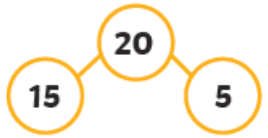
Addition and Subtraction

Knowledge Organiser

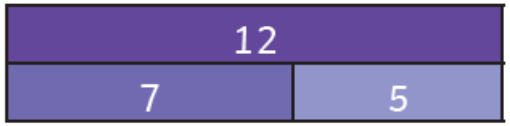
Key Vocabulary

- Add
- Total
- Make
- Plus
- Sum
- More
- Altogether
- Difference
- Leave
- Subtract
- Difference between
- Less
- Minus
- Take away
- Mentally, Orally
- Column Addition
- Column Subtraction
- Estimate
- Inverse operation
- Solve problems
- Number facts
- Place Value

Addition and Subtraction Bonds to 20



15 + 5 = 20
20 – 5 = 15
20 – 15 = 5



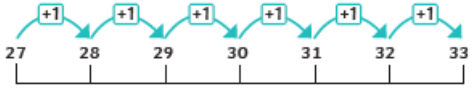
7 + 5 = 12
12 – 5 = 7
12 – 7 = 5

4 + 3 = 7

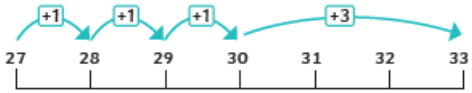
15 – 7 = 8

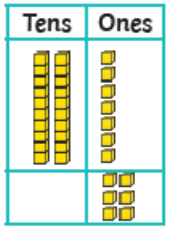
Methods

Add 2-digit and 1-digit

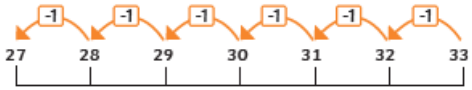


27 + 6 = 33

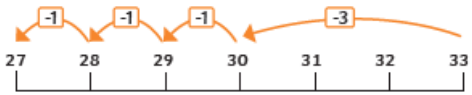


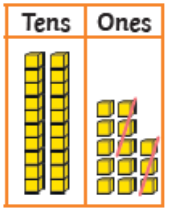


Subtract 1-digit from 2-digit



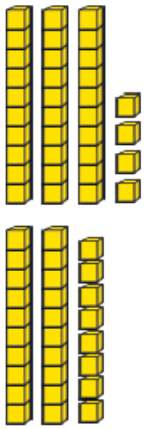
33 - 6 = 27





Add 2-digit numbers

34 + 28 = 62



3 tens and 4 ones

add

2 tens and 8 ones

equals

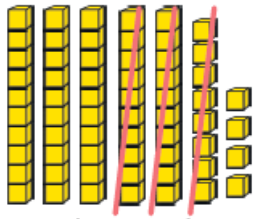
5 tens and 12 ones

becomes

6 tens and 2 ones

Subtract 2-digit numbers

62 – 28 = 34



6 tens and 2 ones becomes

5 tens and 12 ones subtract

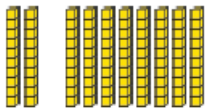
2 tens and 8 ones equals

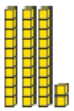
3 tens and 4 ones

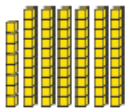
Addition and Subtraction Bonds to 100

2 + 8 = 10

so 20 + 80 = 100







32 + 68 = 100

3 tens and 2 ones + 6 tens and 8 ones

= 9 tens and 10 ones = 10 tens =one hundred

Fractions — Knowledge Organiser

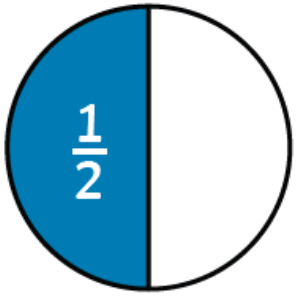
Key Vocabulary

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

Recognising Unit Fractions

Half

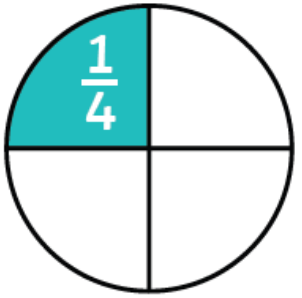
A whole split into two equal parts.

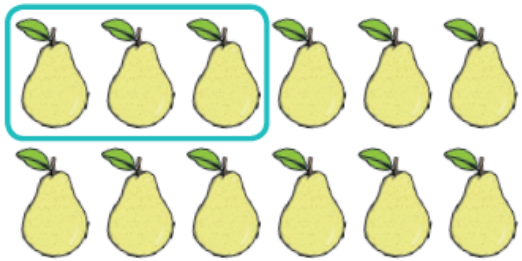


$\frac{1}{2}$ of 8 = 4

Quarter

A whole split into four equal parts.

