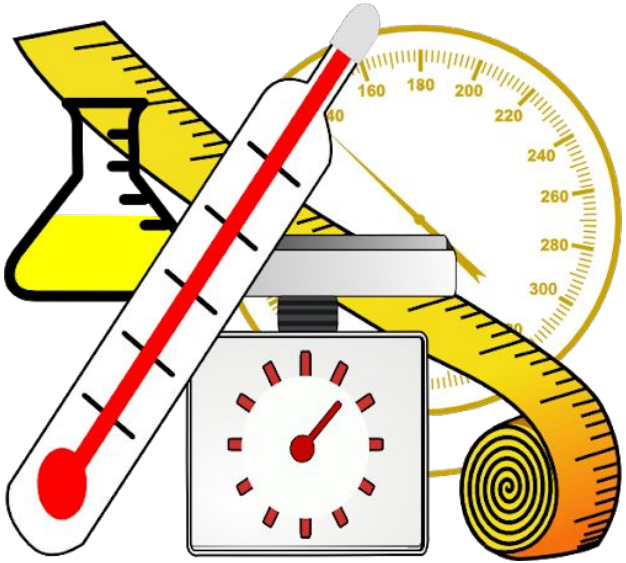
Measure glossary

Units of measure, time, converting units, area and perimeter

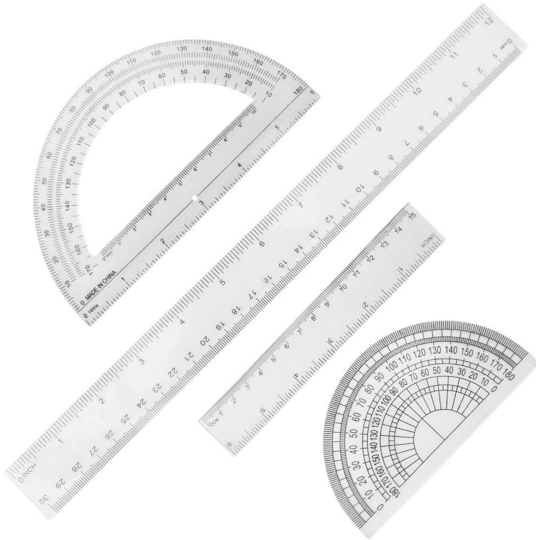


Measure

measure (KS1): The size in terms of an agreed unit. See also compound measure. 2. Measure is also used as a verb, to find the size.

measuring tools (KS1): These record numerical quantities of continuous variables, often by comparison with scaled calibrations on the device that is used, or using digital technology. For example, a ruler measures length, a protractor measures angles, a thermometer measures temperature; weighing scales measure mass, a stopwatch measures time duration, measuring vessels to measure capacity, and so on.

mensuration (KS2): In the context of geometric figures the process of measuring or calculating angles, lengths, areas and volumes



Units of measure

unit (KS1): A standard used in measuring e.g. the metre is a unit of length; the degree is a unit of turn/angle, etc.

standard unit (KS1): Uniform units that are agreed throughout a community. Example: the metre is a standard unit of length. Units such as the handspan are not standard as they vary from person to person.

metric unit (KS2): Unit of measurement in the metric system. Metric units include metre, centimetre, millimetre, kilometre, gram, kilogram, litre and millilitre.

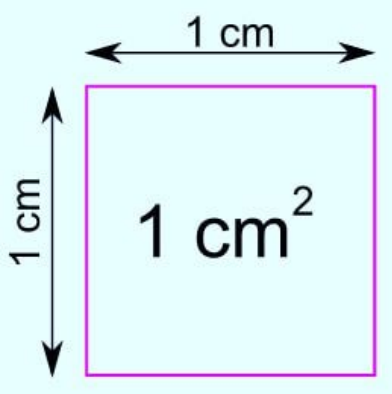
Imperial unit (KS2): A unit of measurement historically used in the United Kingdom and other English speaking countries. Units include inch, foot, yard, mile, acre, ounce, pound, stone, hundredweight, ton, pint, quart and gallon. Now largely replaced by metric units.

convert (KS2): Changing from one quantity or measurement to another. E.g. from litres to gallons or from centimetres to millimetres etc.

rate (KS2): A measure of how quickly one quantity changes in comparison to another quantity. For example, speed is a measure of how distance travelled changes with time; the average speed of a moving object is the total distance travelled/ time taken to travel that distance. Acceleration is a measure of the rate at which the speed of a moving object changes as time passes. The rate of inflation is a measure of the change in the buying power of money over a given time period.

