**Temperature**

Temperature is a measure of the average kinetic energy of a substance. Many problems we will be working use equations which include temperature, it is important to **be able to convert between Celsius and Kelvin.** *0 Kelvin* is absolute zero; there are not negative numbers on the Kelvin scale.

Converting between Celsius and Kelvin.

Celsius to Kelvin **K = oC + 273**

Kelvin to Celsius **oC = K – 273**

Convert the following:

–167oC to Kelvin

1100oC to Kelvin

321 Kelvin to Celsius

**Pressure:** defined as **Force/Area**. We will not be concerned with the mathematical aspect of finding pressure, but only using pressures and converting them to various other units.

1. There are different **UNITS** of pressure used in chemistry and you must be able to convert between all of them.

**1 atmosphere (atm)**

= 760 mm Hg

= 14.7 psi

= 101.3 kPa

Convert a pressure of 1.55 atm to kPa.

Which is higher pressure 1.45 atm or 1000 mm Hg?

Convert 753 psi to atmospheres.

**Volume:** The amount of space occupied by matter. We use the SI unit of liters (L) when calculating gas law problems. However, there may be times you need to convert from mL to L. The conversion factor is 1000 mL = 1 L. Convert the following:

250 mL to L\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1050 mL to L \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

325 mL to L \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2160 mL to L \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_