Fractions — Knowledge Organiser

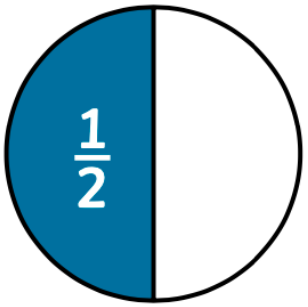
Key Vocabulary

- fraction
- part
- whole
- equal
- share
- half
- quarter
- third
- equivalent
- numerator
- denominator

Recognising Unit Fractions

Half

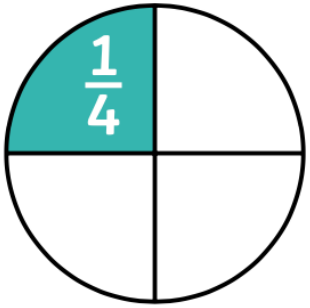
A whole split into two equal parts.

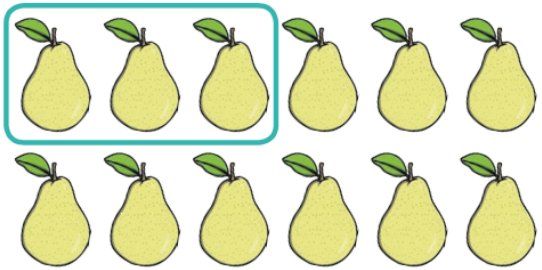


$\frac{1}{2}$ of 8 = 4

Quarter

A whole split into four equal parts.

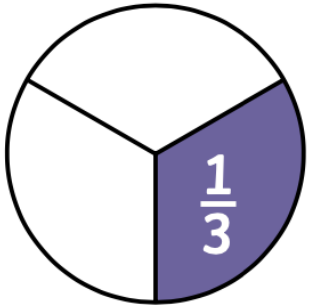


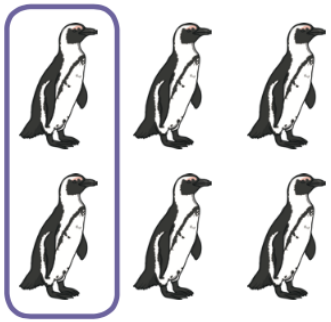


$\frac{1}{4}$ of 12 = 3

Third

A whole split into three equal parts.



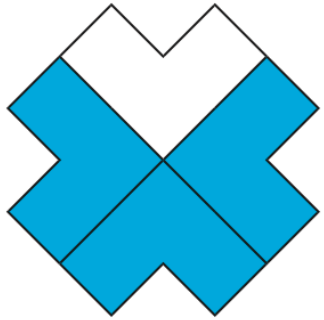


$\frac{1}{3}$ of 6 = 2

Non-unit Fractions

$\frac{2}{3}$

$\frac{3}{4}$



Fractions

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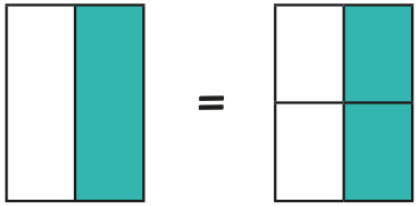
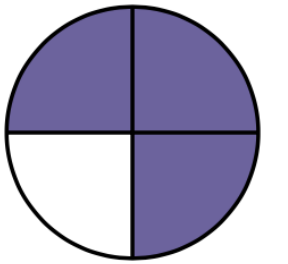
Equivalent Fractions

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



Numerator and Denominator



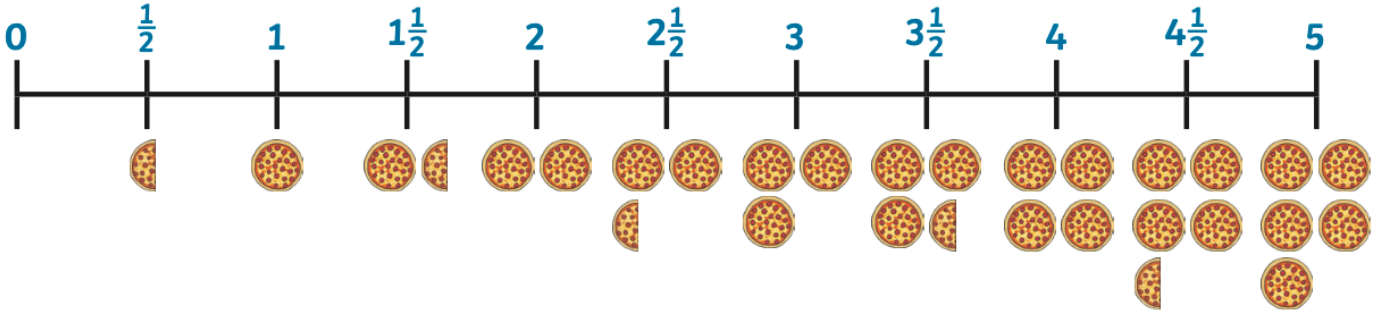
$\frac{3}{4}$

Numerator
How many equal parts of the whole are needed?

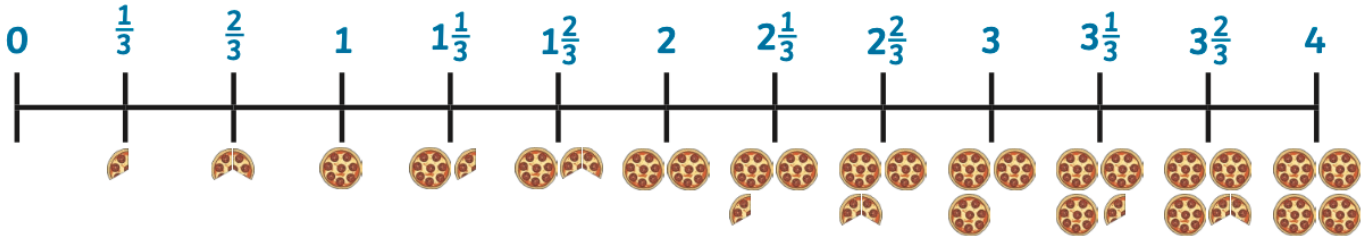
Denominator
How many equal parts are in the whole?

