CURRICULUM ALIGNMENT – Understanding Isotopes

Saskatchewan

Grade	Course Name and Number	Unit/Module	Specific Outcome
12	Physics 30	Core Unit IV: Nuclear Physics A: Natural Radioactivity	**Learning Outcome 1:** Define the following terms: radioactivity, isotopes, alpha particles, beta particles, gamma rays, dosimetry, absorbed dose, dose equivalent, quality factor.
12	Physics 30	Core Unit IV: Nuclear Physics A: Natural Radioactivity	**Common Essential Learning:** Use a wide range of possibilities for developing their knowledge of the major concepts within physics.
12	Physics 30	Optional Unit VIII: Atomic Physics A: Atomic Theory	**Learning Outcome 1:** Define the following terms: atomic number, isotope, radioisotopes, nuclear binding force, average binding energy, nuclear mass defect, nuclear binding energy, photon.
12	Physics 30	Optional Unit VIII: Atomic Physics A: Atomic Theory	**Learning Outcome 2:** Use the atomic number of an element to determine the number of protons in a nucleus.
12	Physics 30	Optional Unit VIII: Atomic Physics A: Atomic Theory	**Learning Outcome 4:** Use the atomic mass number and the atomic number to determine the number of neutrons in the nucleus of an atom.
12	Physics 30	Optional Unit VIII: Atomic Physics A: Atomic Theory	**Learning Outcome 5:** Recognize that isotopes of an element have similar chemical properties, but different physical properties.
12	Physics 30	Optional Unit VIII: Atomic Physics A: Atomic Theory	**Learning Outcome 6:** Give an example of an element which contains isotopes and show how those isotopes differ from each another.
12	Physics 30	Optional Unit VIII: Atomic Physics A: Atomic Theory	**Learning Outcome 7:** Explain that the average atomic mass of an element takes into account the relative proportions of its isotopes found in nature.