

Classroom Activity to Make Fraction Strips



Purpose

This resource provides instructions on teaching your students how to make fraction strips out of paper.



Why?

Fraction strips made from copy paper are an excellent classroom manipulative: They're easily portable and almost free. As students make them, they informally investigate equivalent fractions and common denominators. Students can keep the strips in their journals or stick them in their math books. If they get lost, no big deal. They can quickly be made again. Use the strips as a fraction manipulative as needed to solve problems.



Setting Up the Activity

- Gather 10 different colors of **construction paper** or **copy paper**. If you don't have 10 colors, use as many different colors as possible. If you only have white paper, use that.
- Gather 1 set of **markers** for each student.
- Gather 1 **envelope** for each student.
- Cut the **paper** into 1" strips across the width of the paper. Each student will need a total of 10 different-colored strips.



How to Do the Activity with Your Students

1. Place students in groups and hand out materials.
2. **Determining the Whole.** Have students choose one strip to be the *whole*. Write "1 whole" on the strip.
3. **Folding Halves.** Then have students choose another color. Tell them to fold the strip to *make halves*. Then write $\frac{1}{2}$ in each half and draw a line between them. (Don't tell them to fold it *in* half. Let them figure out that folding it in half makes halves.) Ask them to compare the whole strip with the folded one.

Guiding Questions for Discussion:

- How many halves make a 1 whole? 2
- What is 2 halves equivalent to? 1 whole

4. **Folding fourths.** Have students choose another strip and fold it into fourths. Watch for students to fold halves and then fold the halves again to make fourths. Have students write $\frac{1}{4}$ on each fourth and draw a line between each fourth. Use the whole, halves, and fourths strips to answer the questions.

Guiding Questions for Discussion:

- How many fourths are in 1 whole? How can you use the word *equivalent* in a sentence with fourths and 1 whole? 4; $\frac{4}{4}$ is equivalent to 1.

- How many fourths are in $\frac{1}{2}$? How can you use the word *equivalent* in a sentence with halves and fourths? 2; $\frac{1}{2}$ is equivalent to $\frac{2}{4}$.

5. **Folding Eighths.** Ask students what they think might be logical to fold next. How might you fold them? (*Eighths; fold the fourths in half*) Have students choose another strip, fold it into eighths, draw a line between them, and label each eighth. Use the whole, halves, fourths, and eighths strips to answer the questions.

Guiding Questions for Discussion:

- How many eighths are in 1 whole? How can you use the word *equivalent* with eighths and 1 whole? 8; $\frac{8}{8}$ is equivalent to 1.
- How many eighths are in $\frac{1}{2}$? How can you use the word *equivalent* with eighths and halves? 4; $\frac{4}{8}$ is equivalent to $\frac{1}{2}$.
- How many eighths are in $\frac{1}{4}$? How can you use the word *equivalent* with eighths and fourths? 2; $\frac{2}{8}$ is equivalent to $\frac{1}{4}$.

6. **Folding Thirds.** Ask student to choose another strip, fold thirds, draw a line between them, and label them. Use the whole, halves, and thirds strips to answer the questions.

Guiding Questions for Discussion:

- How many thirds are in 1 whole? How can you use the word *equivalent* with thirds and one whole? 3; $\frac{3}{3}$ is equivalent to 1.
- (Note: This is a trick question.) How many thirds are in $\frac{1}{2}$? *Thirds cannot be combined to make halves.*
- How can you use the word *equivalent* with thirds and halves? $\frac{2}{2}$ is equivalent to $\frac{3}{3}$.

7. **Folding Sixths.** Ask students what they think might be logical to fold next. How might you fold them? (*Sixths; fold thirds and then fold each third in half, or vice versa*) Have students choose another strip, fold it into sixths, draw a line between them, and label. Use the whole, halves, thirds, and sixths strips to answer the questions.

Guiding Questions for Discussion:

- How many sixths are in 1 whole? How can you use the word *equivalent* with sixths and 1 whole? 6; $\frac{6}{6}$ is equivalent to 1.

