

AQA Quantitative Chemistry Dice Challenge

	1	2	3	4	5	6
1	Name the type of salt produced when hydrochloric acid reacts with an alkali.	How do you convert from cm^3 to dm^3 ?	Convert 250cm^3 to dm^3 .	Write down the formula used to calculate concentration of a solution using the number of moles and volume.	Calculate the concentration of a solution containing 0.9 moles of hydrochloric acid dissolved in 6dm^3 of water.	Calculate the percentage by mass of phosphorus in lead phosphate ($\text{Pb}_3(\text{PO}_4)_2$).
2	How do you convert from dm^3 to cm^3 ?	Write the word equation for the reaction between magnesium and hydrochloric acid.	Nitric acid contains one atom of hydrogen, one atom of nitrogen and three atoms of oxygen. Write down the chemical formula of nitric acid.	Balance the symbol equation. $\text{Li} + \text{H}_2\text{O} \rightarrow \text{LiOH} + \text{H}_2$	What is a random error? Give an example to support your answer.	Calculate the mass of potassium chloride that is dissolved in 400cm^3 of water to make a $20\text{g}/\text{dm}^3$ salt solution.
3	Convert 3.5dm^3 to cm^3 .	Sulfuric acid contains two atoms of hydrogen, one atom of sulfur and four atoms of oxygen. Write down the chemical formula of sulfuric acid.	Complete the sentence: The law of conservation of mass states that...	State Avogadro's number.	Calculate the concentration of a solution containing 0.09kg of solute dissolved in 300cm^3 of solvent. Give your answer in g/dm^3 .	Calculate the relative formula mass of Na_2SeO_3 .
4	Write down the formula used to calculate the number of moles of a substance using its mass and relative formula mass.	Write the balanced symbol equation for the reaction between magnesium and oxygen.	Define uncertainty.	Carbon-12 and carbon-14 are both examples of isotopes. What are isotopes?	Calculate the maximum mass of magnesium oxide that can be formed from 4.8g of magnesium.	Calculate the number of atoms in 2.8g of iron. Give your answer in standard form.
5	Calculate the number of moles in 25g of NaOH ($M_r = 40$).	What is a systematic error? Give an example to support your answer.	Calculate the mass of 4 moles of magnesium chloride (MgCl_2).	The relative formula mass of an unknown metal carbonate (XCO_3) is 100. Identify metal X.	Calculate the number of molecules in 2.5 moles of ammonia (NH_3). Give your answer in standard form.	Calculate the mass of iron produced from 10g of iron (III) oxide in the reaction below. $2\text{Al} + \text{Fe}_2\text{O}_3 \rightarrow 2\text{Fe} + \text{Al}_2\text{O}_3$
6	Calculate the percentage by mass of sodium in sodium bicarbonate (NaHCO_3).	Calculate the maximum mass of sodium chloride produced when 28.4g of chlorine reacts with sodium.	Calculate the relative formula mass of $\text{Pb}_3(\text{PO}_4)_2$.	Calculate the number of molecules of magnesium oxide in 3.2g of magnesium oxide (MgO). Give your answer in standard form.	Calculate the mass of ethanol needed to produce 540g of water in the reaction below. $\text{C}_2\text{H}_5\text{OH} + 3\text{O}_2 \rightarrow 2\text{CO}_2 + 3\text{H}_2\text{O}$	15.6g of potassium and 9.6g of bromine are reacted together to produce potassium bromide. Explain which reactant is the limiting reactant.