

Sorting Activity

Categorizing Fractions According to their Closeness to Benchmarks

Materials:

- sets of fraction cards (duplicated from the attached copy and cut out) – 1 set per pair of students
- copies of Benchmark Sorting Mat (duplicated from attached copy) – 1 per pair of students
- fraction circles: thirds, fourths, fifths, sixths, eighths, tenths (templates in the Toolkit) – 1 set of each fractional part per pair of students
- fraction strips: thirds, fourths, fifths, sixths, eighths, tenths (templates in the Toolkit) – 1 set of each fractional part per pair of students

Provide each pair of students with a set of fraction cards, the Benchmark Sorting Map, and fraction circles. Have students work with their partner to sort the cards into three categories of fractions: close to 0, close to $\frac{1}{2}$, and close to 1. Students can represent the fractions on the cards using fraction circles, and determine the proximity of the fractions to benchmarks. Students will observe that some fractions are halfway between two benchmarks (e.g., $\frac{1}{4}$ is mid-way between 0 and $\frac{1}{2}$). Students can decide where to place these cards on the sorting mat (e.g., spanning two sections of the mat).

Later, have the students use fraction strips to help them make decisions about whether the fractions on the cards are closest to 0, $\frac{1}{2}$, or 1.

After the students have explored using fraction circles and fraction strips, encourage students to sort the fraction cards by reasoning about the proximity of each fraction to the benchmarks (e.g., There are few parts in $\frac{1}{8}$, so the fraction is close to 0.) Students can continue to use fraction models (e.g., fraction strips, fraction circles) to verify their thinking.

Fraction Cards

$$\frac{1}{3}$$

$$\frac{2}{3}$$

$$\frac{1}{4}$$

$$\frac{3}{4}$$

$$\frac{1}{6}$$

$$\frac{2}{6}$$

$$\frac{4}{6}$$

$$\frac{5}{6}$$

$$\frac{1}{8}$$

$\frac{2}{8}$	$\frac{3}{8}$	$\frac{5}{8}$
$\frac{6}{8}$	$\frac{7}{8}$	$\frac{1}{10}$
$\frac{2}{10}$	$\frac{3}{10}$	$\frac{9}{10}$

Benchmark Sorting Mat

Close to 0

Close to $\frac{1}{2}$

Close to 1