Visual Learning Animation

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Could you use 8 as the common denominator? Explain. No. 8 is not a multiple of 6.

Prevent Misconceptions

Some students may not understand the need to find a common denominator before comparing numerators. Explain that you need to compare pieces of the same size.

Another Way

You can multiply the denominators to find a common denominator.

Compare $\frac{3}{4}$ and $\frac{5}{6}$.

Multiply denominators: $4 \times 6 = 24$.

Use 24 as the common denominator.

$\frac{5}{6} \times \frac{4}{4} = \frac{20}{24}$ $\quad$ $\frac{3}{4} \times \frac{6}{6} = \frac{18}{24}$

$\frac{20}{24} > \frac{18}{24}$, so, $\frac{5}{6} > \frac{3}{4}$.

Point out that both methods shown can give students a common denominator. *When might you want to use the way shown in this box?* [Possible answer: when the denominators are small and easy to multiply]

One Way

compare fractions, find a common nominator by writing the multiples of ch denominator.

4, 8, (12), 16, 20, . . .

6, (12), 18, 24, . . .

e 12 as the common denominator.

$\frac{2}{2} = \frac{10}{12}$ $\quad$ $\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$

$> \frac{9}{12}$, so, $\frac{5}{6} > \frac{3}{4}$.

Another Way

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Multiply denominators: $4 \times 6 = 24$.

Use 24 as the common denominator.

$\frac{5}{6} \times \frac{4}{4} = \frac{20}{24}$ $\quad$ $\frac{3}{4} \times \frac{6}{6} = \frac{18}{24}$

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Independent Practice

7 through **10**, compare the numbers. ite >, < or = for each ◯.

You can always multiply the denominators to find a common denominator.

. $\frac{3}{4}$ ◯ $\frac{4}{5}$ $\quad$ **8.** $\frac{9}{10}$ ◯ $\frac{18}{20}$ $\quad$ **9.** $3\frac{6}{7}$ ◯ $3\frac{13}{14}$ $\quad$ **10.** $1\frac{7}{8}$ ◯ $1\frac{2}{3}$

11 and **12**, order the numbers from least to greatest.

. $\frac{1}{2}, \frac{1}{4}, \frac{5}{6}, \frac{3}{4}$ $\quad$ **12.** $2\frac{1}{2}, 1\frac{7}{8}, 2\frac{3}{4}, 2\frac{3}{5}$

Problem Solving

. Birdhouses can provide homes for many different kinds of birds. The size of the opening will determine the kind of bird that can use it. Order the data in the table from least to greatest.

Data

Type of Bird	Size of Birdhouse Opening (in inches)
Screech owl	3
Chickadee	$1\frac{1}{8}$
House wren	1
Tree swallow	$1\frac{1}{2}$

. Sarah rode her bike $2\frac{1}{2}$ miles on Thursday, $2\frac{7}{10}$ miles on Friday, and $2\frac{5}{8}$ miles on Saturday. Which day did she ride farthest?

Friday

. At the school fair, 157 tickets were sold. The tickets cost $3 apiece. The goal was to make $300 in ticket sales. By how much was the goal exceeded?

A $71 $\quad$ C $371

(B) $171 $\quad$ D $471

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3 Independent Practice

When comparing and ordering mixed numbers, remind students to first look at whole numbers, then look at the fractions. *In Exercises 9 and 10, the whole numbers are the same, so you can compare the fractions. In Exercise 12, one of the whole numbers is different, so you want to look at the whole numbers first, then look at the fractions in the three mixed numbers that have the same whole number.*

Problem Solving

Exercise	Content
13	Ordering Whole and Mixed Numbers
14	Comparing Mixed Numbers
15	Multiple Step (157 × 3) − 300]

Students use underlying processes and mathematical tools for Exercises 13–15. Remind students to check for reasonableness when solving each problem.

Exercise 13
Remind students to look first at the whole numbers and the whole-number part of the mixed numbers. Then they should look at the fractions to determine the order of the numbers in the table.

Exercise 14
What do you notice about all three numbers in Exercise 14? [The whole-number part of the mixed numbers is the same.] *So what do you need to decide next?* [Which fraction is greatest] Remind students that they can place the fractions on a number line if they need to.

Exercise 15
Test-Taking Tip: Understand the Question *What do you need to find first?* [The value of the tickets sold] *What do you need to decide next?* [How the value of tickets sold compares to the goal]