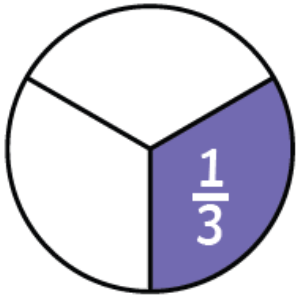


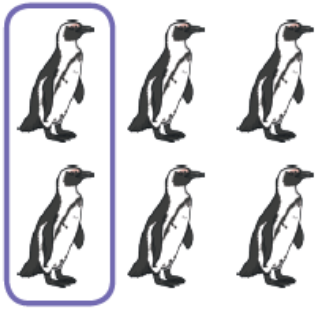


$\frac{1}{4}$ of 12 = 3

Third

A whole split into three equal parts.





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

Non-unit Fractions

$\frac{2}{3}$

$\frac{3}{4}$

Length and Height

Knowledge Organiser

Key Vocabulary

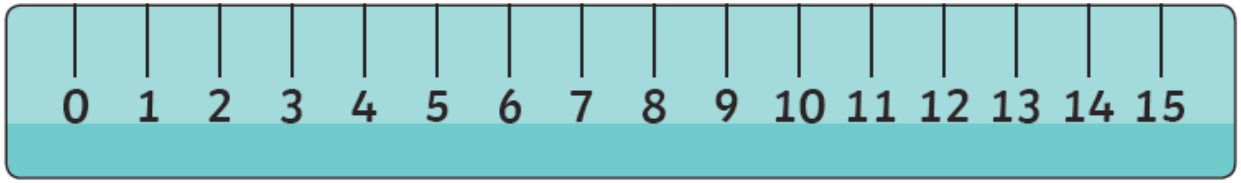
- length
- long
- short
- height
- tall
- measure
- ruler
- tape measure
- metre stick
- centimetre (cm)
- metre (m)
- compare
- order

Measuring in Centimetres

Measure from zero.

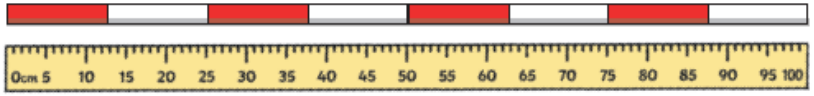
This ruler measures in **centimetres (cm)**. The paintbrush is 8cm long.

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

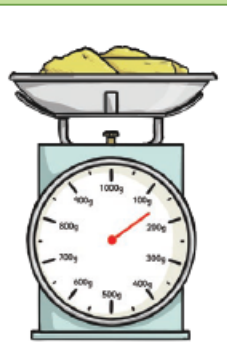
Mass, Capacity and Temperature

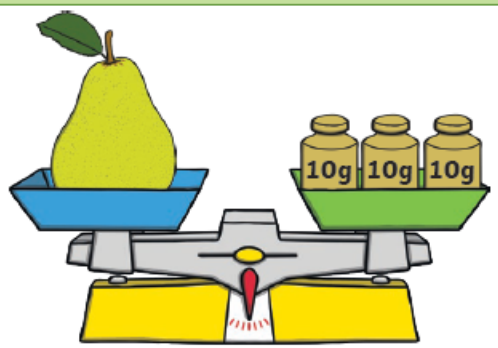
Knowledge Organiser

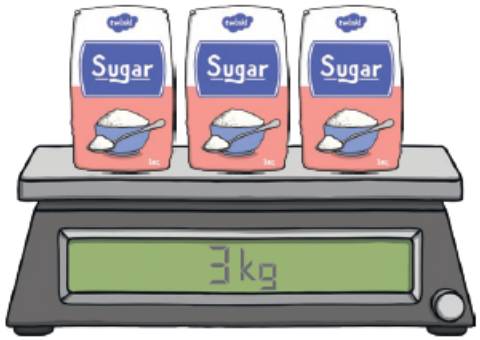
Key Vocabulary

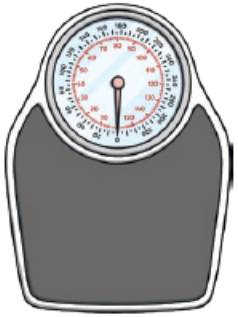
- mass
- gram
- kilogram
- lighter
- heavier
- capacity
- volume
- millilitre
- litre
- temperature
- Celsius
- degrees

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

Money

Knowledge Organiser

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

Multiplication and Division

Knowledge Organiser

Key Vocabulary

- groups
- equal groups
- lots of
- arrays
- repeated addition
- multiplication
- times tables

Recognise Equal Groups

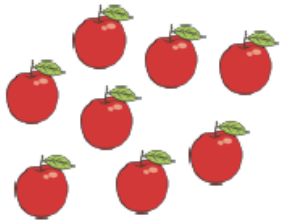
5 equal groups with 3 in each group

2 equal groups with 4 in each group

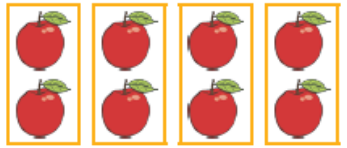
4 equal groups of 10

6 equal amounts of 5 pence

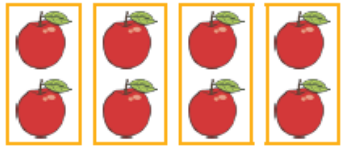
Make Equal Groups



Make 4 equal groups.



