

# CURRICULUM ALIGNMENT – It's All Greek to Me: Radioactive Decay

## Alberta

Grade	Course Name and Number	Unit	Specific Outcome
12	Physics 30	Unit D: Atomic Physics	<b>Specific Outcome 30–D3.1s:</b> Formulate questions about observed relationships and plan investigations of questions, ideas, problems and issues, including: <ul style="list-style-type: none"> <li>• predict the penetrating characteristics of decay products</li> </ul>
12	Physics 30	Unit D: Atomic Physics	<b>Specific Outcome 30–D3.3s:</b> Analyze data and apply mathematical and conceptual models to develop and assess possible solutions, including: <ul style="list-style-type: none"> <li>• graph data from radioactive decay and estimate half-life values;</li> <li>• interpret common nuclear decay chains;</li> <li>• graph data from radioactive decay and infer an exponential relationship between measured radioactivity and elapsed time; and</li> <li>• compare the energy released in a nuclear reaction to the energy released in a chemical reaction, on the basis of energy per unit mass of reactants.</li> </ul>
12	Physics 30	Unit D: Atomic Physics	<b>Specific Outcome 30–D3.4s:</b> Work collaboratively in addressing problems and apply the skills and conventions of science in communicating information and ideas and in assessing results.
12	Physics 30	Unit D: Atomic Physics	<b>Specific Outcome 30–D3.1k:</b> Describe the nature and properties, including the biological effects, of alpha, beta and gamma radiation.
12	Physics 30	Unit D: Atomic Physics	<b>Specific Outcome 30–D3.2k:</b> Write nuclear equations, using isotope notation, for alpha, beta-negative and beta-positive decays, including the appropriate neutrino and antineutrino.
12	Physics 30	Unit D: Atomic Physics	<b>Specific Outcome 30–D3.4k:</b> Use the law of conservation of charge and mass number to predict the particles emitted by a nucleus.