

# Fractions

## Year 3

### Find Unit Fractions of Quantities (1)

#### Vocabulary:

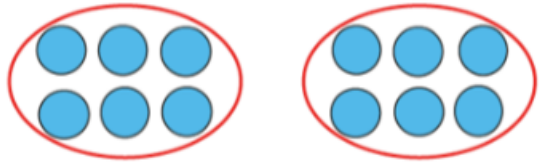
Fraction Notation Divided Equal Numerator Denominator Whole Parts  
Fraction Bar (Vinculum) Half Third Quarter Fifth Sixth Seventh Eighth  
Ninth Tenth One-\_\_\_\_ Bar Model Equation Expression Linear Volume  
Area Quantity Times as much / Times the size of

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

#### Area contexts

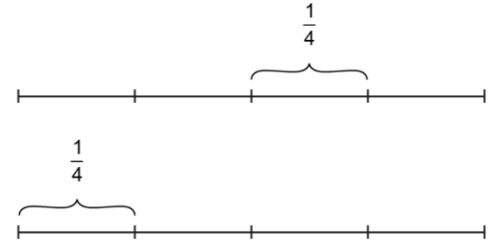
$\frac{1}{3}$        $\frac{1}{5}$        $\frac{1}{6}$        $\frac{1}{4}$        $\frac{1}{2}$   
one-third    one-fifth    one-sixth    one-quarter    one-half

#### Quantity contexts

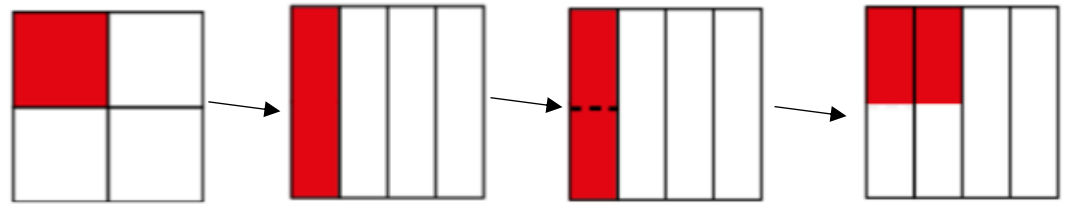
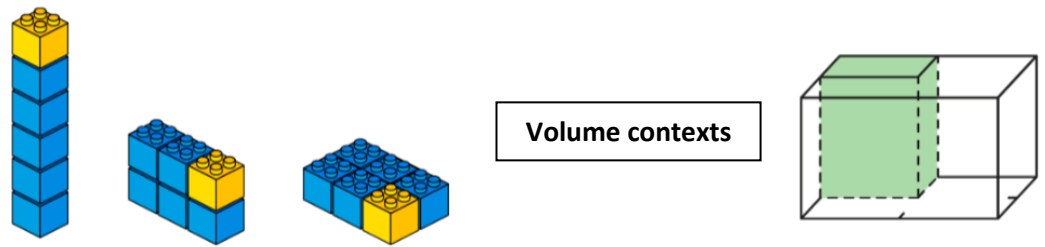


The whole is \_\_\_\_\_. The whole has been divided into \_\_\_ equal parts.  
Each part is  $\frac{1}{\quad}$  of the whole.  
 $\frac{1}{\quad}$  of \_\_\_ is \_\_\_\_\_.

#### Linear contexts



#### Volume contexts



**Generalisation:**  
Equal parts don't always look the same.

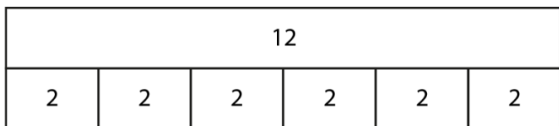
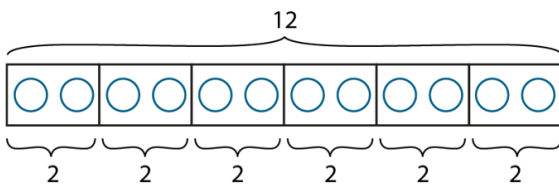
# Fractions

## 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

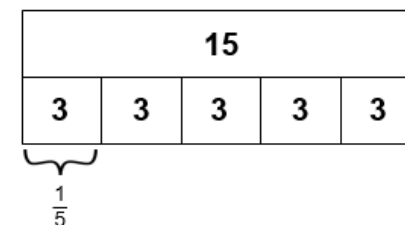
We can use division facts to help us find the fraction of an amount, representing this using bar models.