Units of measure

square centimetre (KS2): Symbol: cm^2 . A unit of area, a square measuring 1 cm by 1 cm. 10000 cm^2 = 1 m^2

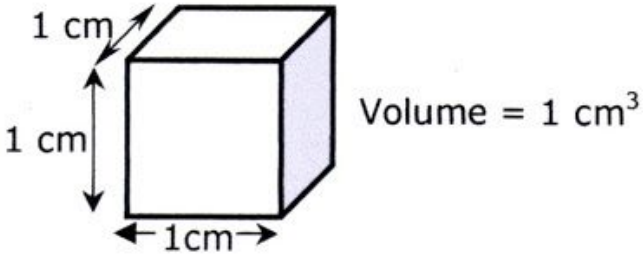


square metre (KS2): Symbol: m^2. A unit of area, a square measuring 1m by 1 m.

square millimetre (KS2): Symbol: mm^2 . A unit of area, a square measuring 1 mm by 1 mm. One-hundredth part of a square centimetre and one-millionth part of a square metre.

cubic (KS3): A mathematical expression of degree three; the highest total power that appears in this expression is power 3.

cubic centimetre (KS2): Symbol: cm^3 . A unit of volume. The three-dimensional space equivalent to a cube with edge length 1cm.



cubic metre (KS2): Symbol: m^3 . A unit of volume. A three-dimensional space equivalent to a cube of edge length 1m.

units of measure

kilo- (KS2): Prefix denoting one thousand

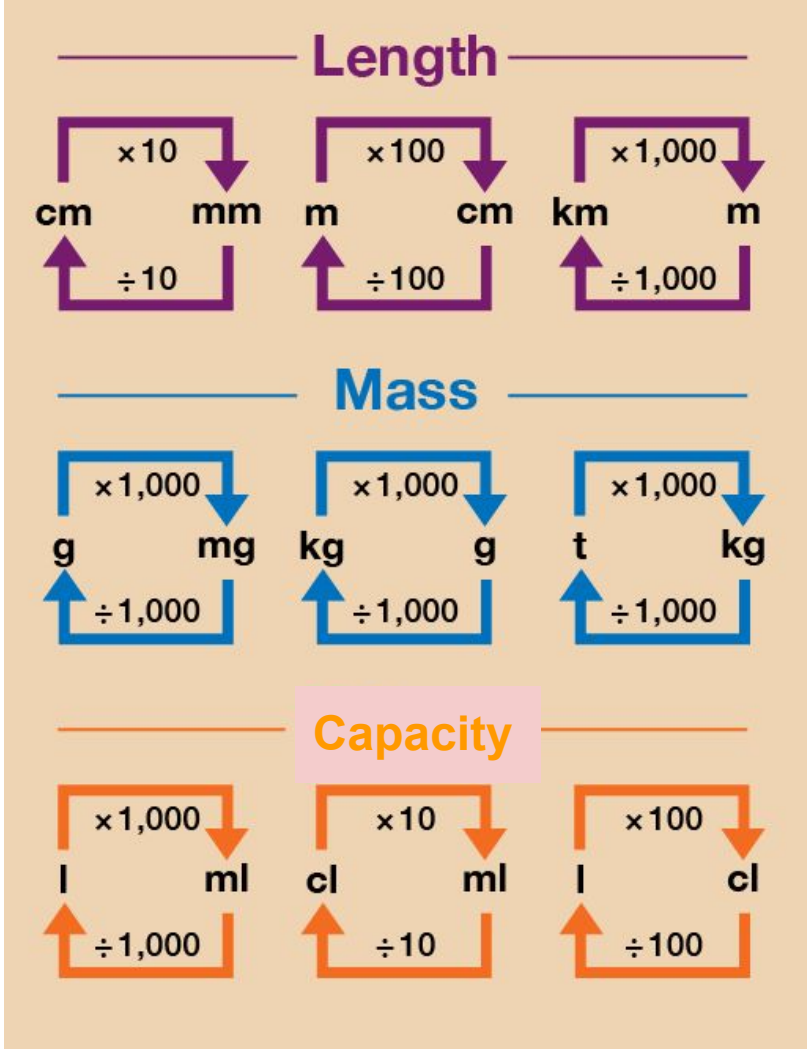
kilogram (KS2): Symbol: kg. The base unit of mass in the SI (Système International d'Unités). 1kg. = 1000g.

