

Compare and order unit fractions

Notes and guidance

In this small step, children use their understanding of denominators developed in the previous step to compare and order unit fractions. They compare and order non-unit fractions later in the block.

Children compare fractions by observing the part-whole relationship. For example, if they split the whole into 4 equal parts, the parts will be bigger than if they had split the whole into 10 equal parts meaning $\frac{1}{4}$ is a bigger part of the whole than $\frac{1}{10}$ is. They use diagrams and bar models to illustrate this before moving on to understanding that when the numerators are the same then the greater the denominator, the smaller the fraction. Once this understanding is secure, children order unit fractions without pictorial support.

Things to look out for

- Children may believe that $\frac{1}{2}$ is smaller than $\frac{1}{3}$ because 2 is less than 3
- Children need to be secure in the meanings of the symbols for greater than and less than (> and <).
- The correct relationship will not be seen if the wholes are different sizes or if they are not split into equal parts.

Key questions

- What is the same and what is different about comparing fractions and comparing whole numbers?
- What is the denominator of the fraction? What is the numerator?
- Which is the greater/smaller denominator? Which is the greater/smaller fraction?
- What do you notice about the denominators and the order of the fractions? Why does this happen?
- Is $\frac{1}{4}$ greater than $\frac{1}{10}$? Can you draw a diagram to show this?

Possible sentence stems

- The denominator is _____ because ...
- The numerator is _____ because ...
- When the numerators are the same, then the _____ the denominator, the _____ the fraction.

National Curriculum links

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

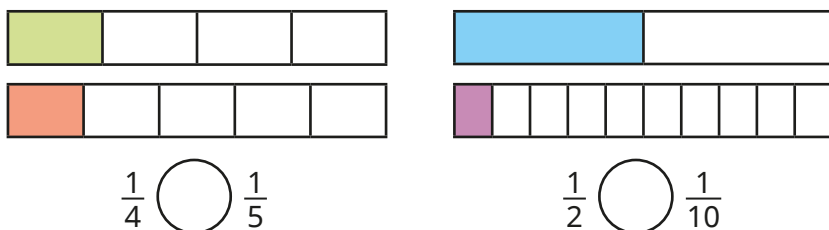
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Key learning

- Match the fractions to the bar models.



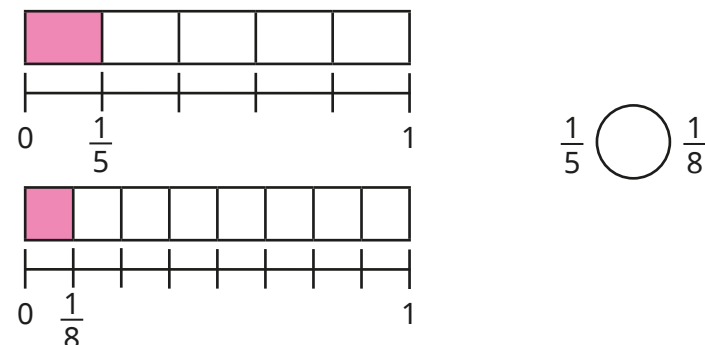
- Write <, > or = to compare the fractions.



Complete the sentence.

When the numerators are the same, then the _____ the denominator, the _____ the fraction.

- Write < or > to compare the fractions.



- Annie is comparing fractions.

$$\frac{1}{3} > \frac{1}{12}$$

If the numerators are the same, then the smaller the denominator, the greater the fraction.



Use Annie's method to compare the fractions.

$$\frac{1}{10} \bigcirc \frac{1}{4} \quad \frac{1}{6} \bigcirc \frac{1}{7} \quad \frac{1}{100} \bigcirc \frac{1}{2}$$

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

$$\frac{1}{6} \quad \frac{1}{8} \quad \frac{1}{2} \quad \frac{1}{5} \quad \frac{1}{7}$$

$$\frac{1}{5} \quad \frac{1}{50} \quad \frac{1}{10} \quad \frac{1}{2} \quad \frac{1}{100}$$

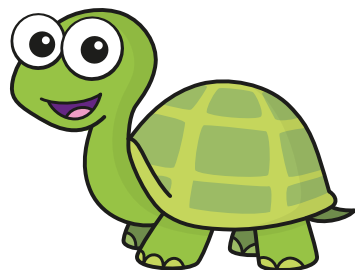
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Reasoning and problem solving

Tiny is comparing two unit fractions.



I think that $\frac{1}{5}$ is greater than $\frac{1}{4}$ because 5 is greater than 4



Do you agree with Tiny?
Explain your answer.



No

Huan has ordered some fractions, but one of them is in the wrong place.

$\frac{1}{5}$ $\frac{1}{6}$ $\frac{1}{4}$ $\frac{1}{10}$ $\frac{1}{15}$

$\frac{1}{4}$

Which fraction is in the wrong place?
How do you know?



Filip and Dani each have the same amount of juice.



Filip drinks $\frac{1}{3}$ of his juice.

Dani drinks $\frac{1}{4}$ of her juice.

Who has more juice left?

How do you know?



Dani