

The Metric System:

The metric system was needed because weights and measures up to the late 1700's were based on changing things. Instead of biological things, the French designed the new system on the Earth.

Type of measurement	Unit	Equipment used	Techniques and helpful hints	Origins
<p>Length</p> <p>“The distance between two points”</p>	Meter	Meter stick (metric ruler)	<ul style="list-style-type: none"> Know where the 0 line on your ruler is If you need to lift up the ruler make sure you have clearly marked its beginning and end with a pencil or tape 	<i>1/10,000,000 the distance between the equator and the North Pole</i>
<p>Volume</p> <p>“The amount of space something takes up”</p>	Liter meter ³	<p>Graduated cylinder</p> <p>Meter stick</p>	<ul style="list-style-type: none"> Get eye level with the meniscus Determine the correct scale of the cylinder before reading the graduate. (How much is each line worth?) <hr/> <ul style="list-style-type: none"> Length X Width X Height 	<i>One cubic decimeter (dm³) is the same as 1 liter.</i>
<p>Mass</p> <p>“The amount of matter that makes something up”</p>	gram	Balance	<ul style="list-style-type: none"> Start with moving the 100 g slider to the right until the balance arm drops below the zero line. Move the 100 g slider back into the previous slot Repeat the process for the 10 g slider and the 1 g sliders Add the sliders up determine the answer 	<i>1 liter of water = 1 Kg so, 1 ml of water = 1 gram</i>
<p>Force</p> <p>“a push or a pull” (weight is a force)</p>	Newton	Spring Scale	<ul style="list-style-type: none"> Determine the correct scale of spring scale (How much is each line worth?) 	<i>It is the force that makes 1 kg of mass accelerate 1^m/s². The Newton is named for Sir Isaac Newton.</i>
<p>Temperature</p> <p>“the speed of the particles in something”</p>	<p>degrees Celsius (°C)</p> <p>Kelvin</p>	Thermometer	<ul style="list-style-type: none"> Determine the correct scale of the thermometer (How much is each line worth?) 	<i>Designed around water. 0^o C is the freezing point for water while 100^o C is the boiling point of water</i>
<p>Time</p> <p>“a period or interval”</p>	seconds	<p>Use a stopwatch for short times /</p> <p>Use a clock for longer times</p>	<ul style="list-style-type: none"> Don't use your thumb on the stopwatch because it is usually slower than the index finger. Learn to anticipate the finish, not react to the finish 	<i>Left over from the English system, It has little direct relationship to the Earth.</i>