

## Measurement, Units, and Instrumentation

Type of measurement	Abbreviation	Definition	Units	Instrument
length	l	dist between two points	m meters	ruler
area	A	= l x w	m <sup>2</sup> square meters	ruler
volume	V	Amount of space that something occupies = l x w x h	m <sup>3</sup> cubic meters also ml, cm <sup>3</sup> , cc; l and dm <sup>3</sup>	ruler or graduated cylinder <b>*meniscus</b>
mass	m	Amount of mater in an object	kg kilograms also g	balance
weight	F	The force due to the pull of gravity on an object	N newtons	scale
density	D	=m/V	g/cm <sup>3</sup> g/ml	grad cyl + balance
temperature	T	Average kinetic energy of particles in a substance	degrees Celsius (°C) or Kelvins (K)	thermometer
heat	Q	The total amount of energy in an object due the motion of its particles	joules (J) or calories (cal)	calorimeter
time	t	(disregard)	s seconds	clock, watch