Counting in Fractions

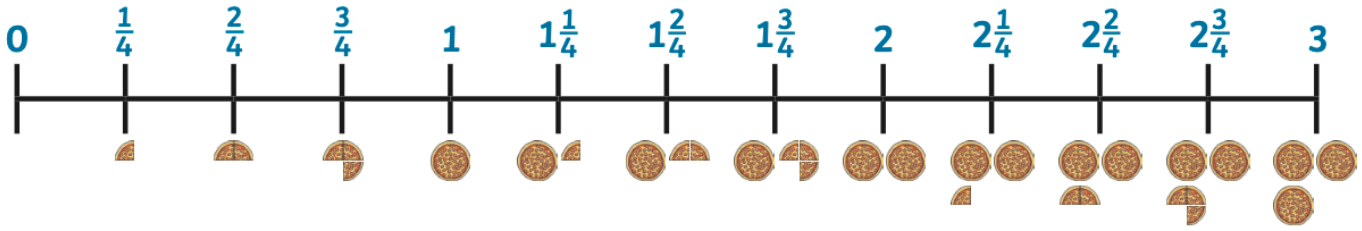
Halves



Thirds



Quarters



Length and Height

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Key Vocabulary

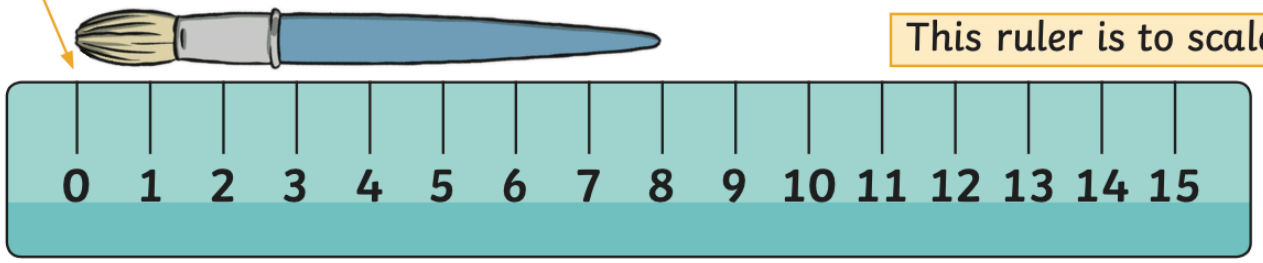
- length
- long
- short
- height
- tall
- measure
- ruler
- tape measure
- metre stick
- centimetre (cm)
- metre (m)
- compare
- order

Measuring in Centimetres

Measure from zero.

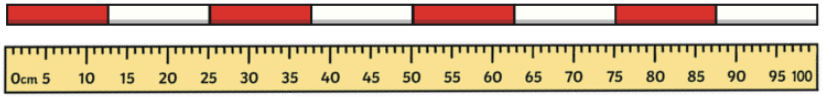
This ruler measures in **centimetres (cm)**. The paintbrush is 8cm long.

This ruler is to scale.



Measuring in Metres

We can measure the length or height of larger objects in **metres (m).**
The girl is 1m and 20cm tall.



We can use metre sticks, trundle wheels or tape measures.
1 metre = 100 centimetres

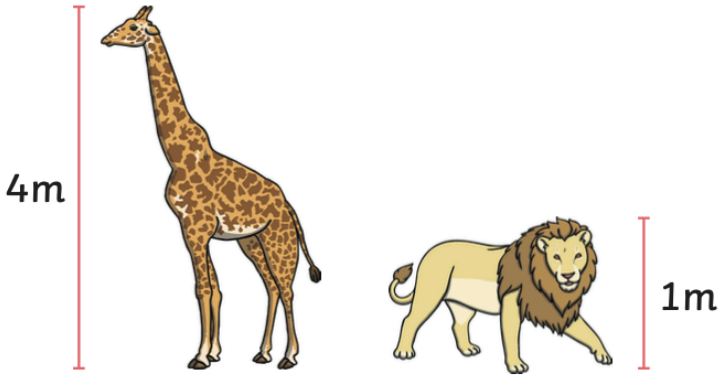
Length and Height

Knowledge Organiser

Comparing Height

The giraffe is **taller** than the lion.
The lion is **shorter** than the giraffe.

