

Measurement

A measurement is the process of getting physical data (properties) of matter.

To measure is the process of taking a measurement of matter using measurement tools/devices.

Measurement Types

Length (Distance) - Ruler/Tape Measure.

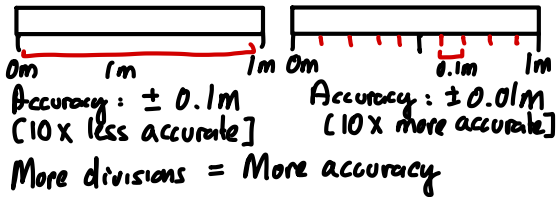
Mass (Weight) - Scale/Balance

Volume (size) - Graduated Cylinder/
(liquid/gas) Beaker / Pipette

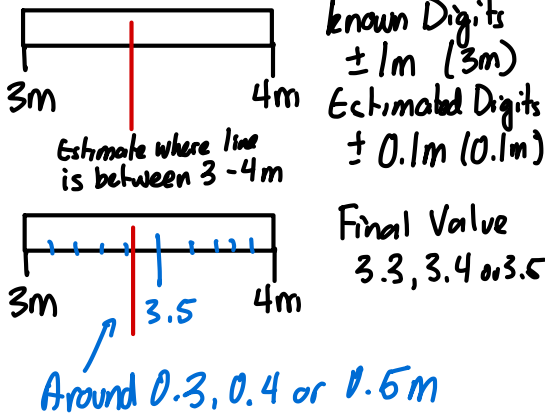
Volume (size) - Ruler/Caliper
(solid)

Taking good measurements

Accuracy of Measurement Tools



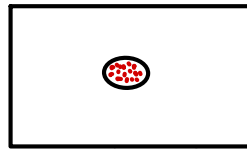
Estimation in measurements



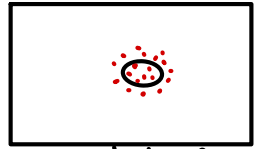
Accuracy and Precision

Accuracy How close a measured value is to correct value

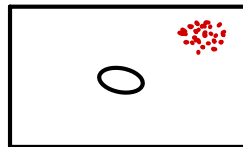
Precision How close measured values are to each other.



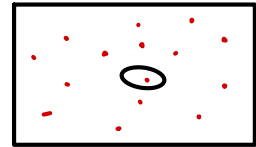
Accurate and Precise



Accurate / not Precise



Not Accurate / Precise



Not Accurate or Precise

Known and Unknown (estimated) Digits

Measurement: 3.12 m
known estimate unit
3.1 2 m
Last digit is always the estimated digit

Measurement: 14321 m
known estimate unit
1432 1 m

