

Physics > Big idea PMA: Matter > Topic PMA5: Nuclear physics

Key concept (age 14-16)

PMA5.4: Radioactive half-life

Progression toolkit: Radioactive half-life

Learning focus	Radioactive half-life is the predicted time it takes for half of a large sample of radioactive nuclei to decay randomly.				
As students' conceptual understanding progresses they can:	<div> <div>CONCEPTUAL PROGRESSION</div> <div></div> </div>				
	Identify events that are random.	Explain how randomness can lead to predictable outcomes.	Describe the decay of a radioactive material.	Describe patterns in the random nature of radioactive decay and interpret radioactive half-life graphs.	Make calculations using values of half-life.
Diagnostic questions	A random question	Heads or tails?	Radioactive material	Radioactive half-life	Predicting radioactivity
		Tossing coins		Radioactive half-life graph	Carbon dating
Response activities			Half-life of clay dice		
			Half-life of pizza		

Key:

P Prior understanding from earlier stages of learning

B Bridge to later stages of learning

Developed by the University of York Science Education Group, the Salters' Institute and the Institute of Physics.
This document may have been edited. Download the original from www.BestEvidenceScienceTeaching.org
© University of York Science Education Group. Distributed under a Creative Commons Attribution-NonCommercial (CC BY-NC) license.