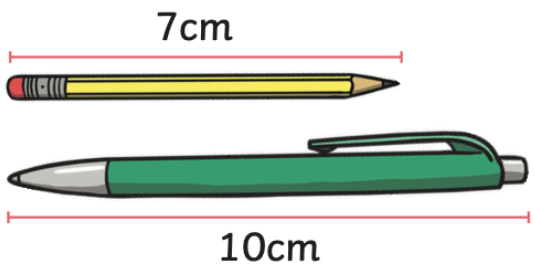
4m >1m



Comparing Length

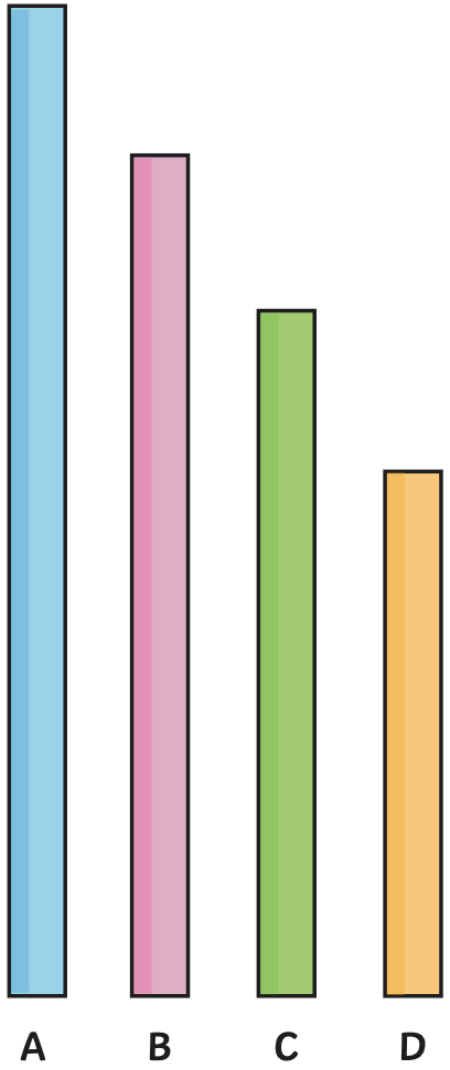
The pencil is **shorter** than the pen.
The pen is **longer** than the pencil.

7cm<10cm



Ordering Length

The straws are in order from **longest** to **shortest**.



A is the **longest**.

D is the **shortest**.

B is **longer** than C.

C is **shorter** than A.

Mass, Capacity and Temperature

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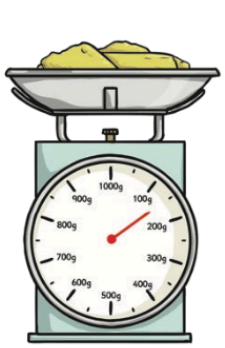
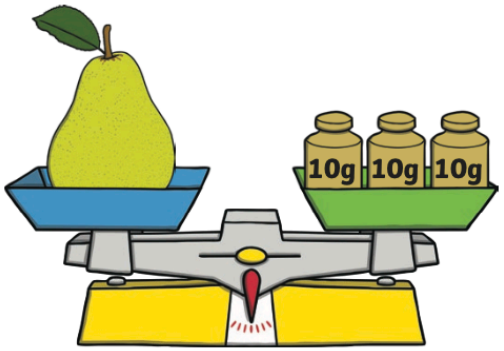
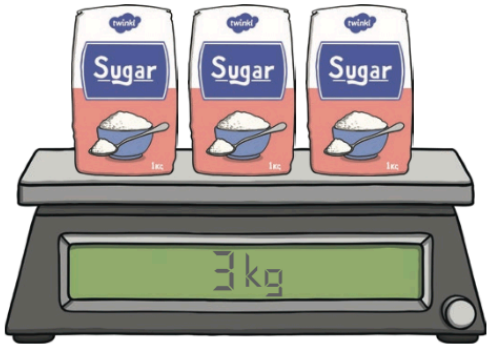
Key Vocabulary

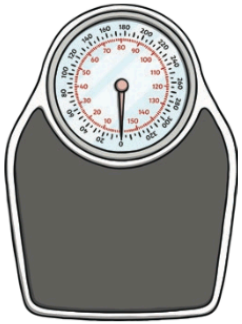
- mass
- gram
- kilogram
- lighter
- heavier
- capacity
- volume
- millilitre
- litre
- temperature
- Celsius
- degrees

Mass









We use scales to measure **grams**.

A gram is a small unit of measurement that we use to measure how heavy or light something is.

We can write gram as **g**.

We measure the following using grams:

15g > 10g

We also use scales to measure **kilograms**.

A kilogram is a larger unit of measurement that we use to measure how light or heavy something is.

We can write kilogram as **kg**.

We measure the following using kilograms:

1kg < 3kg

Mass, Capacity and Temperature

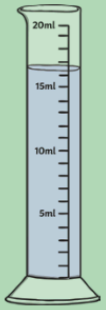
Knowledge Organiser

Capacity

Capacity is the amount of liquid a container can hold.

Volume is how much liquid is in the container.

Millilitres

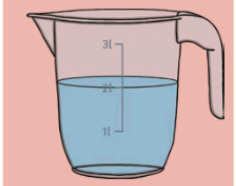


We can use a measuring cylinder to measure very small volumes.

We measure these in millilitres. We write this as ml.

1000ml = 1l

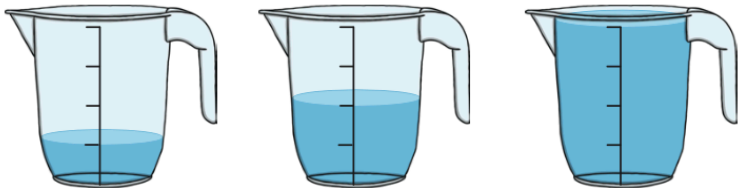
Litres



We can use a jug to measure larger volumes.

We measure these in litres. We write this as l.

1000ml = 1l



quarter full | half full | full

25ml < 250ml **10l > 2l**

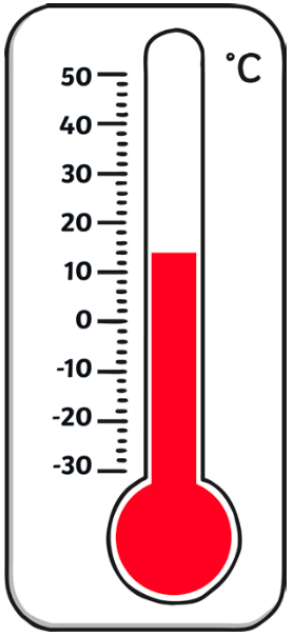
Temperature

Temperature is a measure of heat.

Thermometers are used to measure temperature.

We usually measure temperature in **degrees Celsius (˚C)** but some parts of the world use degrees Fahrenheit (˚F).

We can measure the temperature of air, liquids or objects using a thermometer.



Most thermometers have small tubes and a bulb of liquid at the bottom. The hotter the temperature, the higher the liquid from the bulb rises in the tube. There are markings along the side of the glass tube that show the temperature.

