16. Compare Fractions with Like Denominators and Like Numerators
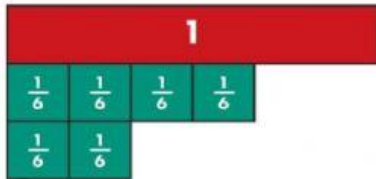
A. Visual learning

How can you compare fractions with like denominators?

Compare $\dfrac{4}{6}$ and $\dfrac{2}{6}$

$\dfrac{4}{6}$ ← unline numerators → $\dfrac{2}{6}$

← like denominators →

Use fraction strips	Rule
	If two fractions have like denominators, the fraction with the **greater numerator** is the **greater fraction**.

Use fraction strips

1

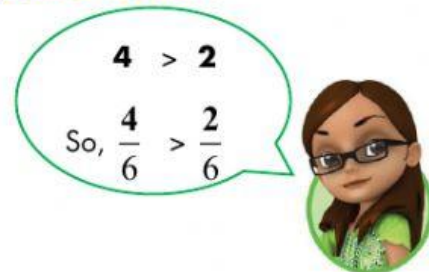| $\frac{1}{6}$ | $\frac{1}{6}$ | $\frac{1}{6}$ | $\frac{1}{6}$ |
| $\frac{1}{6}$ | $\frac{1}{6}$ |

Use four $\dfrac{1}{6}$ strips to show $\dfrac{4}{6}$.

Use two $\dfrac{1}{6}$ strips to show $\dfrac{2}{6}$.

More $\dfrac{1}{6}$ strips are used to show $\dfrac{4}{6}$. So, $\dfrac{4}{6} > \dfrac{2}{6}$.

Rule

If two fractions have like denominators, the fraction with the **greater numerator** is the **greater fraction**.

$4 > 2$

So, $\dfrac{4}{6} > \dfrac{2}{6}$

How can you compare fractions with like numerators?

Compare $\dfrac{1}{3}$ and $\dfrac{1}{4}$

$\dfrac{1}{3}$ ← like numerators → $\dfrac{1}{4}$
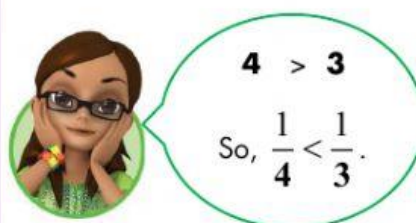
← unlike denominators →

Use fraction strips

1

| $\frac{1}{4}$ |
| $\frac{1}{3}$ |

The $\dfrac{1}{4}$ strip is shorter than the $\dfrac{1}{3}$ strip.

So, $\dfrac{1}{4} < \dfrac{1}{3}$.

Rule

If two fractions have like numerators, the fraction with the **greater denominator** is the **smaller fraction**.
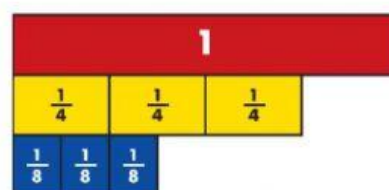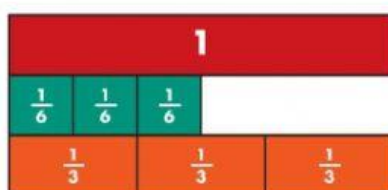
$4 > 3$

So, $\dfrac{1}{4} < \dfrac{1}{3}$.

B. Vocabulary

like numerator: _____   like denominator: _____

C. Independent practice

In 1 – 3, compare. Write <, >, or = in the blank. Use fraction strips to help.

1							
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$				
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$			

1					
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$			
$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$	

1				
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$		
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$		

1. $\frac{4}{8} \bigcirc \frac{5}{8}$

2. $\frac{3}{6} \bigcirc \frac{3}{3}$

3. $\frac{3}{4} \bigcirc \frac{3}{8}$

In 4 – 9, write >, < or = for each.

4. $\frac{2}{6} \bigcirc \frac{5}{6}$

5. $\frac{4}{4} \bigcirc \frac{4}{7}$

6. $\frac{4}{8} \bigcirc \frac{4}{8}$

7. $\frac{1}{3} \bigcirc \frac{1}{6}$

8. $\frac{7}{8} \bigcirc \frac{3}{8}$

9. $\frac{2}{5} \bigcirc \frac{2}{9}$

10. These fractions refer to the same whole. Which of these comparisons are correct?

Choose all that apply.

☐ $\frac{5}{6} < \frac{5}{8}$ ☐ $\frac{2}{4} > \frac{2}{3}$

☐ $\frac{1}{2} > \frac{1}{4}$ ☐ $\frac{5}{6} = \frac{5}{6}$

☐ $\frac{3}{4} > \frac{3}{6}$

11. Which is longer, $\frac{1}{4}$ of a meter (m) or $\frac{1}{4}$ of a kilometer (km)? Explain.

_____

_____