Fractions

Year 3

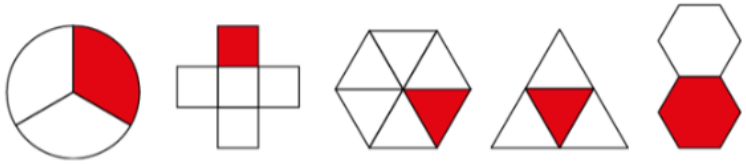
Find Unit Fractions of Quantities (1)

Vocabulary:

Fraction Notation Divided Equal Numerator Denominator Whole Parts Fraction Bar (Vinculum) Half Third Quarter Fifth Sixth Seventh Eighth Ninth Tenth One-_____ Bar Model Equation Expression Linear Volume Area Quantity Times as much / Times the size of

We can use fraction notation to record unit fractions in different contexts including:

Area contexts



$\frac{1}{3}$ one-third

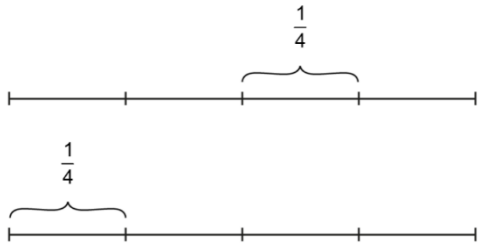
$\frac{1}{5}$ one-fifth

$\frac{1}{6}$ one-sixth

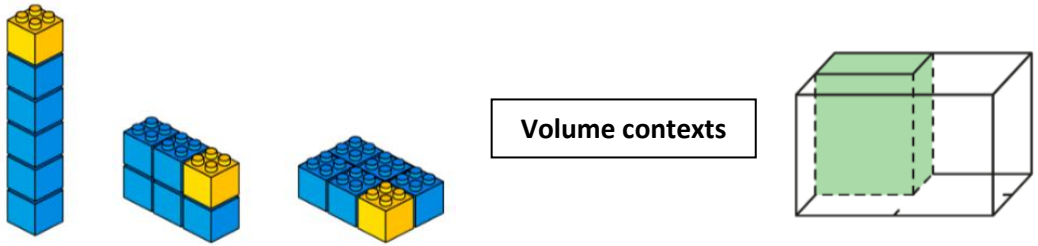
$\frac{1}{4}$ one-quarter

$\frac{1}{2}$ one-half

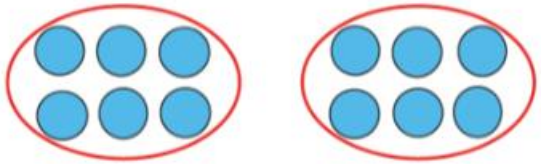
Linear contexts

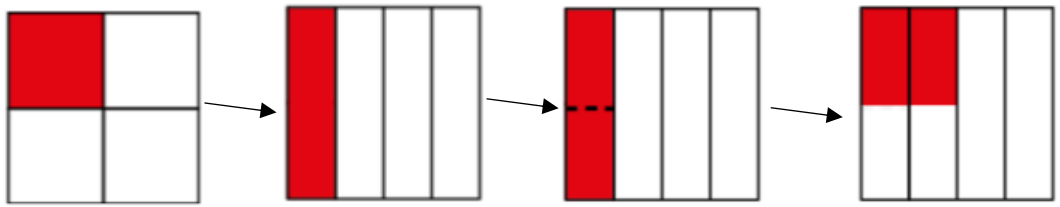


Volume contexts



Quantity contexts





The whole is ____. The whole has been divided into __ equal parts.

Each part is $\frac{1}{\_\_}$ of the whole.

$\frac{1}{\_\_}$ of __ is __.

Generalisation:

Equal parts don't always look the same.

