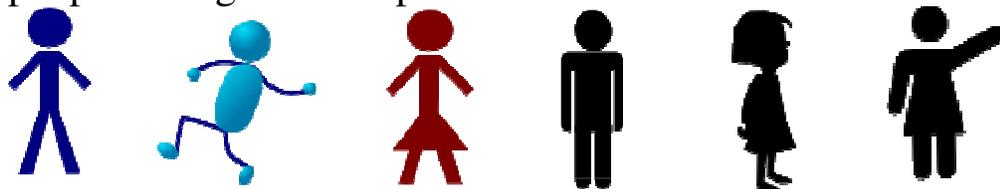- Use the short assessment page, "Fractions On A Plane"

Fraction Stand Up Spinners
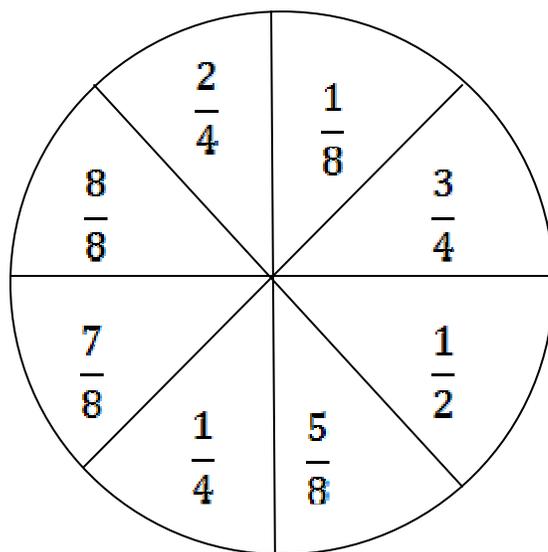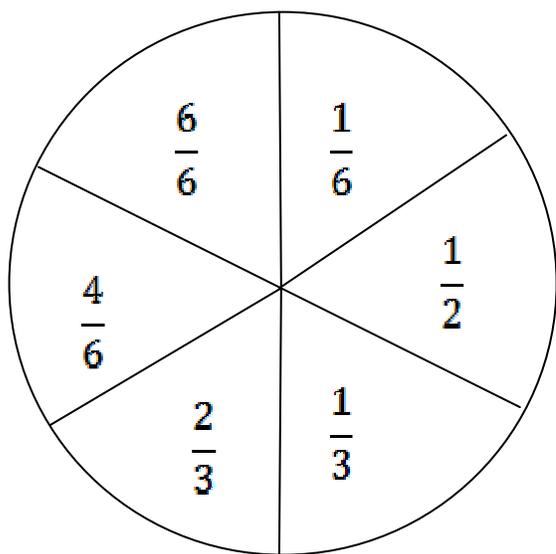
Name _____

Fractions on a Plane

Six people are getting on a plane. 1/3 of them got on first. Circle the people who got on the plane first.

How did you decide how many people to circle? _____
_____
_____