Money

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Key Vocabulary

pence
pound
coin
note
total
amount
change
difference
price
cost
pay
owe

Pence

1p

1 penny

2p

2 pence

5p

5 pence

10p

10 pence

20p

20 pence

50p

50 pence

Pounds

£1

1 pound

£2

2 pounds

£5

5 pounds

£10

10 pounds

£20

20 pounds

£50

50 pounds

Pounds and Pence

Equal Amounts

20p = 20p = 20p

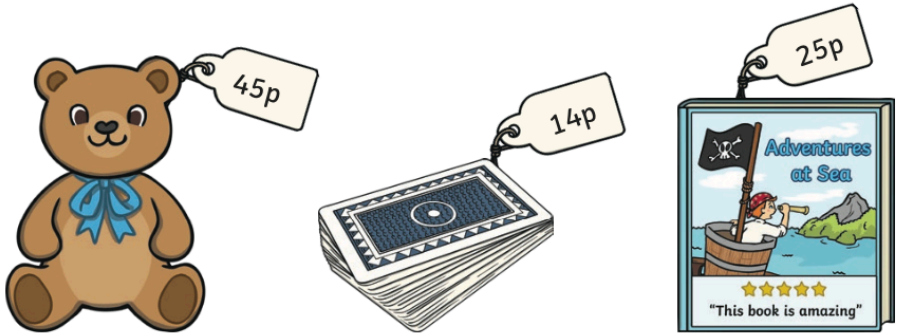
£1 = £1 = £1

Compare Amounts

75p > 74p

£9 and 50p < £10

Find the Total



Lucy bought a teddy bear and some playing cards.

45p	+	14p	=	59p

Timek bought two books.

25p	+	25p	=	50p

Find the Change

Lucy bought a jigsaw with a 50p coin. How much change did she get?

50p – 40p = 10p

Timek bought a plant and a toy car. He paid with a £1 coin. How much change did he get?

£1 – 80p = 20p

Number and Place Value

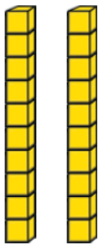
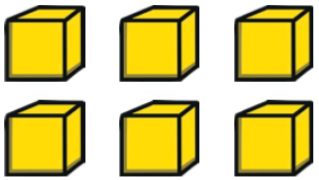
Knowledge Organiser

Key Vocabulary

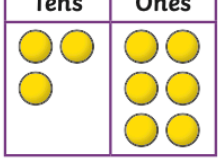
- hundreds
- tens
- ones
- zero
- place value
- greater than
- less than
- order
- partition
- digit

2-Digit Numbers

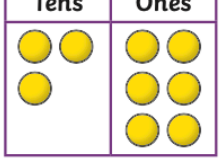
26

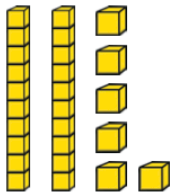
twenty	six
	
20	6

Compare Numbers

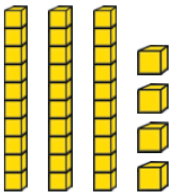
Tens	Ones
	

36 = 36
equals

Tens	Ones
	



26 < 34
less than



24 > 19
greater than

Counting

Counting in 2s

0	2	4	6	8	10	12	14	16	18	20

Counting in 3s

0	3	6	9	12	15	18	21	24	27	30

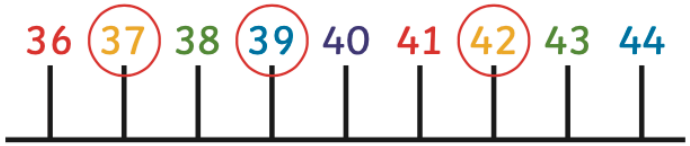
Counting in 5s

0	5	10	15	20	25	30	35	40	45	50

Counting in 10s

0	10	20	30	40	50	60	70	80	90	100

Order Numbers



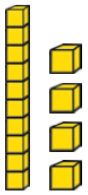
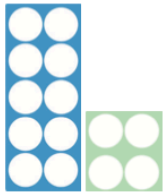
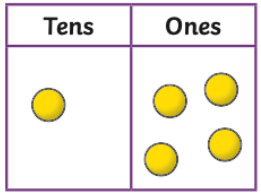
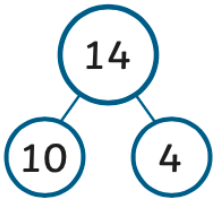
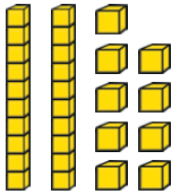
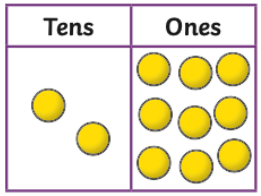
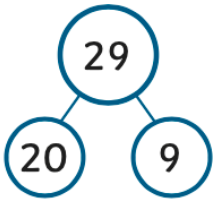
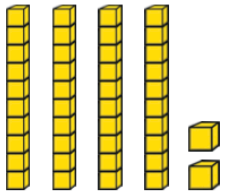
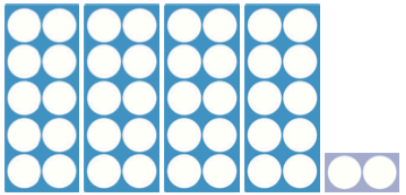
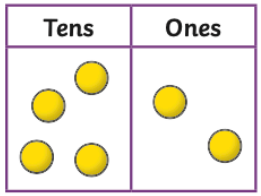
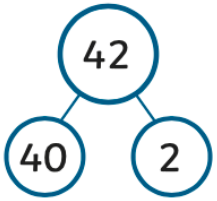
37 < 39 < 42

