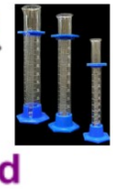
How are Mass and Volume Related?

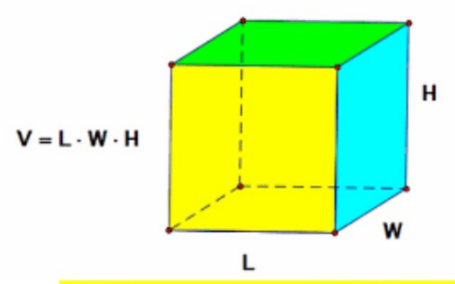
-To determine a substance density, you first must find out how much of the substance occupies a space.

Mass – The amount of matter in a substance
- Measured in kilograms (Kg) or grams (g)

Volume – The amount of space occupied by a substance
- Volume of liquids can be measured using measuring cups, graduated cylinders.
- Volume of gases can be determined by measuring volume of the containers that hold them



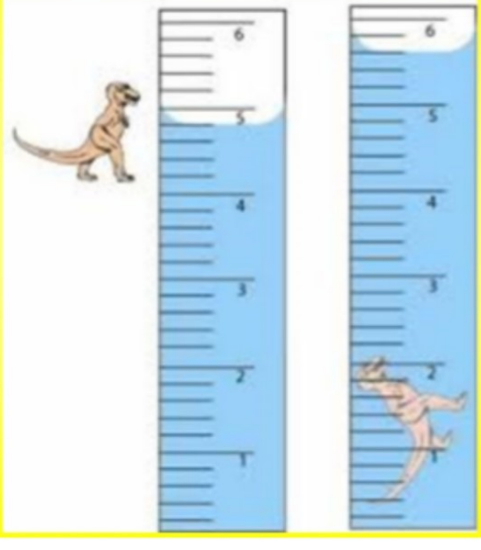
Capacity – The greatest amount of fluid that a container can hold. (Measured in Liters or millimeters)



Don't copy

Archemedes inventions : Golden crown in water bath - YouTube

Measuring VOLUME by displacement



- Used to measure *irregular* or non-box shapes.
- When you can't measure length x height x width
- 5.6 – 4.8 = 0.8 ml

We sometimes confuse weight with mass. When you step on a scale at home you are getting your mass.

Force - is a push or pull.

Gravity - is a natural force that causes an object to move toward the center of the earth.

Weight - is the force of gravity exerted on an object.

- Measured in Newtons (N)

The pull of gravity everywhere on an earth' surface is the same. It is a downward force of 9.8 N for every kilogram of its mass. (9.8N/kg)

Ex) A bag of sugar has a mass of 2kg

$2\ kg \times \frac{9.8\ N}{1kg} = 19.6\ N$ BUT weighs 19.6 N