LEARNING GOALS and SUCCESS CRITERIA

Year Nine Term 3 2024

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| **Year:** | | **9** | **Unit:** | **Chemistry** | |
| **Subject:** | | **Science** | **Assessment:** | **Exam** | |
| **LG** | **LEARNING GOALS and SUCCESS CRITERIA** | | | | **Where is this in my Notebook?** |
| **1**  \_ Lessons | **SC1** | I can describe how the model of the atom has changed over time. | | |  |
| **SC2** | I can describe and model the structure of an atom in terms of the nucleus, protons, neutrons and electrons using Bohr-Rutherford shell diagrams for the first 20 elements. | | |  |
| **SC3** | I can compare the mass and charge of protons, neutrons and electrons. | | |  |
| **SC4** | I can determine the mass number and atomic number of an element. | | |  |
| **SC5** | I can determine the number of protons, neutrons and electrons of elements by using the Periodic table. | | |  |
| **SC6** | I can explain that differences in the number of neutrons in atoms of the same element results in isotopes. | | |  |
| **LG1** | **Students can explain how the model of an atom changed following the discovery of protons, neutrons and electrons.** | | |  |
| **2**  \_ Lessons | **SC7** | I can explain how natural radioactivity is produced by the decay of nuclei of atoms. | | |  |
| **SC8** | I can describe in simple terms how different unstable isotopes decay such as radon-222 releasing an alpha particle, iodine-131 releasing a beta particle and cobalt-60 releasing gamma radiation form stable atoms. | | |  |
| **SC9** | I can describe in simple terms how alpha, beta and gamma radiation are detected. | | |  |
| **SC10** | I can define half-life, and use this when examining the timescales of decay of different elements such as carbon-14 and uranium-238. | | |  |
| **SC11** | I can describe how radiocarbon and other dating methods have been used to establish that First Peoples of Australia have been present on the Australian continent for more than 60,000 years. | | |  |
| **LG2** | **Students can describe how natural radioactive decay results in stable atoms.** | | |  |
| **3**  \_ Lessons | **SC12** | I can identify reactants and products in chemical reactions. | | |  |
| **SC13** | I can describe observed reactions using word equations. | | |  |
| **SC14** | I can write basic ionic formulas using a table of charges. | | |  |
| **SC15** | I can write and balance simple symbolic equations from word equations. | | |  |
| **SC16** | I can apply the law of conservation of mass when rearranging and balancing worded and simple chemical equations. | | |  |
| **LG3** | **Students can model the rearrangement of atoms in chemical equations using word and simple balanced chemical equations and use these to demonstrate the law of conservation of mass.** | | |  |
| **4**  \_ Lessons | **SC17** | I can develop investigable questions and reasoned predictions to test relationships and develop explanatory models. | | |  |
| **SC18** | I can apply fair testing techniques to design and conduct an experiment. | | |  |
| **SC19** | I can identify risks and manage safety aspects when conducting experiments. | | |  |
| **SC20** | I can select and use equipment to collect and record data to obtain useful sample sizes. | | |  |
| **SC21** | I can select and construct appropriate representations to organise and process data and information. | | |  |
| **SC22** | I can analyse data to identify and explain patterns, trends, relationships and anomalies. | | |  |
| **LG4** | **Students can use Science inquiry skills to test ideas, predictions or hypotheses and draw conclusions in response to a question or problem.** | | |  |