

Compare and order non-unit fractions

Notes and guidance

In this small step, children use their knowledge of comparing and ordering unit fractions from Step 2 as they start to compare and order non-unit fractions. The focus is on comparing and ordering fractions with the same denominator.

Bar models and other representations, such as strips of paper, can be used to support children's understanding of fractions. They should recognise that if the denominator is the same, then the greater the numerator, the greater the fraction or the smaller the numerator, the smaller the fraction.

Children could be encouraged to make links between the two types of comparing and ordering they have explored so far: unit fractions with different denominators, and non-unit fractions with the same denominator.

Things to look out for

- As children have previously compared and ordered fractions with the same numerator, they may believe that the fractions they encounter in this step are equal because the denominators are equal.
- Children may be over-reliant on diagrams rather than thinking about the numbers in the fractions.

Key questions

- Are the numerators the same?
- Are the denominators the same?
- If the denominators are the same, how can you compare the fractions?
- Which fraction is greater? How do you know?
- Which fraction is smaller? How do you know?
- What patterns did you spot when you ordered the fractions?

Possible sentence stems

- When fractions have the same denominator, the _____ the numerator, the _____ the fraction.
- _____ is greater than _____ because ...
- _____ is less than _____ because ...

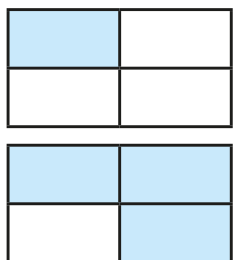
National Curriculum links

- Compare and order unit fractions, and fractions with the same denominators

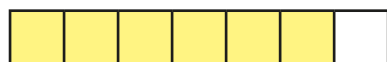
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Key learning

- Write **greater** or **less** to complete the sentences.


 $\frac{1}{4}$ is _____ than $\frac{3}{4}$
 $\frac{3}{4}$ is _____ than $\frac{1}{4}$

- Write $<$, $>$ or $=$ to compare the fractions.

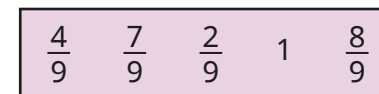
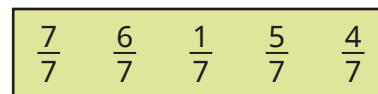

 $\frac{3}{5} \bigcirc \frac{4}{5}$
 $\frac{6}{7} \bigcirc \frac{2}{7}$

 $\frac{7}{8} \bigcirc \frac{3}{8}$
 $\frac{1}{6} \bigcirc \frac{6}{6}$

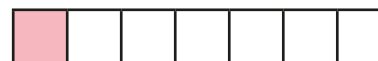
- Write $<$ or $>$ to compare the fractions.

 $\frac{3}{10} \bigcirc \frac{7}{10}$
 $\frac{5}{6} \bigcirc \frac{4}{6}$
 $\frac{0}{5} \bigcirc \frac{3}{5}$
 $\frac{8}{9} \bigcirc \frac{1}{9}$
 $\frac{5}{23} \bigcirc \frac{1}{23}$
 $\frac{5}{7} \bigcirc 1$

- Write each set of fractions in order, starting with the smallest.



- Use the bar models to compare the fractions.


 $\frac{1}{7} \bigcirc \frac{1}{6}$
 $\frac{3}{7} \bigcirc \frac{5}{7}$

What is the same? What is different?

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Reasoning and problem solving

Alex is ordering fractions.
She has spilt ink on her work.

$$\frac{2}{7} < \text{[ink blot]} < 1$$

What could the missing numerator be?
What could the missing numerator **not** be?

Explain your answers.

3, 4, 5, 6

1, 7

Write $<$, $>$ or $=$ to compare the fractions.

$$\frac{4}{4} \bigcirc \frac{10}{10}$$

Explain your answer.

=

Write the fractions in order, starting with the smallest fraction.

$$\frac{1}{7} \quad \frac{2}{3} \quad \frac{1}{3}$$

Explain your answer.

$\frac{1}{7}, \frac{1}{3}, \frac{2}{3}$

$$\frac{3}{8} \quad 1 \quad \frac{1}{8}$$

Which is the greatest fraction?

Which is the smallest fraction?

Explain your answer.

1

$\frac{1}{8}$