

## Simulation: Geiger Counter and Radioactive Decay Half-Life

Isotope ID Number	Decay Constant, $\lambda$ (seconds <sup>-1</sup> )	Half-Life, $t_{1/2}$ (seconds)
0	0.01250	55
1	0.00833	83
2	0.00625	111
3	0.00500	139
4	0.00417	166
5	0.00357	194
6	0.00313	222
7	0.00278	249
8	0.00250	277
9	0.00227	305

Table of Simulated Isotopes

$$t_{1/2} = 0.693 / \lambda$$

*Note to teacher: It is advisable that students collect data for a time period of at least two to three half-lives. Therefore, selecting isotopes with shorter half-lives will require less class time for data collection.*