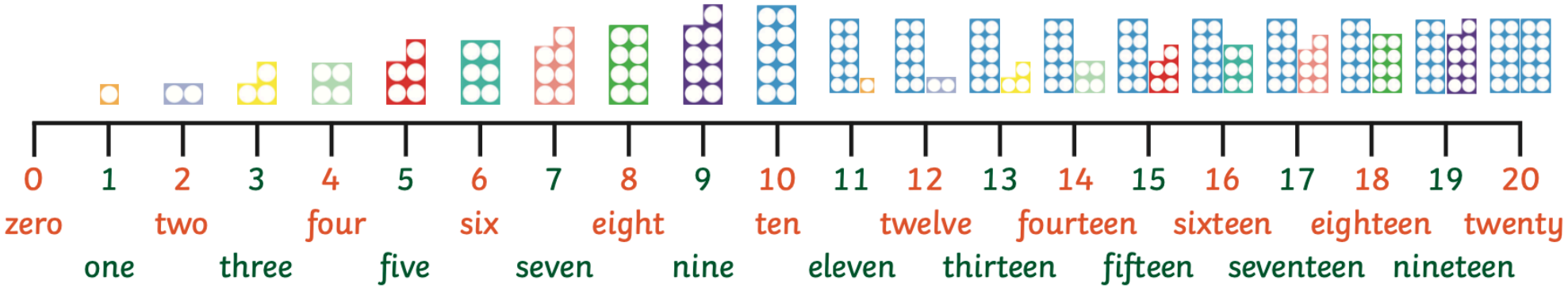
45	48	52	53	61
smallest				greatest

Number and Place Value

Knowledge Organiser

Read, Write and Represent Numbers to 100

14	fourteen	one ten four ones				
29	twenty-nine	two tens nine ones				
42	forty-two	four tens two ones				



Position and Direction

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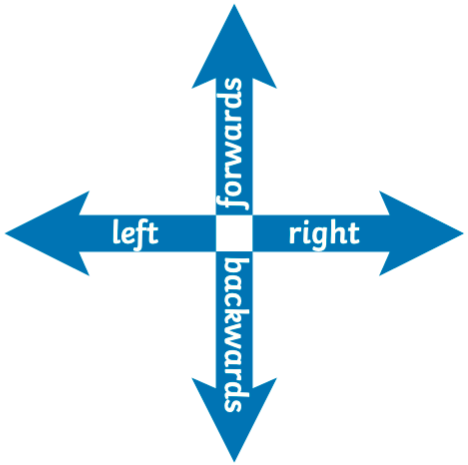
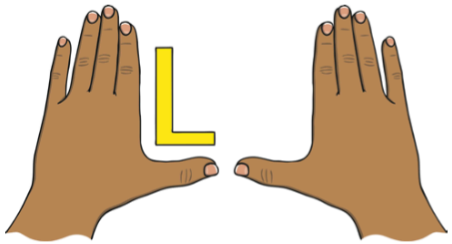
Key Vocabulary

- forwards
- backwards
- left
- right
- north
- south
- east
- west
- quarter turn
- half turn
- three-quarter turn
- clockwise
- anticlockwise
- pattern
- sequence

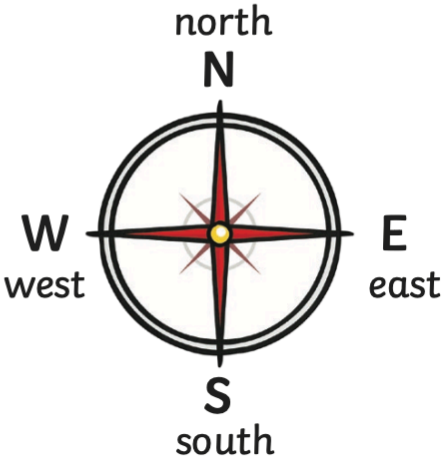
Describing Straight-Line Movement



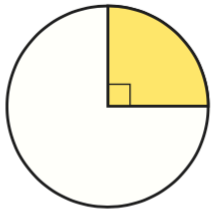


Left and Right

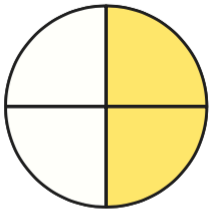
The hand that makes an **L** shape is the **left hand**.



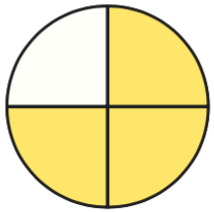
Describing Turns



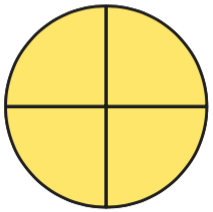
quarter turn



half turn



three-quarter turn



full turn

clockwise

anticlockwise

If the turn is in the same direction as the hands of a clock, it is **clockwise**.

If the turn is in the opposite direction to the hands of a clock, it is **anticlockwise**.

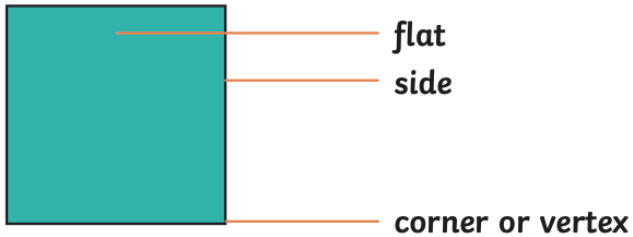
Geometry: Properties of Shape

Knowledge Organiser

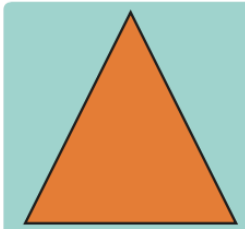
Key Vocabulary

- two-dimensional (2D)
- three-dimensional (3D)
- flat
- solid
- corner
- apex
- vertex
- vertices
- side
- edge
- face
- curved
- straight
- round
- line of symmetry
- vertical
- pattern

