

# EQUALITY

## Step 2 Writing Equations for Equal Fractions

**Purpose:** To match bars with the same shaded amounts and write equalities of fractions

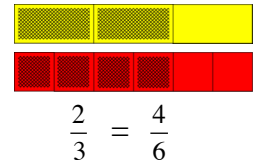
**Materials:** Fraction Bars, Small Step Race mats and markers, copies of Master #2 on page 114, 8-Bars mats, and rulers

### TEACHER MODELING/STUDENT COMMUNICATION

#### Activity 1 Equality of fractions by comparing shaded amounts

Fraction Bars

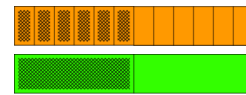
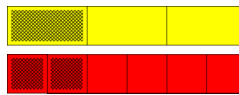
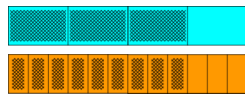
Decks of bars are needed for each group. Show students and have them find these two bars and write an equality statement.



paper and pencils

- Find another pair of bars that have the same shaded amount and write an equality statement for their fractions.

Ask a few students to write their equations on the board or overhead.



#### Activity 2 Forming the twelfths family of bars

Fraction Bars

1. A deck of bars is needed for each group. Show students and have them layout their bars as shown here.

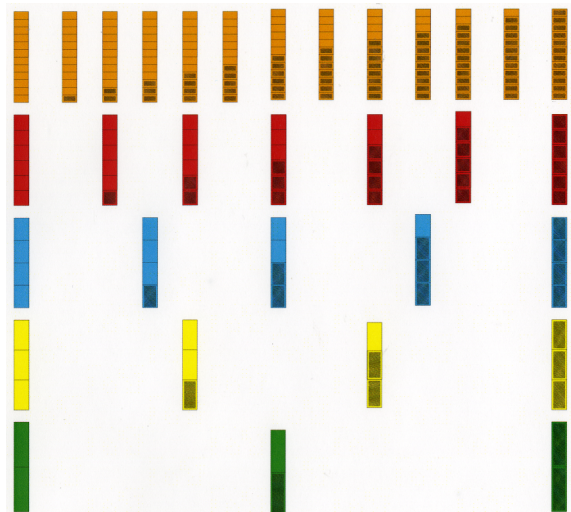
Transp #5

Once this is done, pose the following question:

- What patterns do you see?

Allow time for students to discuss some of the many patterns. Ask volunteers to describe what they see.

- Leave your bars in place for the next activity.



copies of Master #2

2. Pass out copies of Master #2 "Table of Equal Fractions" on page 114 and ask students to use the layout of their bars to complete both the table and the equations beneath the table. When this is finished, ask for examples of the equations beneath the table.

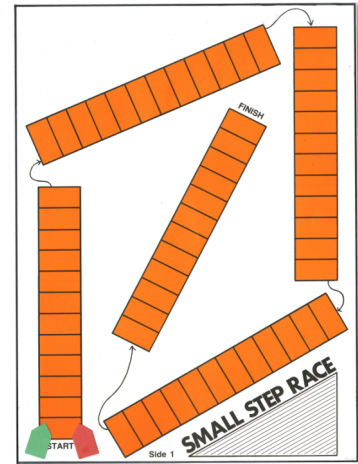
### Activity 3 Comparing bars to determine same shaded amounts

1. Show students the Small Step Race mat and place two markers at the START.

- The shaded amount of a bar tells how far the marker can be moved.

Illustrate a move for each marker by selecting two bars and counting out the steps. Show that a bar can be placed on an orange bar of the racetrack to determine the number of steps, if needed. For example, a blue bar with 9 parts shaded is worth 9 steps.

Pass out a deck of bars, a Small Step Race mat and a sack of markers to each group:



Transp #6

Fraction Bars

Small Step Race mats

markers

- Spread the bars face down. Each player places a marker of any color at START.
- Take turns selecting a bar and moving your marker according to the shaded amount of your bar.
- Each time a bar is used, it should be placed in a discard pile.
- The first player to reach FINISH or go beyond wins.

Discuss the game and some examples, such as strategies for selecting the bars or how convenient it is to move the marker for a whole bar. Some students may use the fact that certain bars have been selected to increase their chances of obtaining whole bars.

8-Bars mats markers and rulers

2. **Activities on 8-Bars mats:** Students will need 8-Bars mats, markers and a ruler.

- Place your ruler on the centerline of the mat to compare bars. What bars can be half shaded? (halves, fourths, sixths, eighths, tenths and twelfths)
- Use your ruler to find other bars that can have the same amount of shading.
- Find all the bars on your mats that have the same amount of shading. (Every mat will have two pairs of bars with the same amount of shading.)

3. Optional: Students play **Small Step Race** (page 90) or **8-Bars Equality** (page 92) to help gain familiarity in comparing bars with the same shaded amount.

## INDEPENDENT PRACTICE and ASSESSMENT

Worksheets 15-16 from the *Teacher Resource Package*



[fractionbars.com](http://fractionbars.com) Set 2 **Concentration - Match Bars** (finding bars with equal shaded amounts); and Set 2 **Fraction Bars Racing - One-Bar** (moving race cars for the shaded amount of a bar)