

MEASUREMENTS



MEASUREMENTS

- the process of obtaining a number that shows a quantity of something

The Metric Prefixes

- used in converting units upon the powers of ten.

Shown in the table below are the values of the prefixes.

To convert smaller units, move the decimal point to the right. →						
Kilo	Hecto	Deca	Base	Deci	Centi	Milli
1000	100	10	1	1/10	1/100	1/1000
← To convert larger units, move the decimal point to the left.						

When converting, use the chart to decide how many places and in which direction you should move the decimal point.

Examples:

1 GRAM = ____ MILLIGRAM

MILLIGRAM IS A SMALLER UNIT SO
MOVE 3 DECIMAL PLACES TO THE
RIGHT.

1 GRAM = 1000 MILLIGRAMS

1 MILLIMETER = ____ KILOMETER

KILOMETER IS A LARGER UNIT SO MOVE
6 DECIMAL PLACES TO THE LEFT.

1 MILLIMETER = 0.000001 KILOMETER

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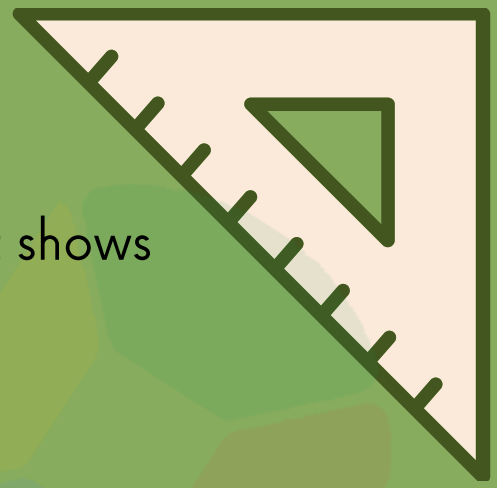
Length

- the measure of how long a thing is, from end to end

The base and standard unit for length is **meter**. Some common instruments used to measure length are the ruler, roll meter, measuring tape, caliper, micrometer screw, and digital meter.

The base unit meter with the metric prefixes are shown below.

Kilometer	Hectometer	Decameter	Meter	Decimeter	Centimeter	Millimeter
1000	100	10	1	1/10	1/100	1/1000



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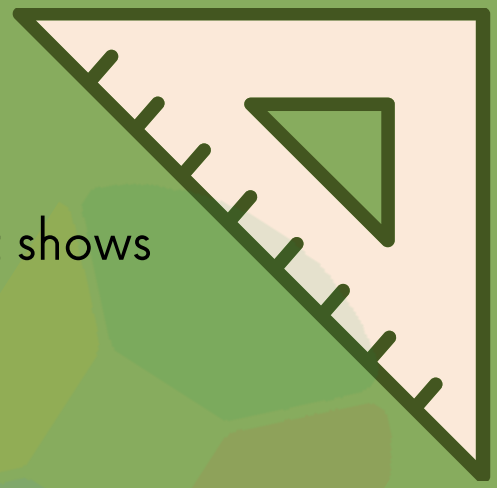
Weight

- the amount of matter an object contains. It is the heaviness of a thing.

The base unit for mass is **gram** but the standard unit is kilogram. The instruments used to measure weight are balances and scales.

The base unit gram with the metric prefixes are shown below.

Kilogram	Hectogram	Decagram	Gram	Decigram	Centigram	Milligram
1000	100	10	1	1/10	1/100	1/1000



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Capacity

- the maximum amount that something can contain.

The base and standard unit for capacity is **liters**. The instruments used to measure capacity are beakers, Erlenmeyer flasks, graduated cylinders, etc.

The base unit liters with the metric prefixes are shown below.

Kiloliter	Hectoliter	Decaliter	Liter	Deciliter	Centiliter	Milliliter
1000	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$

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Time

- the ongoing sequence of events taking place.

The base unit for time is **seconds**. The instruments used to measure time are clocks and calendars.

Time does not use the metric prefixes upon conversion. The list below are the other metric units of time and their equivalent values:

1 minute = 60 seconds

1 hour = 60 minutes

1 hour = 60 minutes = 3600 seconds (60×60)

1 day = 24 hours

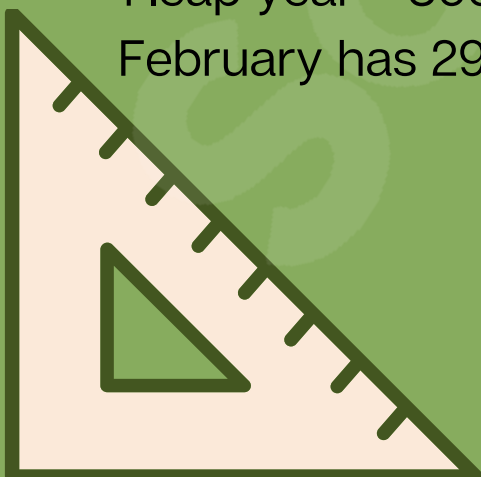
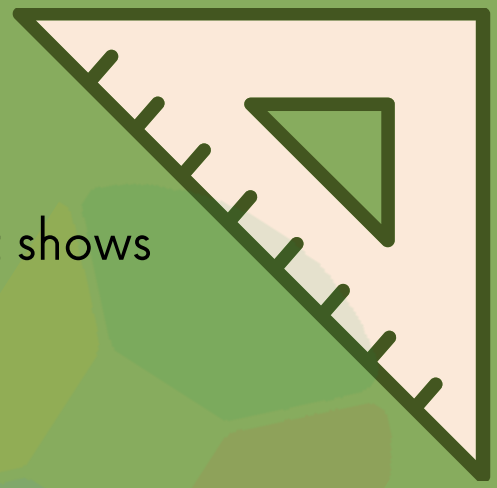
1 week = 7 days

1 year = 365 days

1 year = 12 months

1 year = 52 weeks

1 leap year = 366 days (occurs every four years in which February has 29 days)



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Temperature

- the measure of hotness or coldness

The unit used for temperature is **Celsius**.

A thermometer is used in measuring the temperature.

The freezing point of water is measured 0°C while its boiling point is 100°C .