Recognise and Describe 2D Shapes

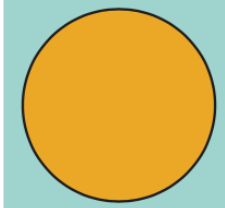


square

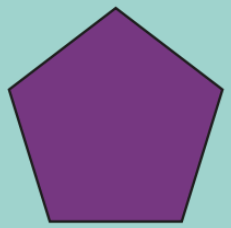


triangle

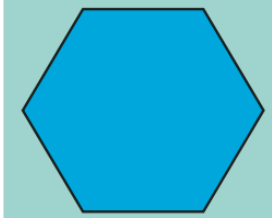
rectangle



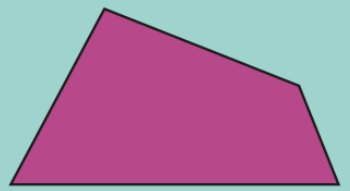
circle



pentagon

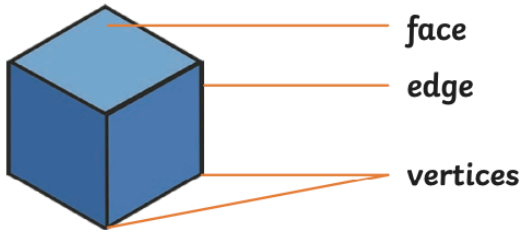


hexagon



quadrilateral

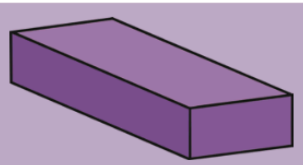
Recognise and Describe 3D Shapes



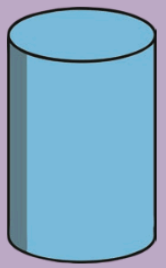
cube

apex or vertex

cone

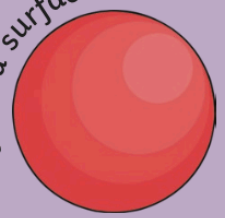


cuboid



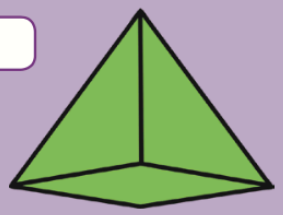
cylinder

curved surface



sphere

triangular prism



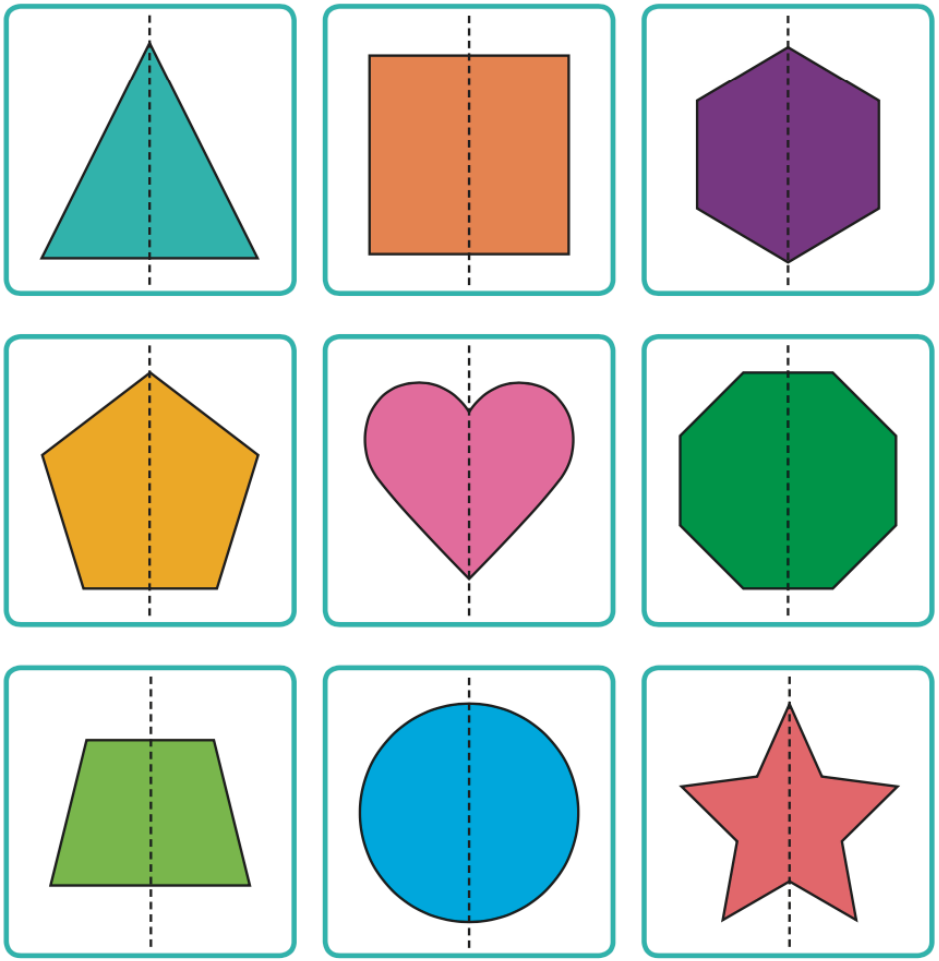
square-based pyramid

Geometry: Properties of Shape

Knowledge Organiser

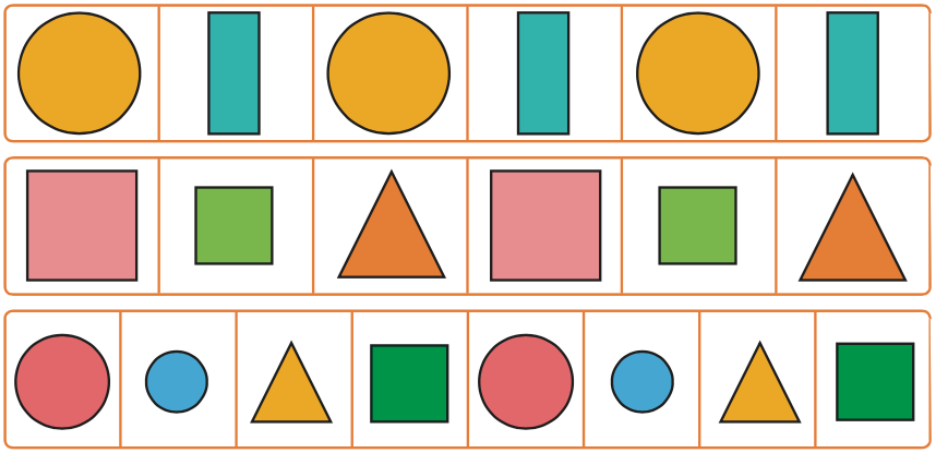
Lines of Symmetry

These 2D shapes have a vertical line of symmetry.

