

Family Support Materials

Fractions as Numbers

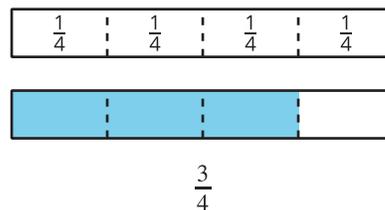
In this unit, students develop an understanding of fractions as numbers. They represent fractions with diagrams and number lines and compare and find equivalent fractions.

Section A: Introduction to Fractions

In this section, students use diagrams and fraction strips to learn about fractions.

In grade 2, they learned about halves, thirds, and fourths. Now, they partition 1 whole into 6 or 8 parts, describe each part as “a sixth” and “an eighth,” and write the notation $\frac{1}{6}$ and $\frac{1}{8}$.

Students learn that the notation $\frac{1}{b}$ means 1 whole is partitioned into b parts and each part has size $\frac{1}{b}$.



In these diagrams, each part is a unit fraction with the size $\frac{1}{4}$.

Students see that composing unit fractions create non-unit fractions (fractions with numerators greater than 1). For example, putting together 3 parts of $\frac{1}{4}$ gives $\frac{3}{4}$.

Section B: Fractions on the Number Line

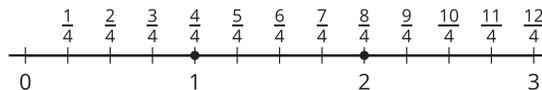
In this section, students locate fractions on the number line. They learn that, just like whole numbers, fractions can be represented as distances from 0 on the number line.

Students partition the interval from 0 to 1 into b equal parts. They label the first tick mark with a unit fraction $\frac{1}{b}$.



Then, students locate non-unit fractions on the number line by counting unit fractions. They notice that certain fractions are in the same location as whole numbers on the number line.

For example, $\frac{4}{4}$ is at the same location as 1 and $\frac{8}{4}$ is at the same location as 2.



The terms “numerator” and “denominator” are introduced here.

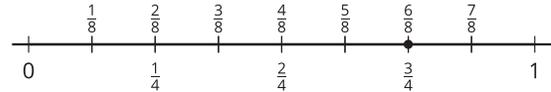
Section C: Equivalent Fractions

In this section, students learn that equivalent fractions are fractions that are the same size. They use fraction strips and diagrams to show and find equivalent fractions.

The shaded parts of the diagrams show that $\frac{1}{3}$ and $\frac{2}{6}$ are the same size, so $\frac{1}{3} = \frac{2}{6}$.



The number line diagram shows that $\frac{6}{8}$ and $\frac{3}{4}$ are at the same location or are the same distance from 0, so $\frac{6}{8} = \frac{3}{4}$.



Section D: Fraction Comparisons

In this section, students compare fractions. They learn that comparisons are only valid if the fractions being compared refer to the same whole.

Students first compare fractions with the same denominator (such as $\frac{4}{6}$ and $\frac{5}{6}$).



Then, they compare fractions with the same numerator (such as $\frac{5}{6}$ and $\frac{5}{8}$).



Try it at home!

Near the end of the unit, ask your student to show the fractions $\frac{5}{8}$ and $\frac{6}{4}$ on a fraction strip and a number line.

Questions that may be helpful as they work:

- How did you determine how many partitions needed to be made?
- How did you know how many parts to shade in?
- How did you know where to place the fraction on the number line?
- Which fraction is larger? How do you know?