

# YR3 FRACTIONS KNOWLEDGE ORGANISER

## Key Concepts

- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.
- Recognise, find and write fractions of a discrete set of objects.
- Recognise and use fractions as numbers.
- Recognise and show, using diagrams, equivalent fractions with small denominators.
- Add and subtract fractions with the same denominator within one whole.
- Compare and order unit fractions, and fractions with the same denominators.

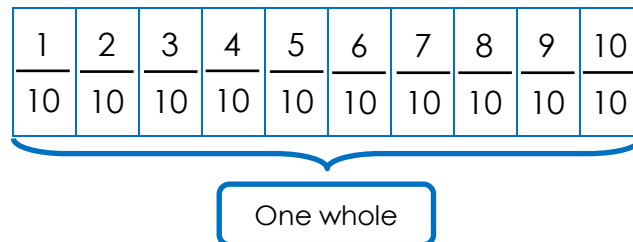
## Key Vocabulary

- fraction
- numerator
- denominator
- equivalent
- unit fraction
- tenths



## Tenths

There are 10 tenths in 1 whole.



Tenths are 10 times smaller than 1 whole. Their place on the place value chart is to the right of the ones column. A decimal point separates the ones and tenths columns.

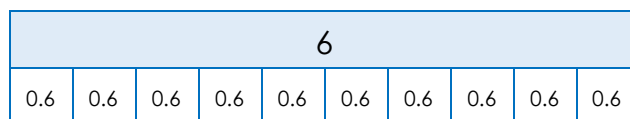
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Tenths can be written as a fraction and as a decimal number.

$$\frac{1}{10} = 0.1$$

Tenths can be found by dividing 1-digit numbers by 10.

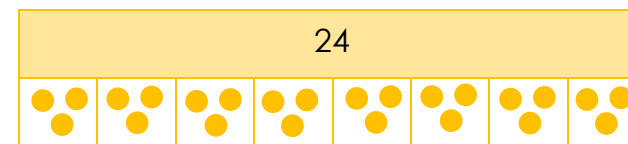
$$6 \div 10 = 0.6 \text{ or } 6 \text{ tenths}$$



## Finding Fractions

A bar model and counters can be used to find fractions of amounts.

$$\frac{1}{8} \text{ of } 24 = 3$$



If  $\frac{1}{8}$  of 24 = 3 then  $\frac{3}{8}$  of 24 = 9

To find a fraction of a set of objects, divide the objects into groups of the denominator.

$$\frac{1}{6} \text{ of } 12 = 2$$



$$\frac{1}{6} \text{ of } 12 = 2 \text{ is the same as } 12 \div 6 = 2$$



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## Fractions as Numbers

Fractions are numbers that are part of a whole.

This can be shown on a number line.



The number at the bottom is the denominator and shows how many parts the whole is divided into.

The number at the top is the numerator and shows the number of parts of the whole.

## Equivalent Fractions

**Equivalent fractions** have different numerators and denominators but share the same value.

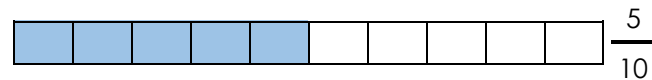
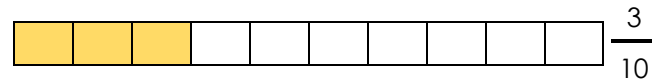


$$\frac{1}{2} = \frac{2}{4} = \frac{4}{8}$$

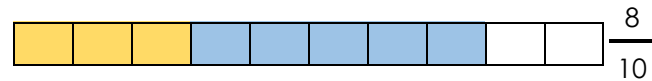
If you multiply or divide the numerator and denominator of a fraction by the same number, the new fraction will be equivalent.

## Add Fractions

When adding fractions with the same denominator, the denominator does not change. The numerators only are added.

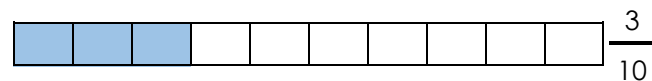
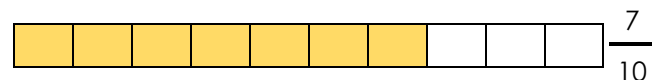


$$\frac{3}{10} + \frac{5}{10} = \frac{8}{10}$$

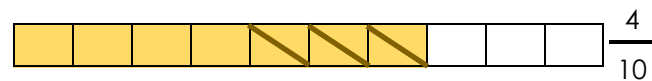


## Subtract Fractions

When subtracting fractions with the same denominator, the denominator does not change. The numerators only are subtracted.

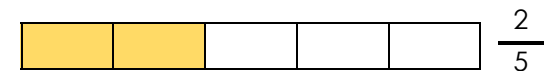
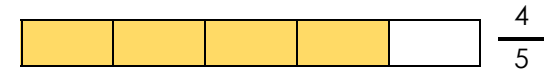


$$\frac{7}{10} - \frac{3}{10} = \frac{4}{10}$$



## Compare Fractions

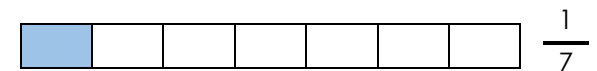
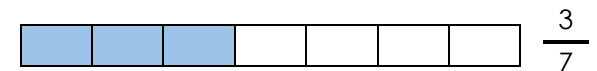
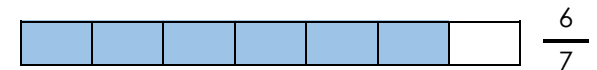
When comparing fractions with the same denominator, the bigger the numerator, the greater the fraction.



4 > 2 so  $\frac{4}{5} > \frac{2}{5}$

## Order Fractions

Fractions are ordered in the same way. The bigger the numerator, the greater the fraction.



$$\frac{6}{7} > \frac{3}{7} > \frac{1}{7}$$

