

Revision Mole Concept

(Answers to be in 2 decimal places where applicable)

Moles and Molar Volume

- 1) What is the number of moles 40 g of CaCO_3 ? moles
- 2) What is the volume of 0.02 mol of oxygen gas, O_2 , at r.t.p? cm^3
- 3) What is the number of moles of sodium hydroxide in 25.0 cm^3 of 0.02 mol/dm^3 sodium hydroxide solution? moles
- 4) The concentration of dilute hydrochloric acid is 0.05 g/dm^3 .
 - a) Will the concentration **increase** or **decrease** if 1000 cm^3 of distilled water is added?
 - b) What is the final concentration of the acid after adding the water? g/dm^3
- 5) The concentration of sodium chloride solution is 1.2 mol/dm^3 . What is the concentration in g/dm^3 ? g/dm^3
- 6) 60 g of carbon burns in 200 cm^3 of oxygen gas according to the reaction below.
$$3\text{C} + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{CO}$$
 - a) Which is the limiting reactant?
 - b) What is the mass of carbon dioxide produced? g