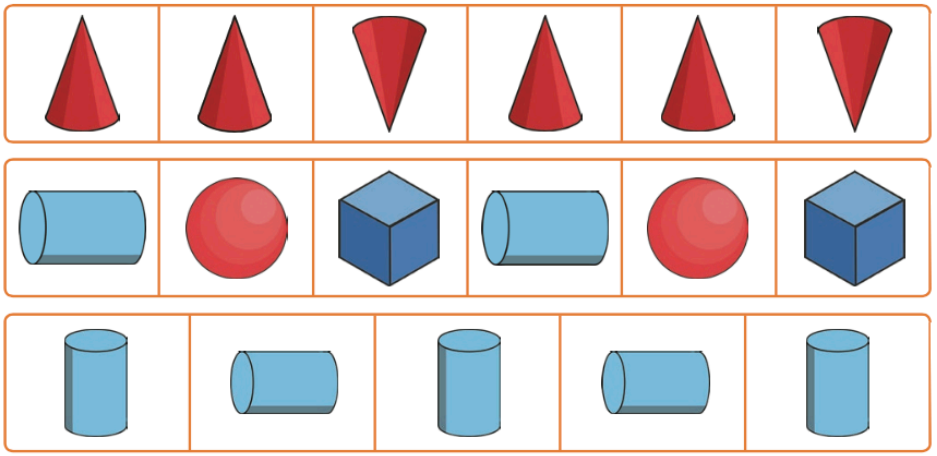


Repeating Shape Patterns

2D Patterns



3D Patterns



Statistics

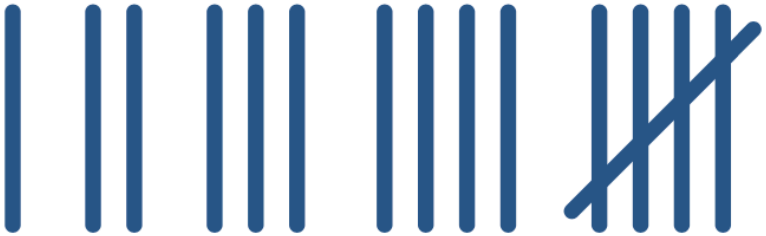
Knowledge Organiser

Key Vocabulary

- data
- interpret
- key
- tally chart
- pictogram
- block diagram
- table
- total
- compare
- symbol

Tally Charts

Tally marks look like this:



The fifth mark goes across diagonally, like a gate.

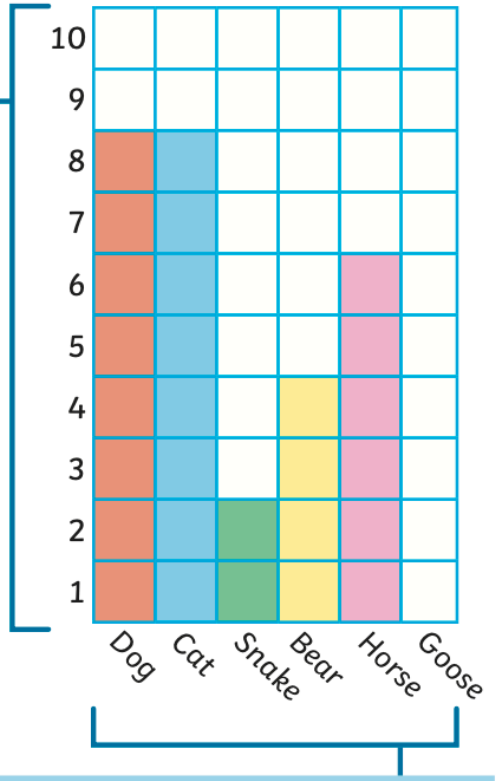
A tally chart is one way of collecting data using tally marks.

Eye Colour	Tally	Total
brown	𝍸 |	6
blue	𝍸 ‖	8
green	‖	3
grey	𝍸	4
hazel	𝍸	5

Block Diagram

A block diagram represents data using blocks. One block represents one item.

In this block diagram, the **y-axis**, which is vertical, shows the number of items.



In this block diagram, the **x-axis**, which is horizontal, shows the types of items.

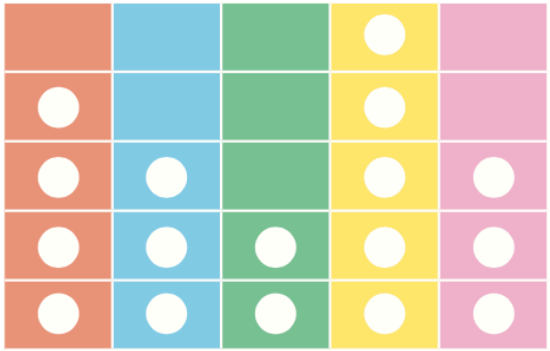
The blocks can go vertically or horizontally.

Statistics — Knowledge Organiser

Pictograms

Pictograms use pictures or symbols to represent data. Each picture or symbol can represent one item or more than one. The key shows what each symbol represents.

Favourite Colour

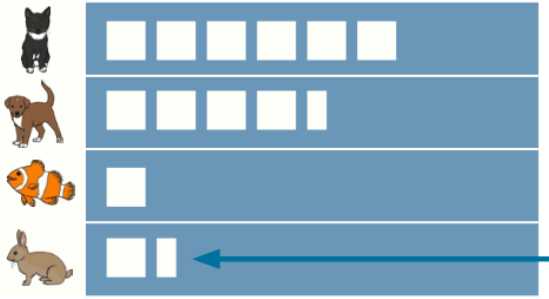


Key

● = 1 child

This pictogram uses one symbol to represent 2 pets.