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.

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



$15 \div 5 = 3$

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

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

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

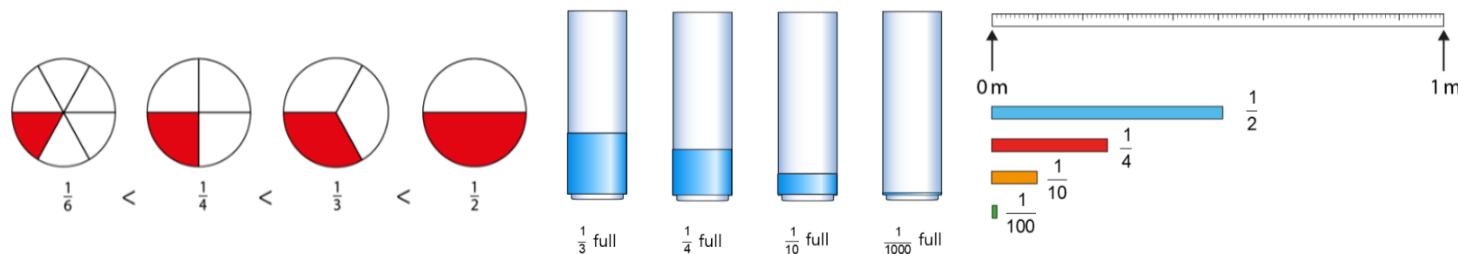
$\frac{1}{6}$  of 12 apples is 2 apples.

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.

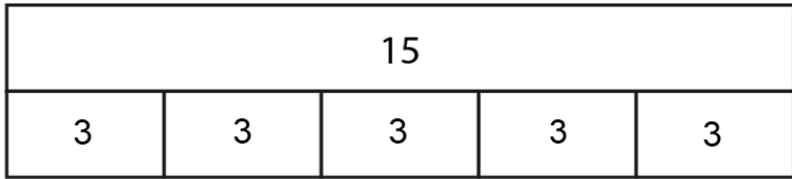
# Fractions

## 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



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

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

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

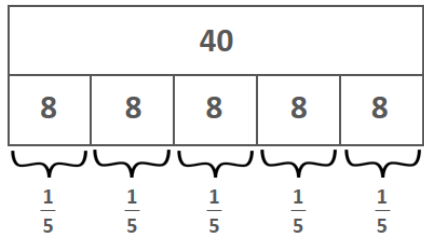
$$\frac{4}{5} \text{ of } 15 = 12$$

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

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

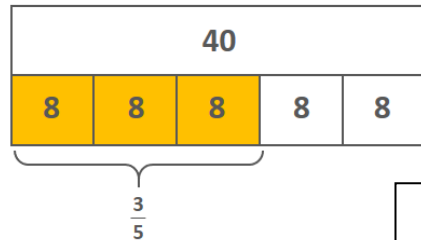
*2 one-fifths of 15 is equal to 6,*

*3 one-fifths of 15 is equal to 9...*



$$40 \div 5 = 8$$

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



$$40 \div 5 = 8$$

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

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

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:**

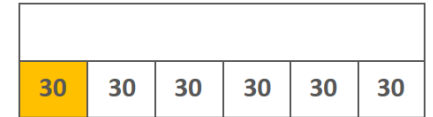
*Divide the whole by the denominator and then multiply quotient by the numerator.*

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.*

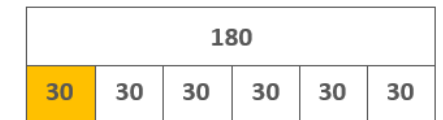
*6 one-sixths is equal to one whole.*

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



$$\frac{1}{6} \quad \frac{1}{6} \quad \frac{1}{6} \quad \frac{1}{6} \quad \frac{1}{6} \quad \frac{1}{6}$$

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



$$\frac{1}{6} \quad \frac{1}{6} \quad \frac{1}{6} \quad \frac{1}{6} \quad \frac{1}{6} \quad \frac{1}{6}$$

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

$$6 \times 30 = 180$$