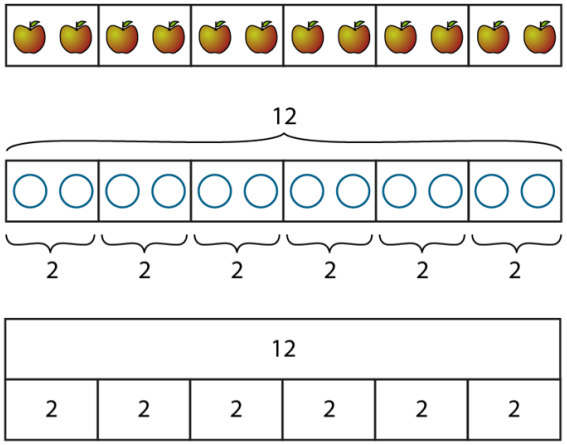
Fractions

Year 3

Find Unit Fractions of Quantities (2)

Vocabulary:

Fraction Notation Divided Equal Numerator Denominator Whole Parts Fraction Bar (Vinculum) Half Third Quarter Fifth Sixth Seventh Eighth Ninth Tenth One-_____ Bar Model Equation Expression Linear Volume Area Quantity Times as much / Times the size of



$12 \div 6 = 2$

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

We can division facts to help us find the fraction of an amount, representing this use bar models.

To find $\frac{1}{5}$ of 15, we divide 15 into 5 equal parts.

15 divided by 5 is equal to 3,

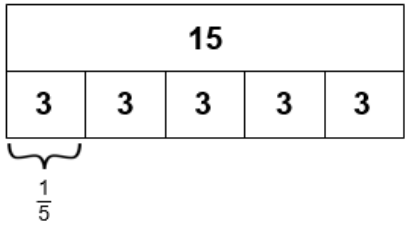
so $\frac{1}{5}$ of 15 is 3.

The whole is 12 apples. The whole has been divided into 6 equal parts.

Each part is $\frac{1}{6}$ of the whole.

$\frac{1}{6}$ of 12 apples is 2 apples.

$\frac{1}{5}$ of 15



$15 \div 5 = 3$

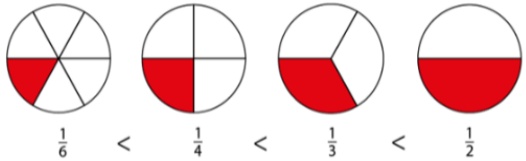
so $\frac{1}{5}$ of 15 = 3

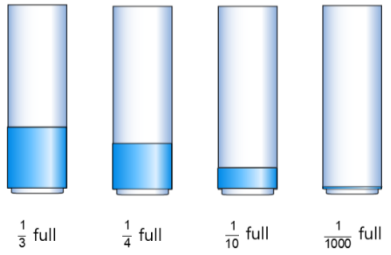
We can compare fractions with the same numerator. We can compare these in different contexts.

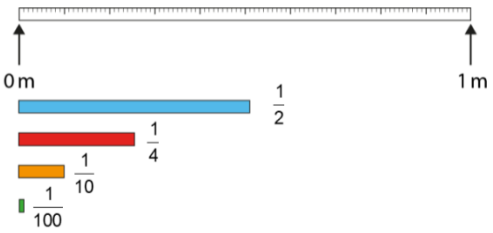
Generalisation:

When both fractions have the same numerator, the greater the denominator, the greater the fraction.

When we compare fractions, the whole must be the same.







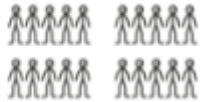
Fractions

Year 3

Find Unit Fractions of Quantities (3)

Vocabulary:

Fraction Notation Divided Equal Numerator Denominator Whole Parts Fraction Bar (Vinculum) Half Third Quarter Fifth Sixth Seventh Eighth Ninth Tenth One-_____ Bar Model Equation Expression Linear Volume Area Quantity Times as much / Times the size of

Part	Part as a fraction of the whole	Number of equal parts in the whole	Whole
	$\frac{1}{3}$	3	
	$\frac{1}{5}$	5	
	$\frac{1}{4}$	4	
	$\frac{1}{5}$	5	
	$\frac{1}{7}$	7	

If we know the size of the unit fraction, we can work out the size of the whole.

