Chemistry
SI Prefixes Table

Prefix	Symbol	Base Unit Multiplier	In Words	Exponential
yotta	Y	1,000,000,000,000,000,000,000,000	septillion	10^{24}
zetta	Z	1,000,000,000,000,000,000,000	sextillion	10^{21}
exa	E	1,000,000,000,000,000,000	quintillion	10^{18}
peta	P	1,000,000,000,000,000	quadrillion	10^{15}
tera	T	1,000,000,000,000	trillion	10^{12}
giga	**G**	**1,000,000,000**	**billion**	**10^{9}**
mega	**M**	**1,000,000**	**million**	**10^{6}**
kilo	**k**	**1,000**	**thousand**	**10^{3}**
hecto	h	100	hundred	10^{2}
deca	da	10	ten	10^{1}
(base unit)		1	–	
deci	**d**	**0.1**	**tenth**	**10^{-1}**
centi	**c**	**0.01**	**hundredth**	**10^{-2}**
milli	**m**	**0.001**	**thousandth**	**10^{-3}**
micro	**μ**	**0.000001**	**millionth**	**10^{-6}**
nano	**n**	**0.000000001**	**billionth**	**10^{-9}**
pico	p	0.000000000001	trillionth	10^{-12}
femto	f	0.000000000000001	quadrillionth	10^{-15}
atto	a	0.000000000000000001	quintillionth	10^{-18}
zepto	z	0.000000000000000000001	sextillionth	10^{-21}
yocto	y	0.000000000000000000000001	septillionth	10^{-24}

- To convert FROM a base unit TO a prefix unit, **MULTIPLY** by the Base Unit Multiplier.
- To convert TO a base unit FROM a prefix unit, **DIVIDE** by the Base Unit Multiplier.
- To convert FROM a prefix unit TO another prefix unit, first **MULTIPLY**, then **DIVIDE**.

From http://www.essex1.com/people/speer/large.html:

"When the metric system was devised in the late 1700's there was no particular need for very large or very small numbers. It was already customary to count in thousands and millions, and to use commas to set off the extra zeros in groups of three, as we still do today. In the two centuries since that time we have learned to measure objects and distances, both large and small, to the limits of nuclear particles and astronomical bodies, and to count from pennies to the US national debt. The metric measurements are all in decimal form, and are used very consistently from one parameter to another. (Parameters are things that you measure, such as: length, mass, charge, density, heat, temperature, etc.)

The mass of the earth is **5983 Yg** (yottagrams), and it gains another **40 Gg** (gigagrams) every year from captured meteorites and cosmic dust. The average distance to the moon is **384.4 Mm** (megameters). The average distance to the sun is **149.5 Gm** (gigameters). The wavelength of yellow light is **590 nm** (nanometers). The diameter of a hydrogen atom is about **70 pm** (picometers). The mass of a proton is about **1.67 yg** (yoctograms), and that of an electron about **0.000 91 yg** (yoctograms).

Converting within the metric system becomes very easy with a little practice. It is simply a matter of moving the decimal the proper number of places, in the correct direction! For example: 27 000 000 000 grams would be 27 gigagrams, and 0.000 000 045 meters would be 45 nanometers. If you try to do similar problems in the British system, it becomes much more difficult. Try the following: How many inches are there in 186,000 statute miles? How many avoirdupois ounces are there in 82 dry tons? (Realize that there are also nautical miles, troy ounces, and liquid tons in the British system.) Answers: 11,785,000,000 and 2,624,000."