kilometre (KS2): Symbol: km. A unit of length in the SI (Système International d'Unités). The base unit of length in the system is the metre. 1km. = 1000m.

milli– (KS2): Prefix. One-thousandth.

millilitre (KS2): Symbol: ml. One thousandth of a litre.

millimetre (KS2): Symbol: mm. One thousandth of a metre.



Time

time (KS1): Progress from past, to present and to future 2. Time of day, in hours, minutes and seconds; clocks and associated vocabulary 3. Duration and associated vocabulary 4. Calendar time in days, weeks, months, years 5. Associated vocabulary such as later, earlier, sooner, when, interval of time, clock today, yesterday, tomorrow, days of the week, the 12 months of a year, morning, a.m., afternoon, p.m., noon, etc.

analogue clock (KS1): A clock usually with 12 equal divisions labelled 'clockwise' from the top 12, 1, 2, 3 and so on up to 11 to represent hours. Commonly, each of the twelve divisions is further subdivided into five equal parts providing sixty minor divisions to represent minutes. The clock has two hands that rotate about the centre. The minute hand completes one revolution in one hour, whilst the hour hand completes one revolution in 12 hours. Sometimes the Roman numerals XII, I, II, III, IV, V1, VII, VIII, IX, X, XI are used instead of the standard numerals used today.

clockwise (KS1): In the direction in which the hands of an analogue clock travel. Anti-clockwise or counter-clockwise are terms used for the opposite direction.

anticlockwise (KS1): In the opposite direction from the normal direction of travel of the hands of an analogue clock.

digital clock (KS1): A clock that displays the time as hours and minutes passed, usually since midnight. Example: four thirty in the afternoon is displayed as 16:30.

minute (KS1): Unit of time. One-sixtieth of an hour. 1 minute = 60 seconds

hour (KS1): A unit of time. One twenty-fourth of a day. 1 hour = 60 minutes = 3600 (60 x 60) seconds.

second (KS1): A unit of time. One-sixtieth of a minute.

Capacity

capacity (KS1): Capacity – the volume of a material (typically liquid or air) held in a vessel or container. Note: the term 'volume' is used as a general measure of 3- dimensional space and cannot always be used as synonymously with capacity. e.g. the volume of a cup is the space taken up by the actual material of the cup (a metal cup melted down would have the same volume); whereas the capacity of the cup is the volume of the liquid or other substance that the cup can contain. A solid cube has a volume but no capacity. Units include litres, decilitres, millilitres; cubic centimetres (cm^3) and cubic metres (m^3). A litre is equivalent to 1000 cm^3 .

gallon (KS2) Symbol: gal. An imperial measure of volume or capacity, equal to the volume occupied by ten pounds of distilled water. In the imperial system, 1 gallon = 4 quarts = 8 pints. One gallon is just over 4.5 litres.

