Chapter II Measurements and Calculations

Measurements

A <u>quantity</u> is something that has size, magnitude, or amount. The quantity is measured in the <u>unit</u>. The unit is defined by some physical characteristics in nature.

<u>SI system</u>

A <u>base unit</u> is one that has to be defined by some physical standard of measurement. EX. mass (kilogram), length (meter).

A <u>derived unit</u> is one formed from a combination of base unites.

EX. area (m²), volume (m³), density (kg/m³)

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Kilo = 1000 of
Centi = 1/100 of
Millie = 1/1000 of
Density
Density is the mass of an object civited by its volume
D=M/V
Density is placed on the place of the place of the placed of the
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Units for Density		
g/ml	Water	1.0 g/ml
g/cm^3 k/m^3	Lead	11.35 g/ml
g/l	Cork	0.24 g/ml

<u>Reliability</u>

The reliability of a measurement is indicated by the number of digits used to represent it. How close we can get to the exact value of the measurement depends on the <u>sensitivity</u> of the measuring device.

Significant Figures

Significant Figures are all digits known with certainty plus one final estimated or uncertain digit.