- How many sixths are in $\frac{1}{2}$? How can you use the word *equivalent* with sixths and halves? 3; $\frac{3}{6}$ is equivalent to $\frac{1}{2}$.
- How many sixths are in $\frac{1}{3}$? How can you use the word *equivalent* with sixths and thirds? 2; $\frac{2}{6}$ is equivalent to $\frac{1}{3}$.)
- How many sixths are in $\frac{2}{3}$? How can you use the word *equivalent* with sixths and $\frac{2}{3}$? 4; $\frac{4}{6}$ is equivalent to $\frac{2}{3}$.

8. **Folding Twelfths.** Ask students what they think might be logical to fold next. How might you fold them? (*Twelfths; fold thirds, and then fold each third in half, and then in half again*) Have students choose another strip, fold it into twelfths, draw a line between them, and label each twelfth. Use the whole, halves, thirds, fourths, and twelfths strips to answer the questions.

Guiding Questions for Discussion:

- How many twelfths are in 1 whole? How can you use the word *equivalent* with twelfths and 1 whole? 12; $\frac{12}{12}$ is equivalent to 1.
- How many twelfths are in $\frac{1}{2}$? How can you use the word *equivalent* with twelfths and halves? 6; $\frac{6}{12}$ is equivalent to $\frac{1}{2}$.
- How many twelfths are in $\frac{1}{3}$? How can you use the word *equivalent* with twelfths and thirds? 4; $\frac{4}{12}$ is equivalent to $\frac{1}{3}$.
- How many twelfths are in $\frac{1}{4}$? How can you use the word *equivalent* with twelfths and fourths? 3; $\frac{3}{12}$ is equivalent to $\frac{1}{4}$.
- How many twelfths are in $\frac{1}{6}$? How can you use the word *equivalent* with twelfths and sixths? 2; $\frac{2}{12}$ is equivalent to $\frac{1}{6}$.
- How many twelfths are in $\frac{2}{3}$? How can you use the word *equivalent* with sixths and thirds? 8; $\frac{8}{12}$ is equivalent to $\frac{2}{3}$.

- How many twelfths are in $\frac{3}{4}$? How can you use the word *equivalent* with twelfths and fourths? 9;

$$\frac{9}{12} \text{ is equivalent to } \frac{3}{4}.$$

9. **Folding Ninths.** Have students choose another strip and fold it into ninths. Watch for students to fold thirds and then fold the thirds again. Have students write $\frac{1}{9}$ on each ninth and draw a line between each ninth.

Guiding Questions for Discussion:

- How many ninths are in 1 whole? How can you use the word *equivalent* with ninths and 1 whole? 9; $\frac{9}{9}$ is equivalent to 1.
- How many ninths are in $\frac{1}{3}$? How can you use the word *equivalent* in a sentence with ninths and thirds? 3; $\frac{1}{3}$ is equivalent to $\frac{3}{9}$.
- How many ninths are in $\frac{2}{3}$? How can you use the word *equivalent* with ninths and $\frac{2}{3}$? 6; $\frac{6}{9}$ is equivalent to $\frac{2}{3}$.

10. **Folding Fifths.** Have students choose another color strip. Tell them to fold the strip to make fifths, write $\frac{1}{5}$ in each fifth, and draw a line between the fifths. Use the whole and the fifths to answer the questions.

Guiding Questions for Discussion:

- How many fifths make 1 whole? 5
- What is 5 fifths equivalent to? 1 whole

11. **Folding Tenths.** Have students use their strip and fold it into tenths. Watch for students to fold fifths and then fold the fifths in half to make tenths. Have students write $\frac{1}{10}$ on each tenth and draw a line between each tenth. Use the whole, fifths, and tenths strips to answer the questions.

Guiding Questions for Discussion:

- How many tenths are in 1 whole? How can you use the word *equivalent* in a sentence with tenths and 1 whole? 10; $\frac{10}{10}$ is equivalent to 1.
- How many tenths are in $\frac{1}{2}$? How can you use the word *equivalent* in a sentence with halves and tenths? 5; $\frac{1}{2}$ is equivalent to $\frac{5}{10}$.

☰ Options

- Have students make a set for school and another set for home.
- Have student create an envelope out of paper, fill it with fraction strips, and glue the envelope into their math journals.