Litre (KS1): Symbol: l. A metric unit used for measuring volume or capacity. A litre is equivalent to 1000 cm3

scale (noun): A measuring device usually consisting of points on a line with equal intervals.

pint (KS2): An imperial measure of volume applied to liquids or capacity. In the imperial system, 8 pints = 4 quarts = 1 gallon. 1 pint is just over 0.5 litres.

mass/weight

weight (KS1): In everyday English weight is often confused with mass. In mathematics, and physics, the weight of a body is the force exerted on the body by the gravity of the earth, or any other gravitational body.

mass (KS1) A characteristic of a body, relating to the amount of matter within it. Mass differs from weight, the force with which a body is attracted towards the earth's centre. Whereas, under certain conditions, a body can become weightless, mass is constant. In a constant gravitational field weight is proportional to mass. (mathematical)

gram (KS1): Symbol: g. The unit of mass equal to one thousandth of a kilogram.

ounce (KS2): Symbol: oz. An imperial unit of mass. In the imperial system, 16 ounces = 1 pound. 1 ounce is just over 28 grams.

pound (mass) (KS2): Symbol: lb. An imperial unit of mass. In the imperial system, 14 lb = 1 stone. 1 lb is approximately 455 grams. 1 kilogram is approximately 2.2 lb.

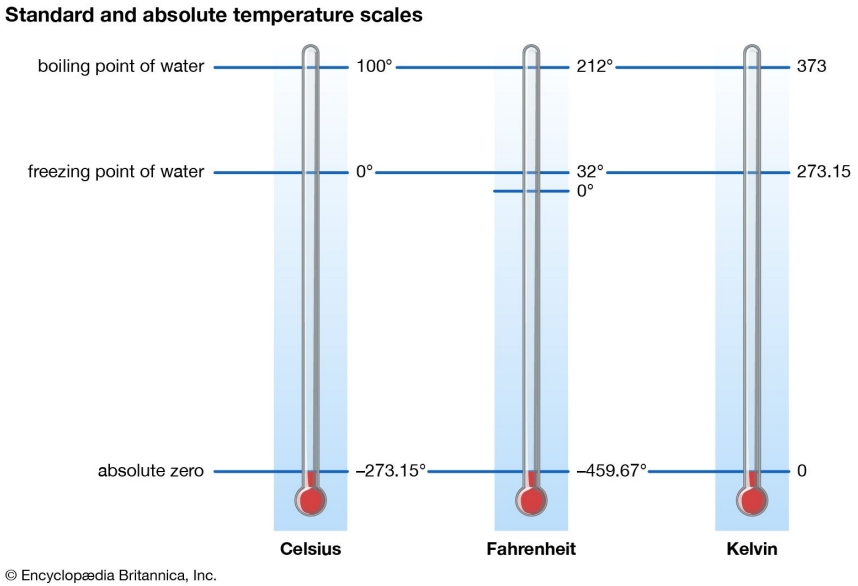
money

denomination (currency) (KS1): The face value of coins. In the smallest denomination of UK currency (known as Sterling) is 1p and the largest denomination of currency is a £50 note.

pound sterling (money) (KS1): Symbol £. A unit of money. £1.00 = 100 pence. £1 is commonly called a pound.

temperature

temperature (KS1): A measure of the hotness of a body, measured by a thermometer or other form of heat sensor. Two common scales of temperature are the Fahrenheit scale (°F) and the Celsius (or centigrade scale) which measures in °C. These scales have reference points for the freezing point of water (0°C or 32°F) and the boiling point of water (100°C or 212°F). The relation between °F and °C is °F = 9/5(°C) + 32.



Length/ distance

length (KS1): The extent of a line segment between two points. Length is independent of the orientation of the line segment

metre (KS2): Symbol: m. The base unit of length in SI (Système International d'Unités)

kilometre (KS2): Symbol: km. A unit of length in the SI (Système International d'Unités). The base unit of length in the system is the metre. 1km. = 1000m.

millimetre (KS2): Symbol: mm. One thousandth of a metre.

mile (KS2): An imperial measure of length. 1 mile = 1760 yards. 5 miles is approximately 8 kilometres. .

speed (KS3): A measure of how the distance travelled by a moving object changes with time. The average speed of a moving object is defined as the total distance travelled/ time taken to travel that distance. The units of speed are length/ time, for example kilometres per hour, or metres per second.

yard (KS2): Symbol: yd. An imperial measure of length. In relation to other imperial units of length, 1 yard = 3 feet = 36 inches. 1760yd. = 1 mile One yard is approximately 0.9 metres.

