

Fraction Order Detectives

Plot fraction sizes, then compare and order.

GRADE 3 • MA.3.FR.2.1

MA.3.FR.2.1 "Plot, order and compare fractional numbers with the same numerator or the same denominator."

NAME _____

DATE _____

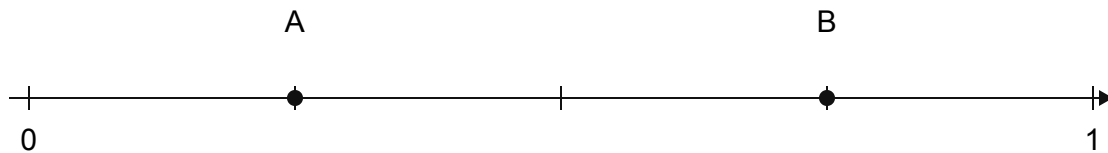
Equal wholes and equal intervals

On a number line, greater numbers are farther right. Use the same whole when comparing fractions. With the same denominator, more parts means a greater number. With the same positive numerator, a smaller denominator means larger parts. Count equal intervals, as on a ruler; a fraction can be beyond 1.

Worked example

The line is split into fourths. A is $\frac{1}{4}$ and B is $\frac{3}{4}$. Which is greater?

Fraction number line (whole units)



1. Each space is $\frac{1}{4}$ of one whole.
2. B is farther right than A.

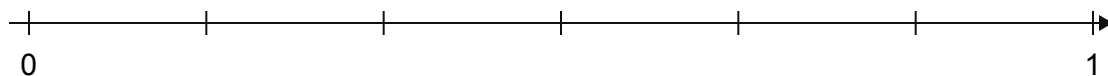
$\frac{3}{4} > \frac{1}{4}$.

Plot a dot and write its letter above it. Each whole unit is split into the number of equal parts named in the task. Use the plotted positions to compare.

Practice 1

The line is divided into sixths. Plot A at $\frac{1}{6}$ and B at $\frac{5}{6}$. Write a comparison using $<$ or $>$.

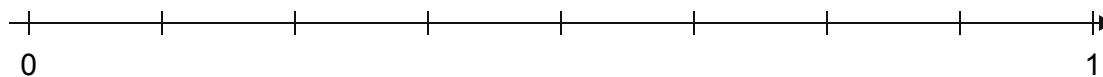
Fraction number line (whole units)



Practice 2

The line is divided into eighths. Plot A at $\frac{1}{8}$, B at $\frac{3}{8}$ and C at $\frac{7}{8}$. Order the fractions least to greatest.

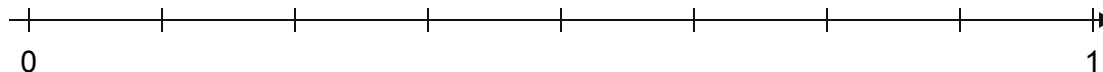
Fraction number line (whole units)



Practice 3

Plot A at $\frac{3}{4}$ and B at $\frac{3}{8}$ on this eighths line. Compare them and explain using the size of fourths and eighths.

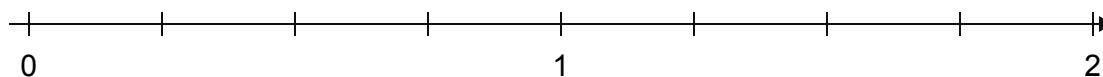
Fraction number line (whole units)



Practice 4

This line extends to 2 in fourths. Plot A at $\frac{3}{2}$ and B at $\frac{3}{4}$. Compare them.

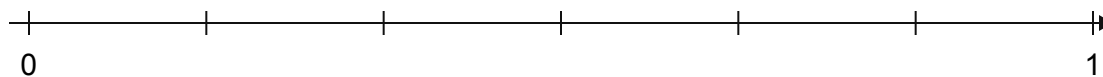
Fraction number line (whole units)



Apply It 1

Maya finished $\frac{4}{6}$ of a game level; Leo finished $\frac{5}{6}$ of the same level. Plot M and L. Who finished more? Write a comparison.

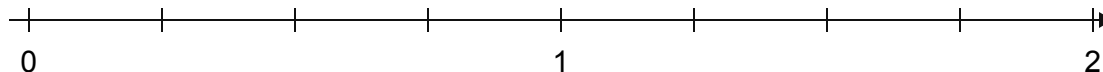
Fraction number line (whole units)



Apply It 2

Jada has $1\frac{1}{4}$ meters of ribbon; Omar has $1\frac{3}{4}$ meters. Plot J and O on the fourths line. Who has more ribbon?

