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| **LG** | **LEARNING GOALS and SUCCESS CRITERIA** | | **Where in my notes is this?** |
| **1**  8 Lessons | **SC1** | I can **calculate** the percent composition of a compound given its molecular formula. |  |
| **SC2** | I can **recall** the law of conservation of mass and that the mole concept relates mass, moles and molar mass |  |
| **SC3** | I can **recognise** that a mole is a precisely defined quantity of matter equal to Avogadro’s number of particles |  |
| **SC4** | I can use appropriate mathematical representation to **solve** problems and make **predictions**, including using the mole concept to **calculate** the mass of reactants and products; amount of substance in moles. |  |
| **SC5** | I can use the appropriate stoichiometric ratio to **calculate** that reactants can be limiting. |  |
| **SC6** | I can use appropriate mathematical representation to **solve** problems and make **predictions**; including **determining** the percentage composition from relative atomic masses and mass relationships in chemical reactions |  |
| **LG1** | **Students will use the mole concept to describe, explain, and calculate masses of reactants and products in a chemical reaction (MOLE CONCEPT)** |  |
| **2**  3 Lessons | **SC7** | I can **distinguish** between the terms solute, solvent, solution and concentration |  |
| **SC8** | I can **recall** that concentration can be denoted in a variety of ways including moles/L, g/L, and ppm. |  |
| **SC9** | I can use appropriate mathematical representations to **solve** and make **predictions** (including using the mole concept and the relationship between the number of moles of solute, concentration and volume of a solution) to calculate unknown values |  |
| **LG2** | **Students will be able to use appropriate language and algorithms to describe aqueous solutions and predict changes to them. (AQUEOUS SOLUTIONS)** |  |
| **3**  3 Lessons | **SC10** | I can distinguish between qualitative and quantitative data; appreciate that quantitative data obtained from measurements is always associated with random error/measurement uncertainties |  |
| **SC11** | I can calculate the percentage error when the experimental result can be compared with a theoretical or accepted result (value) |  |
| **SC12** | I can communicate measurement uncertainties as a range (±) to an appropriate precision and calculate the measurement uncertainties in processed data, including the use of absolute uncertainties and percentage uncertainties |  |
| **SC13** | I can distinguish between random and systematic errors; understand that experimental design and procedure usually leads to systematic errors in measurement, which causes a deviation in a direction and appreciate that repeated trials and measurements will reduce random error but not systematic error |  |
| **SC14** | I can analyse the impact of random error/measurement uncertainties and systematic errors in experimental work and evaluate how these errors/measurement uncertainties can be reduced |  |
| **SC15** | I can understand that the number of significant figures in a result is based on the figures given in the data and determine results of calculations to the appropriate number of significant figures |  |
| **LG3** | **Students will predict the degree of uncertainty within data and evaluate and explain degrees of error ((MEASUREMENT & UNCERTAINTY)** |  |
| **4**  11 Lessons | **SC16** | I can conduct a class experiment involving reaction rates. |  |
| **SC17** | I can develop a research question to be investigated from data collected in class |  |
| **SC18** | I can research relevant background scientific information to inform the research question and methodology |  |
| **SC19** | I can conduct a risk assessment and account for risks in the methodology by providing specific hazards posed by each chemical and how you accounted for those hazards\* |  |
| **SC20** | I can process and present the data appropriately |  |
| **SC21** | I can construct and use appropriate graphical representations of data, solve problems and make predictions; interpret graphs in terms of the relationship between variables; draw and interpret best-fit lines or curves, including evaluating when it can and cannot be considered as a linear function |  |
| **SC22** | I can analyse the evidence to identify trends, patterns or relationships, uncertainty and limitations |  |
| **SC23** | I can interpret the evidence to draw conclusion/s to the research question |  |
| **SC24** | I can evaluate the reliability and validity of the experimental process |  |
| **SC25** | I can suggest possible improvements and extensions to the experiment |  |
| **SC26** | I can communicate findings in an appropriate scientific genre of written scientific report. |  |
| **LG4** | **Students can develop a research question into an experimental process and create a scientific report.** |  |