Add Equal Groups



2 + 2 + 2 + 2 = 8 apples

The Multiplication Symbol

4 × 2 = 8

2 × 4 = 8

8 apples

2 x 5 = 10

5 x 2 = 10

10 cookies

Number and Place Value

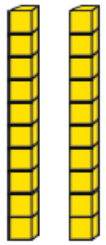
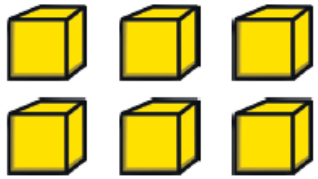
Knowledge Organiser

Key Vocabulary

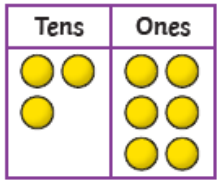
- hundreds
- tens
- ones
- zero
- place value
- greater than
- less than
- order
- partition
- digit

2-Digit Numbers

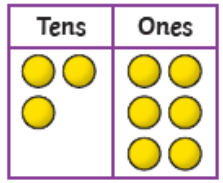
26

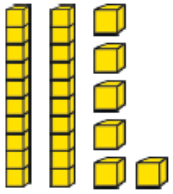
twenty	six
	
20	6

Compare Numbers

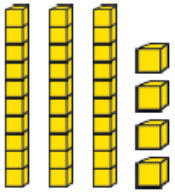


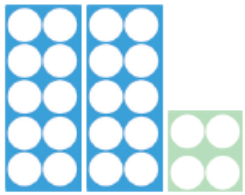
36 = 36
equals





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

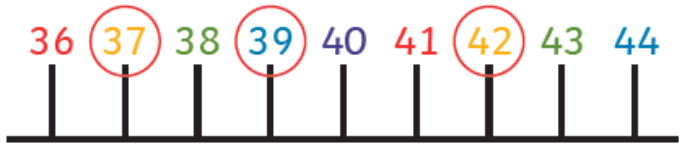
Counting in 5s

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

smallest

greatest

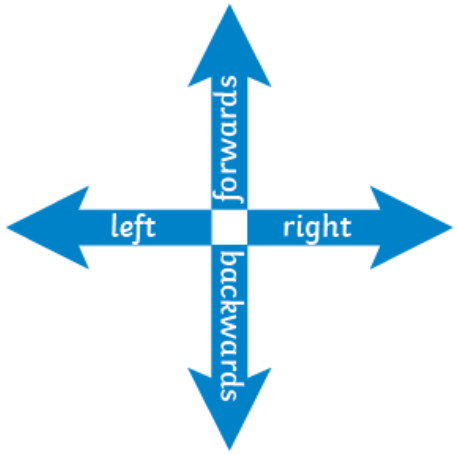
Position and Direction

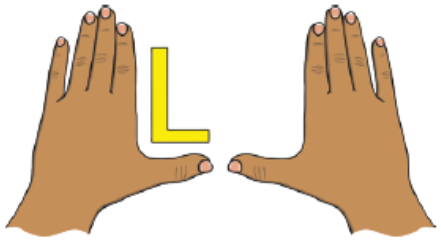
Knowledge Organiser

Key Vocabulary

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

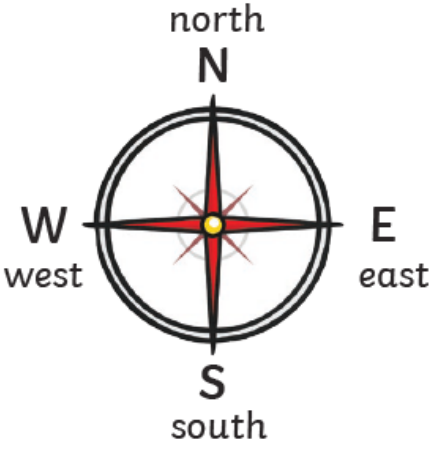
Describing Straight-Line Movement



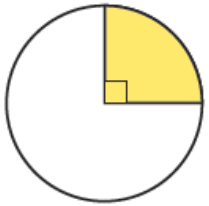


Left and Right

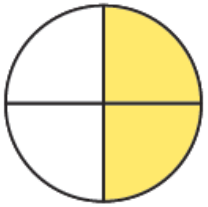
The hand that makes an **L** shape is the **left hand**.



