# AQA AS Chemistry-Taster lesson Sheet 1

Beaumont Chemistry

## Moles Calculations- Easy

*Complete these questions for summer work. Answers will be on the school website for you to check your answers.*

- The Mass of 1 mole (in grams) is equal to the numerical value of the average atomic mass (from periodic table).

**1** Calculate the number of moles in the following.

**(a)** 32 g of $O_2$

**(b)** 11.5 g of Na

**(c)** 36 g of Mg

**(d)** 71 g of $Cl_2$

**2.** Calculate the mass of the following.

**(a)** 2 mol of $O_2$

**(b)** 0.5 mol of Mg

**(c)** 2 mol of $N_2$

**(d)** 1.5 mol of Ne

**3** Calculate the relative atomic mass ($A_r$) of each of the following.

**(a)** 0.1 mol of a metal has a mass of 2.3 g

**(b)** 0.25 mol of a metal has a mass of 10 g

**(c)** 0.6 mol of a metal has a mass of 14.4 g

**4** Calculate the relative molecular mass ($M_r$) of each of the following.

**(a)** 0.1 mol of a compound has a mass of 4.4 g

**(b)** 0.1 mol of a compound has a mass of 3.2 g

**(c)** 0.05 mol of a compound has a mass of 3.2 g

## Moles Calculations- Not so easy!

For each of the following, formulate and balance equations first before calculating masses.

**5** What mass of iron (III) oxide would be made by reacting 50g of iron with oxygen?

**6** What mass of sulphur needs to be burnt in oxygen to produce 5g of sulphur dioxide?

**7** What mass of calcium oxide and carbon dioxide would be made by heating 2g of calcium carbonate?

**8** What mass of hydrogen would be produced by adding 10g of calcium to water?

**9** What mass of oxygen would need to be added to 0.5g of carbon to turn it all into carbon dioxide?