Class 1's Pets



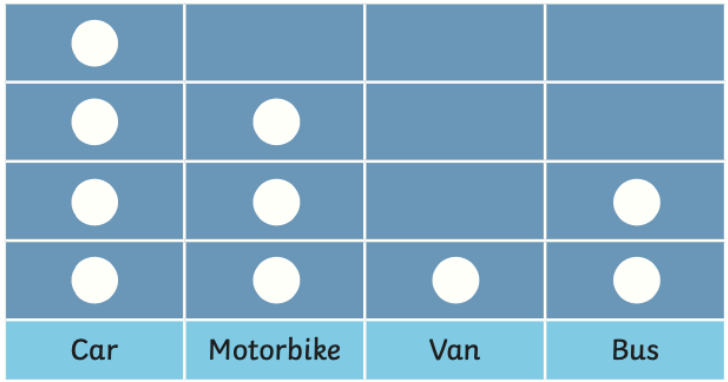
Key

□ = 2 pets

To represent 1 pet, a picture of half a square is used.

Here is an example of a pictogram with a different scale.

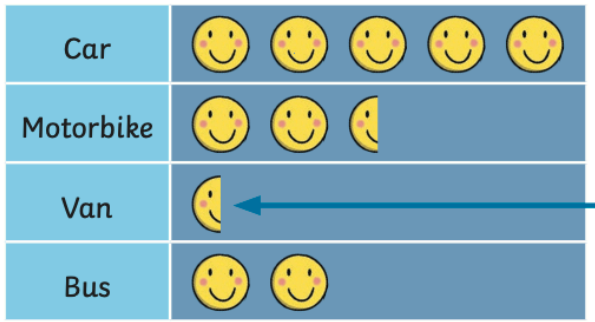
Traffic Survey



Key ● = 5 vehicles

This pictogram has one symbol to represent 10 children.

Ways of Travelling to School



Key

☺ = 10 children

To represent 5 children, a picture of half a face is used.

Time

Knowledge Organiser

Key Vocabulary

- time
- clock
- hours
- minutes
- hand
- o'clock
- half past
- quarter past
- quarter to
- five minutes
- duration
- shorter
- longer

O'Clock and Half Past

half past twelve	one o'clock	half past one	two o'clock	half past two	three o'clock	half past three	four o'clock
							
half past four	five o'clock	half past five	six o'clock	half past six	seven o'clock	half past seven	eight o'clock
							
half past eight	nine o'clock	half past nine	ten o'clock	half past ten	eleven o'clock	half past eleven	twelve o'clock
							

Past and To

o'clock

quarter past

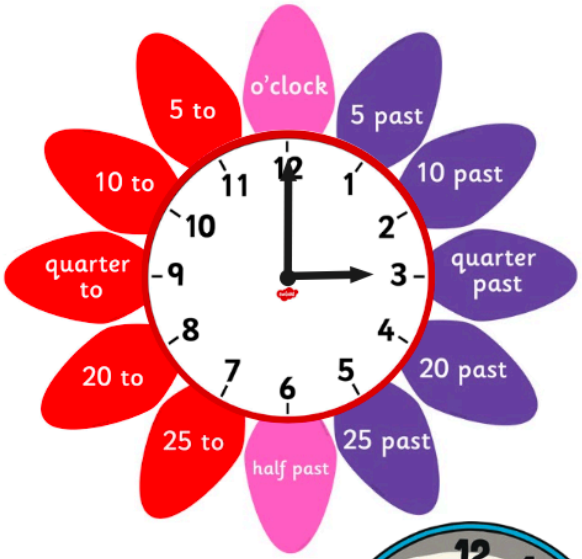
half past

quarter to

Time

Knowledge Organiser

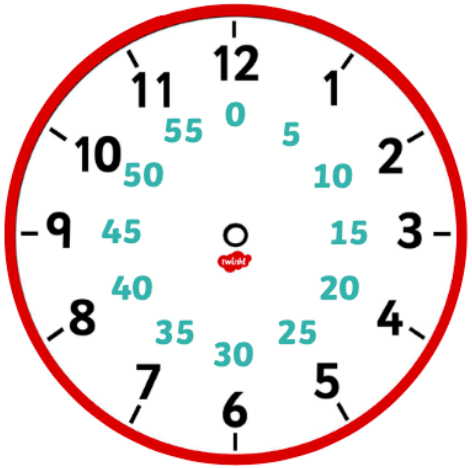
Telling Time to 5 Minutes



Hour Hand
The short hand points to the hour. If this hand is pointing between hours, it is either past the earlier hour or to the later hour.

Minute Hand
The long hand points to the minutes past or to the hour.

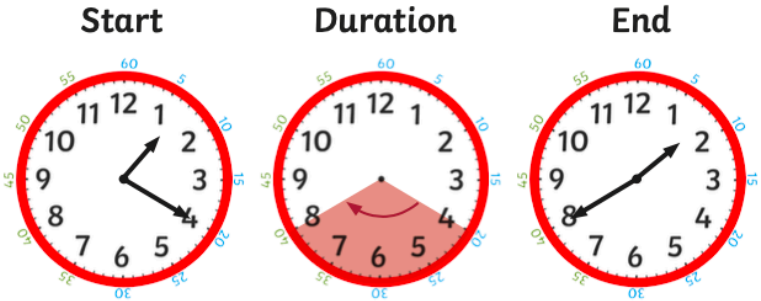
O'Clock and Half Past



There are **60 minutes** in an hour.

There are **24 hours** in a day.

Find Durations of Time



20 minutes has passed.

Compare Durations of Time

Compare the time using the vocabulary 'longer' and 'shorter'.