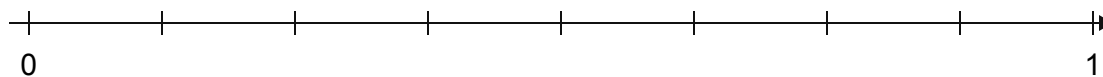
Fraction number line (whole units)



Challenge

On the eighths line, plot A at $\frac{1}{2}$, B at $\frac{1}{4}$ and C at $\frac{1}{8}$. Order the fractions least to greatest and explain.

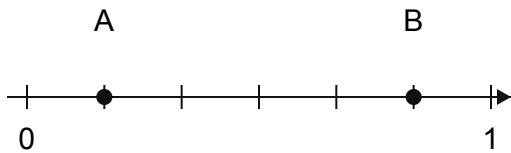
Fraction number line (whole units)



PRACTICE 1

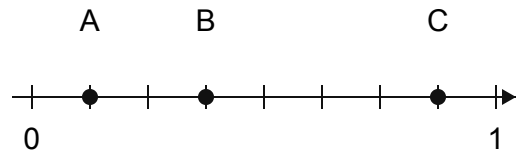
$1/6 < 5/6.$

Fraction number line (whole units)

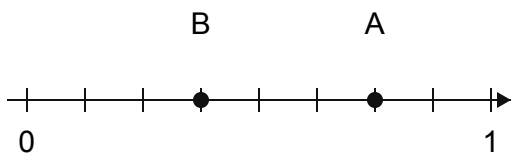
**PRACTICE 2**

$1/8 < 3/8 < 7/8.$

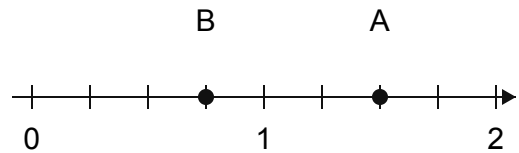
Fraction number line (whole units)

**PRACTICE 3** $3/4 > 3/8.$ Fourths are larger parts than eighths of the same whole.

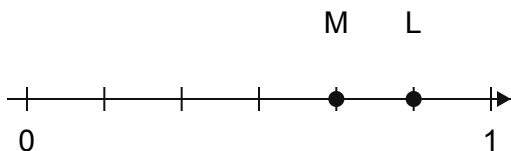
Fraction number line (whole units)

**PRACTICE 4** $3/2 > 3/4.$ A is at $1\frac{1}{2}$; B is below 1.

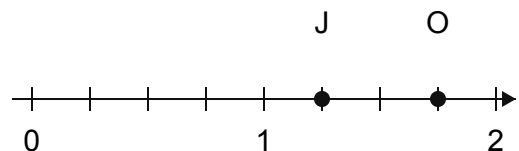
Fraction number line (whole units)

**APPLY IT 1**Leo; $5/6 > 4/6.$ With equal denominators, compare numerators: 5 is greater than 4.

Fraction number line (whole units)

**APPLY IT 2**Omar; $1\frac{3}{4} > 1\frac{1}{4}$ ($7/4 > 5/4$). Both lengths are beyond 1. Omar's point is farther right.

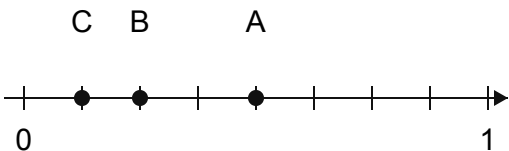
Fraction number line (whole units)



CHALLENGE

$\frac{1}{8} < \frac{1}{4} < \frac{1}{2}$. For the same numerator 1, a smaller denominator gives a larger part of the same whole.

Fraction number line (whole units)



TEACHER NOTES

Judge point positions and comparisons. Teacher diagrams show one correct placement. On eighths lines, $\frac{3}{4}$ is six intervals from zero, $\frac{1}{2}$ is four and $\frac{1}{4}$ is two. On fourths lines, $\frac{3}{2}$ is six intervals from zero, $1\frac{1}{4}$ is five and $1\frac{3}{4}$ is seven. Only permitted Grade 3 denominators are used. Accept equivalent fraction names and accurate verbal comparisons.