ADDITION
Step 1 Adding Fractions with Models

Purpose: To find total shaded amounts using bars and number lines and write addition equations

Materials: Fraction Bars, Small Step Race mats and markers, students' "Fraction Number Lines" (from Basic Concepts - Step 4)

TEACHER MODELING/STUDENT COMMUNICATION

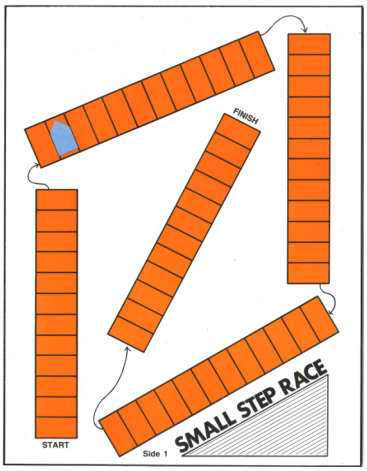
Activity 1 Finding the total shaded amount of two bars

Fraction Bars

Small Step Race mat and markers

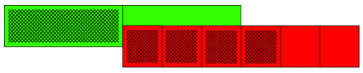
Transp #6

1. Pass out the Small Step Race mat, bars and markers and ask students to find these two bars.



- In the game Small Step Addition Race, the player takes two bars on each turn. How many total steps can the player take on this mat for both bars? Explain your reasoning. (The half-bar is worth 6 steps and each part of the sixths bar is worth 2 steps, so there is a total of 6 + 8 = 14 steps, which is 1 whole bar and 2 steps.)

Show the students that they can also find the number of steps by placing the shaded amounts of two bars end to end. This shows the total amount is 1 whole bar and one part of a red bar or 1 whole bar and 2 steps. Place a marker on the mat for this total, as shown above, and note the convenience of being able to move one whole bar at a time.



- Turn the bars face down and select any two. Determine the total number of steps for your bars. (Ask students for some examples and illustrations.)

2. Repeat this activity and encourage students to focus attention on whether the sum is less than, equal to, or greater than one whole bar.

Small Step Race mat and markers

3. Optional: Students play **Small Step Addition Race**.

- Turn all bars face down and place markers at the Start.
- Take turns selecting two bars at a time. You should determine the total number of steps for both bars before moving your marker. Put used bars in the Discard Pile.
- The first player to reach or go beyond Finish is the winner.

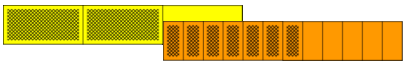
Discuss game strategies. Some students will select the green bars or yellow bars to increase the chances of obtaining whole bars.

Activity 2 Writing addition equations using bars

Fraction Bars

paper and pencils

1. Show students these two bars with their shaded amounts end to end.



- How far can you move on the race mat for these two bars? (1 whole bar and 3 steps)

Write this addition equation. $\frac{2}{3} + \frac{7}{12} = 1\frac{3}{12}$ (or $\frac{15}{12}$)

2. Ask students to turn the bars face down and select any two bars.

- Determine the total shaded amount of your two bars and write an addition equation for the fractions. If needed, use the race mat to determine the total.

Display a few of their equations and repeat this activity. Point out that in adding fractions, just like in adding whole numbers, addition means **putting two amounts together.** This is an important concept in adding fractions.

Activity 3 Writing addition equations using number lines

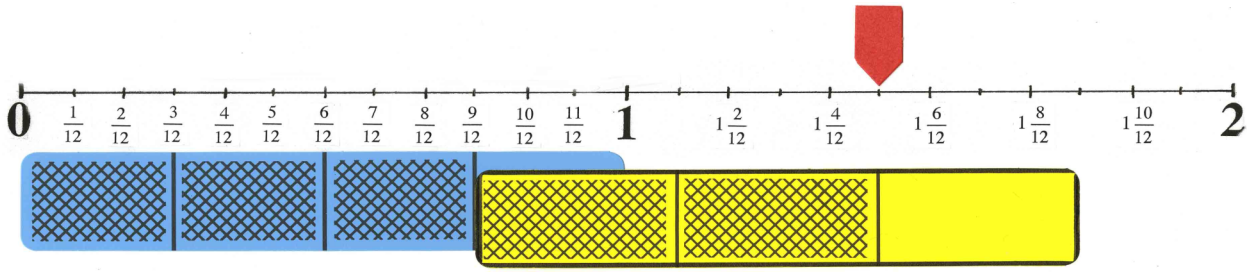
students' Fraction No. Lines

bars and markers

Transp #4

1. Pass out a deck of bars and a sack of markers to each group and the students' Fraction Number Lines (from **Basic Concepts Step 4**).

- Select two bars and place them side by side below your number line to determine the total shaded amount. Write an addition equation for the sum of your fractions. (Equation for bars shown here: 3/4 + 2/3 = 1 5/12) Illustrate a few student examples. Collect students' Number Lines for the next lesson



2. Optional: Students play **Small Step Addition Race** (page 101) or **Concentration** (page 100). In the first game, students select two bars and the total shaded amount determines the number of steps on the race track. In the second game, the objective is find bars whose total shaded amount is one whole bar.

INDEPENDENT PRACTICE and ASSESSMENT

Worksheets 43-44 from the *Teacher Resource Package*

fractionbars.com Set 2 **Fraction Bars Racing - Two-Bar** (moving race cars for the total shaded amount of bars) or Set 2 **Concentration - Whole Bars** (trying for whole bars)