The whole is divided into ___ equal parts. Each part is ___ of the whole.

If one-___ is a part, then the whole is ___ times as much. Take ___ parts and put them together to make one whole.

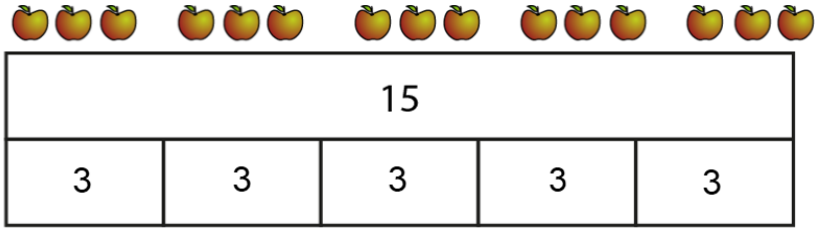
Fractions

Year 5

Find Non-Unit Fractions of Quantities.

Vocabulary:

Fraction Notation Divided Equal Numerator Denominator Whole Parts Fraction Bar (Vinculum) Half Third Quarter Fifth Sixth Seventh Eighth Ninth Tenth One-_____ Number line Part-Part-Whole Model Units Previous Next Estimate Intervals Convert Improper Fractions Mixed Numbers Add Subtract (Minus) Aggregation Augmentation Reduction Partitioning Difference



$\frac{1}{5}$ of 15 = 3

$\frac{2}{5}$ of 15 = 6

$\frac{3}{5}$ of 15 = 9

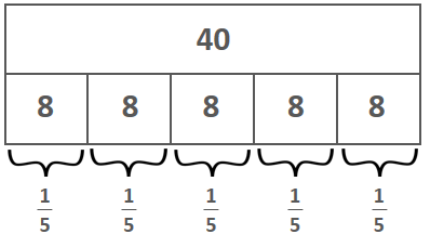
$\frac{4}{5}$ of 15 = 12

$\frac{5}{5}$ of 15 = 15

We can skip count in unit fractions to help us find the quantity of a non-unit fraction.

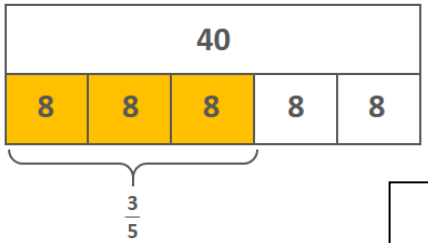
2 one-fifths of 15 is equal to 6,

3 one-fifths of 15 is equal to 9…



40 ÷ 5 = 8

so $\frac{1}{5}$ of 40 = 8



40 ÷ 5 = 8

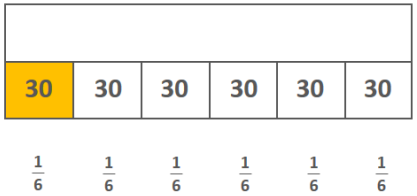
so $\frac{1}{5}$ of 40 = 8

$\frac{3}{5}$ of 40 = 24

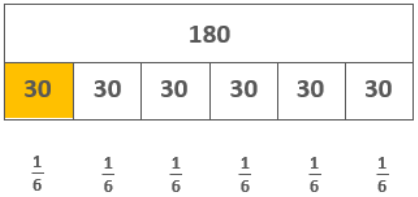
If the whole is unknown but we know the quantity of one part – we can find the size of the whole.

One-sixth of a number is equal to thirty.
6 one-sixths is equal to one whole.

To find the whole, multiply the value of 1 one-sixth by 6.



$\frac{1}{6}$ of a number is 30



$\frac{1}{6}$ of a number is 30

6 × 30 = 180

We can skip count in unit fractions to help us find the quantity of a non-unit fraction.

To find 3 one-fifths of 40, first find one-fifth of 40 by dividing by 5, and then multiply by 3.

Generalisation:

Divide the whole by the denominator and then multiply quotient by the numerator.