



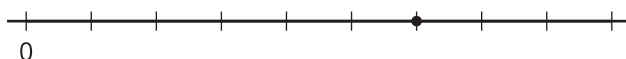
# Relate Fractions to Benchmarks

Let's compare the size of fractions to  $\frac{1}{2}$  and to 1.

## Warm-up

### Notice and Wonder: A Point on a Number Line

What do you notice? What do you wonder?



## Activity 1

### Greater than or Less than 1?

For each number line:

- Name a fraction that the point represents.
- Is that fraction greater than or less than 1?
- How far is it from 1?

1.

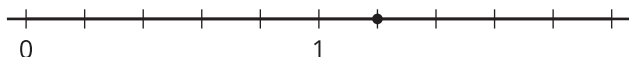


a.

b.

c.

2.

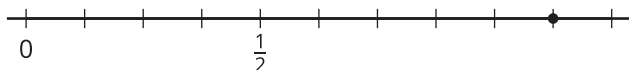


a.

b.

c.

3.



a.

b.

c.

4.



a.

b.

c.

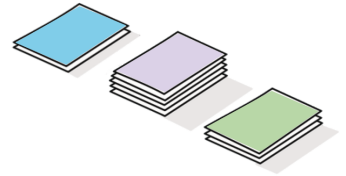


## Activity 2

### Card Sort: Where Do They Belong?

Your teacher will give you a set of cards that show fractions.

- Sort the cards into 3 groups: less than  $\frac{1}{2}$ , equal to  $\frac{1}{2}$ , and greater than  $\frac{1}{2}$ . Be ready to explain your reasoning.



Discuss your sorting with another group. Then record the fractions in the table.

| less than $\frac{1}{2}$ | equal to $\frac{1}{2}$ | greater than $\frac{1}{2}$ |
|-------------------------|------------------------|----------------------------|
|                         |                        |                            |

- Discuss your sorting with the class. Then complete the sentences.

- A fraction is less than  $\frac{1}{2}$  when ...

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- A fraction is greater than  $\frac{1}{2}$  when ...

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- A fraction is between  $\frac{1}{2}$  and 1 when ...

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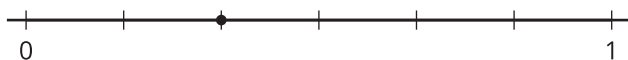
## Activity 3

### Greater than or Less than $\frac{1}{2}$ ?

For each number line:

- Name a fraction that the point represents.
- Is that fraction greater than or less than  $\frac{1}{2}$ ?
- What fraction describes how far the point is from  $\frac{1}{2}$ ?

1.

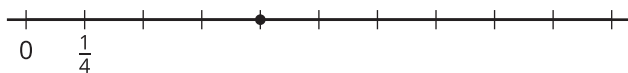


a.

b.

c.

2.

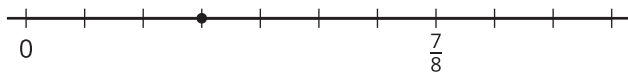


a.

b.

c.

3.

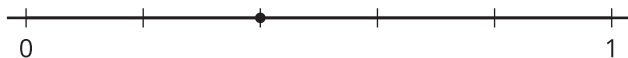


a.

b.

c.

4.



a.

b.

c.



## Section A Summary

We used fraction strips to represent fractions with denominators of 2, 3, 4, 5, 6, 8, 10, and 12.

Fraction strips helped us reason about relationships between fractions.

|                |                |                |                |                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1              |                |                |                |                |                |                |                |                |                |
| $\frac{1}{5}$  |                | $\frac{1}{5}$  |                | $\frac{1}{5}$  |                | $\frac{1}{5}$  |                | $\frac{1}{5}$  |                |
| $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ |

Example:

- One whole split into 5 equal parts makes 5 fifths.
- Each fifth split into 2 equal parts makes 10 equal parts, or 10 tenths.
- When the denominator is larger, there are more parts in a whole.

Fraction strips also helped us reason about the sizes of fractions.

|                |                |                |                |                |                |                |                |                |                |                |                |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1              |                |                |                |                |                |                |                |                |                |                |                |
| $\frac{1}{6}$  |                | $\frac{1}{6}$  |                | $\frac{1}{6}$  |                | $\frac{1}{6}$  |                | $\frac{1}{6}$  |                | $\frac{1}{6}$  |                |
| $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ | $\frac{1}{12}$ |

Same denominator: The size of the parts is the same. So, the fraction with more parts is greater.

Example:  $\frac{5}{6}$  is greater than  $\frac{2}{6}$ .

Same numerator: The number of parts is the same. So, the fraction with larger parts is greater.

Example:  $\frac{5}{6}$  is greater than  $\frac{5}{12}$ .

We used what we learned about fraction strips to partition number lines and represent fractions.