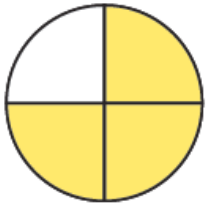
Describing Turns



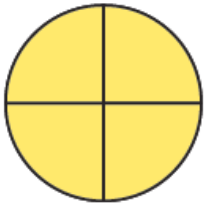
quarter turn



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**.

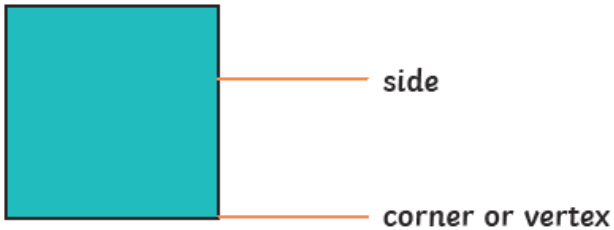
Geometry: Properties of Shape

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



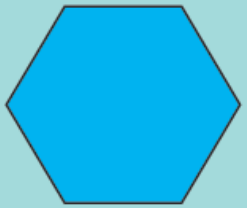
square

triangle

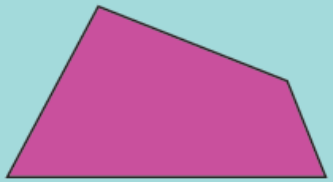
rectangle

circle

pentagon

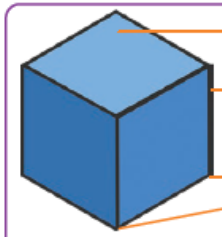


hexagon

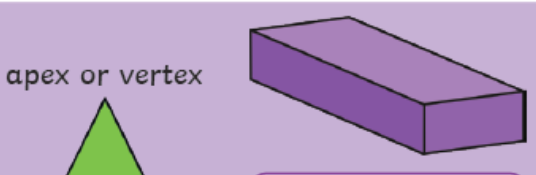


quadrilateral

Recognise and Describe 3D Shapes

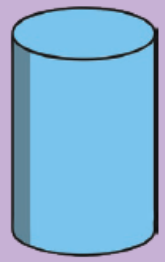


cube

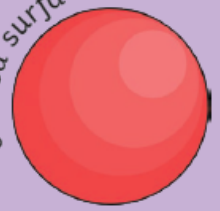


cuboid

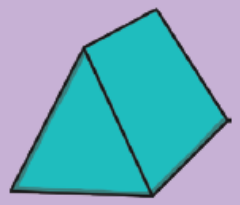
cone



cylinder



sphere



triangular prism

square-based pyramid

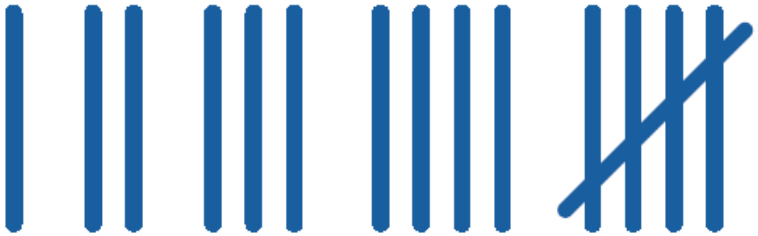
Statistics — Knowledge Organiser

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.

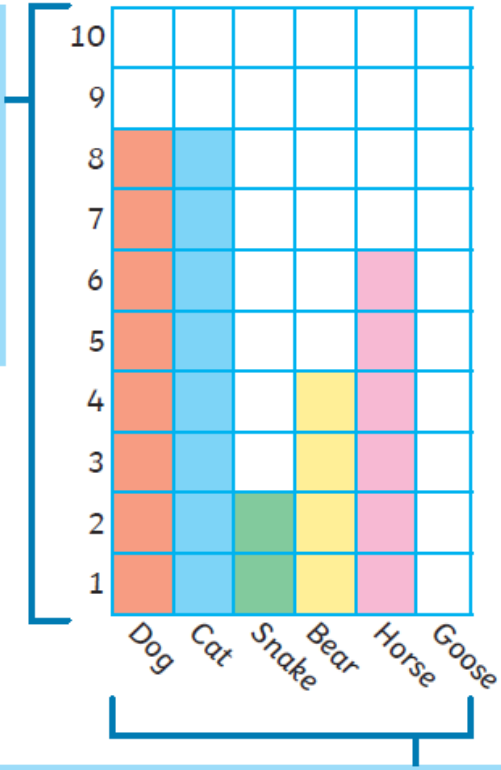
A tally chart is one way of collecting data using tally marks.

Eye Colour	Tally	Total
brown	𝍸 |	6
blue	𝍸 |||	8
green	|||	3
grey	|||	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.

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