

Metric Measurement Lab

This laboratory exercise is designed as a review of the metric system and will provide practice in manipulating units.

The metric system is based on standard units of length, mass and volume.

Standard units:

Length – meter
Mass – gram
Volume (liquid) – liter
Volume (solid) – cm^3
 $1 \text{ mL} = 1 \text{ cm}^3$

These standard metric units can be modified by the addition of various prefixes.

Metric prefixes:

Kilo- 1,000 (10^3)
Deci- 0.1 (10^{-1})
Centi- 0.01 (10^{-2})
Milli- 0.001 (10^{-3})
Micro- 0.000001 (10^{-6})
Nano- 0.000000001 (10^{-9})

Various instruments are used to make metric measurements.

Metric instruments:

Length – metric ruler
Mass – metric scale (triple beam balance)
Volume – graduated cylinder, pipettes

You will use all these instruments to complete the following metric measurement exercise.