

Focus Area Topic C: Fraction Comparison

Words to Know:

Common denominator - when two or more fractions have the same denominator

Comparing fractions – determining which fraction is greater than the other and using symbols to express the comparison

- symbol for greater than $>$
- symbol for less than $<$
- symbol for equal to $=$

Benchmark - standard or reference point by which something is measured → example benchmarks 0 , $\frac{1}{2}$, 1 .

Using Benchmarks to Compare Fractions

Students use benchmarks to compare fractions with different numerators and different denominators. The use of benchmarks is modeled using a number line. Students use the relationship between the numerator and denominator of a fraction to compare to a known benchmark and then use that information to compare the given fractions.

Example of Benchmark Use

Students might need to compare $\frac{4}{7}$ and $\frac{2}{5}$. They reason that 4 sevenths is more than 1 half, while 2 fifths is less than 1 half. They then conclude that 4 sevenths is greater than 2 fifths.

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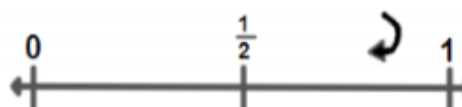


Using Benchmarks on a Number Line to Compare Fractions

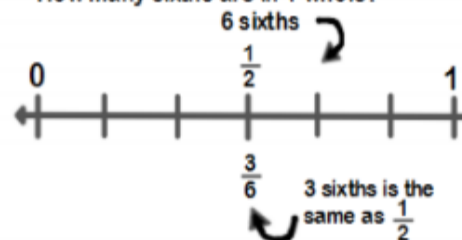
Here is an example of how students can reason about the size of a fraction compared to $\frac{1}{2}$. If they want to know the relative size of $\frac{2}{6}$, they can use a number line.

Is $\frac{2}{6}$ greater than or less than $\frac{1}{2}$?

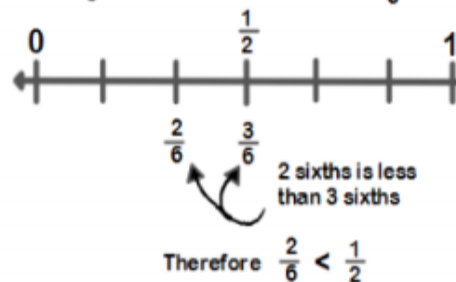
First, draw a number line and label it with the benchmarks zero, half, and one whole.



How many sixths are in 1 whole?



Is $\frac{2}{6}$ greater than or less than $\frac{3}{6}$?



$\frac{15}{20}$ is less than $\frac{16}{20}$ $\rightarrow$ Therefore $\frac{3}{4} < \frac{4}{5}$