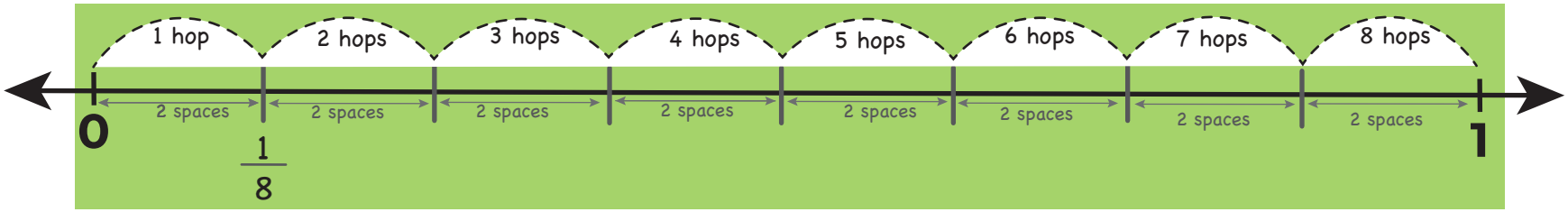
Placing a Unit Fraction on the Number Line

Example



$\frac{1}{8}$ **numerator** — The numerator counts the number of equal pieces in the fraction.

denominator — The denominator shows the number of equal pieces needed to make one.

Step 1:
Divide the number line into equal sections:

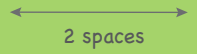
Measure the length of the line from 0 to 1.
Divide that measurement by the denominator.
The quotient is the length of each unit fraction.

Record your work here:

Imagine that the distance from zero to one is 16 spaces.The denominator is 8.

16 divided by 8 is 2.

Every 1/8 unit fraction is 2 spaces long on this number line.



Step 2: Mark the end points of each unit fraction along the number line.

Use the length of the unit fraction to mark evenly spaced vertical lines from zero to one along the number line above.

There are 8 hops between zero and one. The denominator is 8 so the number line has been divided into the right number of equal pieces.

Step 3: The first vertical mark corresponds to the unit fraction.

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name:

$\frac{1}{\text{denominator}}$ **numerator** The numerator counts the number of equal pieces in the fraction.

denominator The denominator shows the number of equal pieces needed to make one.

Step 1: Divide the line segment from zero to one into equal pieces.

Draw and label vertical lines to mark the locations of zero and one. Measure the distance between zero and one. Divide that measurement by the denominator.
The quotient is the length of each unit fraction on this specific number line.

Record your work here:

Step 2: Mark the end points of each unit fraction along the number line.

Use the length of the unit fraction to mark evenly spaced vertical lines from zero to one along the number line above.

Double check that the number of unit fractions between zero and one is equal to the denominator of the unit fraction.

Step 3: Label the mark that goes with the location of the unit fraction.

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Teacher Tips

Encourage students to think about how long to make the line segment between zero and one.

Add a denominator of your choice!

Based on the length between 0 to 1, some denominators will be easier to use.

Or let your students roll dice to find a denominator.

$\frac{1}{\ }$

numerator — The numerator counts the number of equal pieces in the fraction.

denominator — The denominator shows the number of equal pieces needed to make one.

Step 1: Divide the line segment from zero to one into equal pieces.

Academic vocabulary used:
numerator, denominator, unit fraction, line segment, number line, measure, divide, quotient, equal, vertical,

Learning Goal:
I can place a unit fraction on the number line.

This supports numbers and operations standards in which students develop an understanding of fractions as numbers.

Step 2: Mark the end points of each unit fraction along the number line.

Let your students sketch simple 'doodles' of the unit fraction as part of a whole, or as part of a set. Encourage them to use their sketches to double check their work with the number line.

Step 3: Label the mark that goes with the unit fraction.