

# A Whole Lot of Fractions

## Purpose

Students will rename and rewrite whole numbers as fractions by examining fraction pictures and finding patterns with the number of pieces in the wholes.

## Materials

*For the teacher:* chalk, chalkboard, chalkboard compass, number sentence strips, improper fraction cards

*For each student:* paper, bingo chip markers, pencil

## Activity

### A. Pre-Activity Preparation

1. Create sentence strips with the following phrases and symbols on separate strips: “Fractional Parts Altogether,” “Fractional Parts in One Whole,” “Number of Whole Circles,” “ $\times$ ,” “ $\div$ ,” and “=.”
2. Prepare index cards with improper fractions written on them so that each of the whole numbers 1 through 10 is represented twice.

### B. Class Activity

1. Using the chalkboard compass, draw two circles on the chalkboard. Ask students how many whole circles are on the chalkboard.
2. Divide both circles into halves. Ask students how many halves there are in both of the circles together [4]. Write the fraction “ $\frac{4}{2}$ ” on the chalkboard and explain that this is another way to write the number of halves in two wholes. Write the number sentence “ $\frac{4}{2} = 2$ ” on the chalkboard.
3. Draw a simple table that shows how the total number of parts increases when you increase the number of fractional parts in each whole. Continue to divide the two circles into more fractional parts, recording the number of parts in the table.
4. Ask students if they can see a pattern in the number of fractional parts per whole. When a student answers correctly, ask students to find the total number of fiftieths in two wholes. Write the number sentence “ $\frac{100}{50} = 2$ ” on the chalkboard.
5. Ask for a student volunteer to arrange the number sentence strips to write a division sentence that shows how to find the number of whole circles from the total number of fractional pieces and the number of fractional pieces in one whole. Write the correct division sentence on the chalkboard.

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### INCORPORATING TECHNOLOGY

Have students use calculators to determine the total number of fractional pieces in large numbers or the number of wholes represented by improper fractions with large denominators.



### MEETING INDIVIDUAL NEEDS

For students having difficulty with understanding the concept of whole numbers being represented by improper fractions, buy or create fractional parts (of different denominators) and several wholes into which the parts fit. Allow students to find the number of parts in the wholes by actually placing the parts into the wholes.

### Standards Links 4.2.4, 4.3.1

## Activity (continued)

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6. Draw a third circle on the chalkboard. Erase the fractional pieces in the first two circles and divide all three circles into halves. Tell students that the class will compare how the number of fractional pieces changes as the number of wholes increases.
7. Create a table similar to the first one to show the comparison as you continue to increase the number of circles that are divided into halves.
8. Test the validity of your division sentence with the table you have created. Ask for a student volunteer to arrange the number sentence strips to write a multiplication sentence that shows how to find the total number of fractional parts from the number of wholes and the number of fractional pieces per whole. Write the correct multiplication sentence on the chalkboard and test it with data from both tables.
9. Write five to six improper fractions that represent whole numbers on the chalkboard and have students find the whole numbers that are represented.

### C. Student Activity


1. Have students create a “tic-tac-toe” formation on a piece of paper, and write any number between 1 and 10 in each of the nine spots (numbers may be repeated once, if desired). Hand out the bingo chip markers.
2. Draw one of the prepared index cards and read the improper fraction. Direct students to cover the whole numbers that are represented by the improper fractions that are read and call out “bingo” when they have covered up three connected spots.
3. Check winning boards against the improper fractions you have read. Have winning students uncover their boards and start over as you continue playing with the rest of the class.


## Questions for Review


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### Basic Concepts and Processes

During the Class Activity, discuss the following questions with students to gauge their understanding of the Standard Indicator:

 What is the whole number represented by *[insert an improper fraction]*?

 How did you get your answer?

 How would you find the total number of eighths in four wholes?