

Statistics

Frequency

Frequency is the number of times a number or object occurs.

Measures of Average

An **average** describes a data set with a single value.

Mean: To calculate the **mean** add up all the numbers and divide by how many numbers there are.

Mode: The number or object that appears most in a set of data.

Bimodal is when there are two different numbers that appear the most.

Median: To find the **median** you should arrange the data in order from smallest to largest then find the middle value.

Measures of Spread

The **range** is a measure of spread.

To calculate the **range** subtract the smallest value from the largest value.

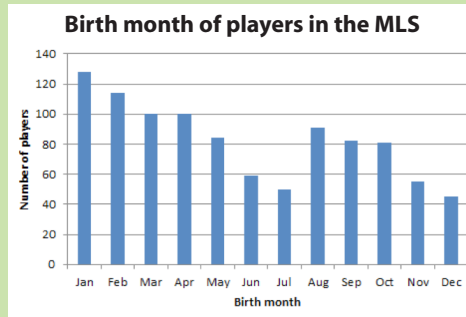
Bar Charts

A **bar chart** is a graphical display of **data** using bars of different heights.

The height of the data represents the **frequency**.

A bar chart should have a pair of **labelled axes** and a **title**.

There should be gaps between the bars.

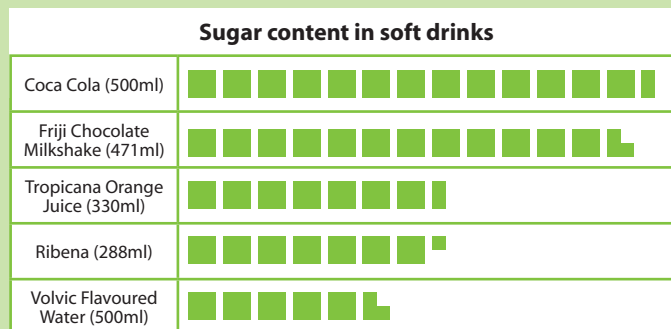


Pictogram

A **pictogram** is a graphical display of **data** using a **symbol** or picture to represent the data.

A pictogram should have a **key**.

Key: = 1 sugar cube



Data Collection

A **hypothesis** is a statement that might be true, which can then be tested.

Types of data

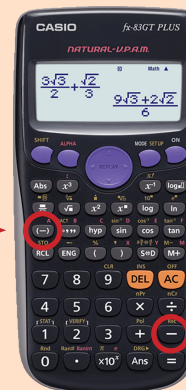
Discrete data is data that can be counted. This is data can only take certain values (e.g. shoe size, or number of goals in a football game).

Continuous data is data that is measured (e.g. weight of a chocolate bar, height of a person, time to complete a puzzle).

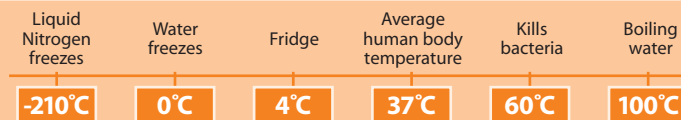
Negative Numbers



A calculator has a **negative** button



A calculator has a **subtraction** button



Rules of Negatives

Adding a negative is the same as **subtracting** a positive

$3 + -2$ is equivalent to $3 - 2$

Subtracting a negative is the same as **adding** a positive

Example:

$3 - -2$ is equivalent to $3 + 2$

Multiplying or **dividing** a negative number by a **positive** number gives you a **negative** answer

Multiplying or **dividing** a negative number by a **negative** number gives you a **positive** answer

Times Tables

$7 \times 12 = 84$	$7 \times 0 = 0$
$7 \times 11 = 77$	$7 \times -1 = -7$
$7 \times 10 = 70$	$7 \times -2 = -14$
$7 \times 9 = 63$	$7 \times -3 = -21$
$7 \times 8 = 56$	$7 \times -4 = -28$
$7 \times 7 = 49$	$7 \times -5 = -35$
$7 \times 6 = 42$	$7 \times -6 = -42$
$7 \times 5 = 35$	$7 \times -7 = -49$
$7 \times 4 = 28$	$7 \times -8 = -56$
$7 \times 3 = 21$	$7 \times -9 = -63$
$7 \times 2 = 14$	$7 \times -10 = -70$
$7 \times 1 = 7$	$7 \times -11 = -77$
	$7 \times -12 = -84$

$-8 \times 12 = -96$	$-8 \times 0 = 0$
$-8 \times 11 = -88$	$-8 \times -1 = 8$
$-8 \times 10 = -80$	$-8 \times -2 = 16$
$-8 \times 9 = -72$	$-8 \times -3 = 24$
$-8 \times 8 = -64$	$-8 \times -4 = 32$
$-8 \times 7 = -56$	$-8 \times -5 = 40$
$-8 \times 6 = -48$	$-8 \times -6 = 48$
$-8 \times 5 = -40$	$-8 \times -7 = 56$
$-8 \times 4 = -32$	$-8 \times -8 = 64$
$-8 \times 3 = -24$	$-8 \times -9 = 72$
$-8 \times 2 = -16$	$-8 \times -10 = 80$
$-8 \times 1 = -8$	$-8 \times -11 = 88$
	$-8 \times -12 = 96$