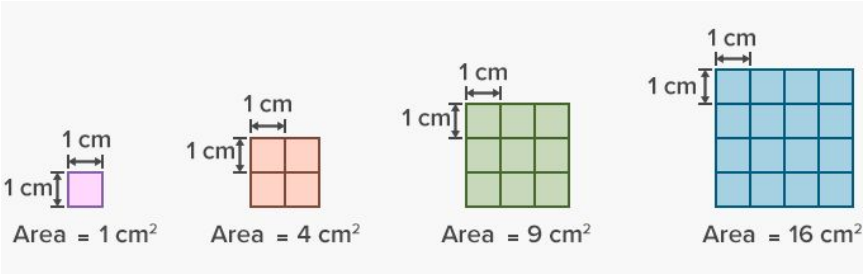
inch (KS2): Symbol: in. An imperial unit of length. 12 inches = 1 foot. 36 inches = 1 yard. Unit of area is square inch, in^2 . Unit of volume is cubic inch, in^3 . 1 inch is approximately 2.54 cm.

foot (KS2): Symbol: ft. An imperial measure of length. 1 foot = 12 inches. 3 feet = 1 yard. 1 foot is approximately 30 cm.

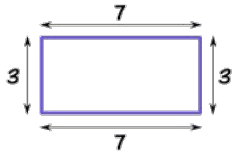
distance between (KS2): A measure of the separation of two points. Example: A is 5 miles from B

Area and Perimeter

area (KS2): A measure of the size of any plane surface. Area is usually measured in square units e.g. square centimetres (cm^2), square metres (m^2)



perimeter (KS2): The length of the boundary of a closed figure

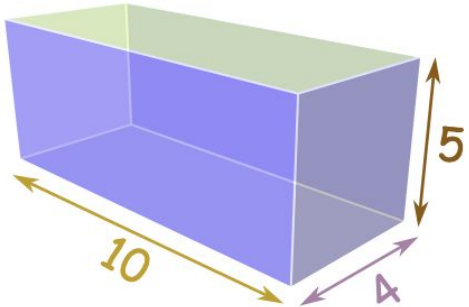


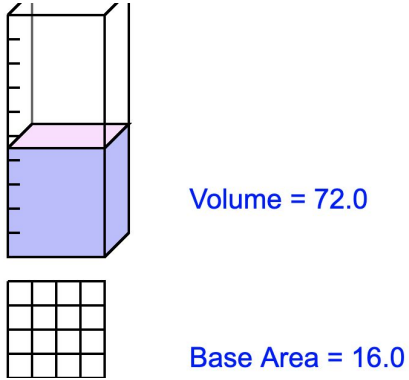
square centimetre and square metre (KS2): Square centimetre = A unit of area, a square measuring 1 cm by 1 cm.
Square metre = A unit of area, a square measuring 1 m by 1 m.
$100mm^2 = 1cm^2$
$10{,}000\ cm^2 = 1\ m^2$

Note: 2cm squared is not the same as 2 square cm.
$2cm^2$ is 2 square cm and not 2 cm squared

Volume

volume (KS1): A measure of three-dimensional space. Usually measured in cubic units; for example, cubic centimetres (cm^3) and cubic metres (m^3)

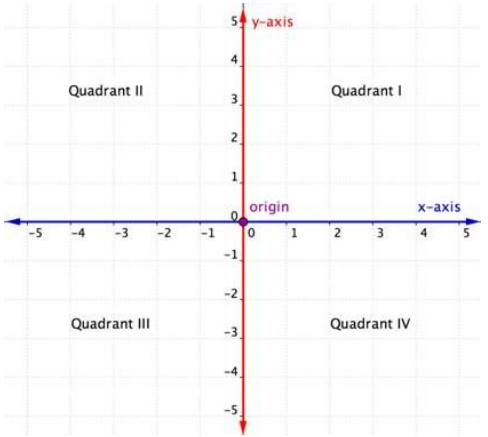




cubic centimetre (KS2): A unit of volume. The three-dimensional space equivalent to a cube with edge length 1cm

cubic metre (KS2): A unit of volume. A three-dimensional space equivalent to a cube of edge length 1m

Co-ordinates



Position (KS1): Location as specified by a set of coordinates in a plane or in full 3-dimensional space.

Coordinate (KS2): In geometry, a coordinate system is a system which uses one or more numbers, or coordinates, to uniquely determine the position of a point in space.
See Cartesian coordinates.

Axis (KS2): A fixed, reference line along which or from which distances or angles are taken

Quadrant (KS2): One of the four regions into which a plane is divided by the x and y axes in the Cartesian coordinate system.
Origin (KS2): A fixed point from which measurements are taken. See also Cartesian coordinate system.

Cartesian coordinate system (KS2): A system used to define the position of a point in two- or three-dimensional space.
Two axes at right angles to each other are used to define the position of a point in a plane. The usual conventions are to label the horizontal axis as the x-axis and the vertical axis as the y-axis with the origin at the intersection of the axes. The ordered pair of numbers (x, y) that defines the position of a point is the coordinate pair. The origin is the point (0,0); positive values of x are to the right of the origin and negative values to the left, positive values of y are above the origin and negative values below the origin. Each of the numbers is a coordinate.

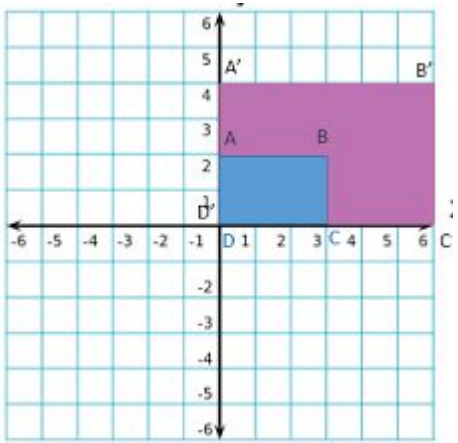
Co-ordinates

Orientation (KS2): How a line segment or other geometric shape is positioned with respect to a coordinate system.

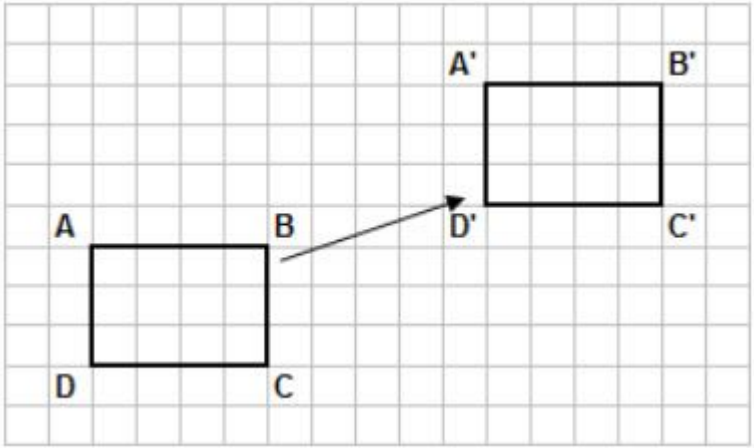
Transformation (UKS2/KS3): A change that is, or is equivalent to, a change in the position or direction of the coordinate axes

Scale factor (KS2): For two similar geometric figures, the ratio of corresponding edge lengths.

Translation (KS2): A transformation in which every point of a body moves the same distance in the same direction. A transformation specified by a distance and direction (vector).



Scale factor



translation