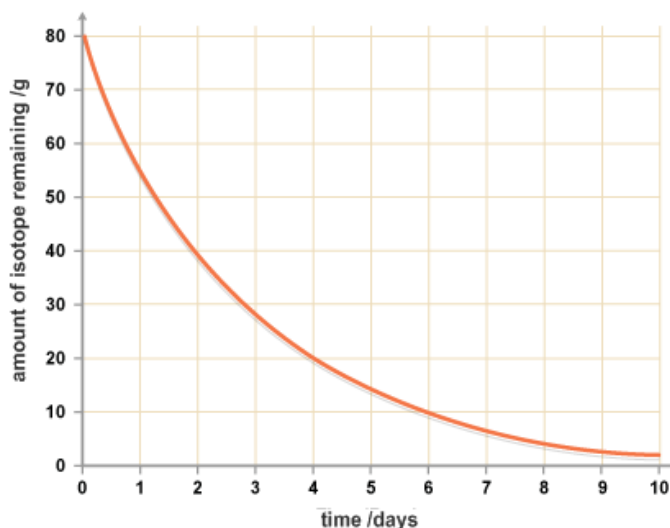


Radioactive Half-Life

The half-life of an isotope is the average time it takes for the number of nuclei of the isotope to halve.

The graph shows the amount of a particular radioactive isotope remaining in a sample over 10 days.

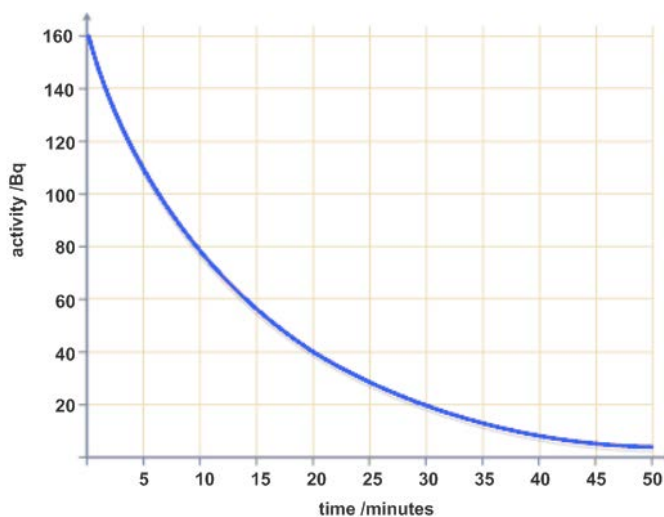
What is the half-life of the isotope?



The half-life of an isotope can **also** be found from the average time it takes for the activity to halve.

The graph shows the activity of a particular radioisotope over 50 minutes.

What is the half-life of the isotope?



1. If there were 5,000,000 atoms of a radioactive element in a sample, how many would be left after:
 - a. one half-life
 - b. two half-lives
 - c. three half-lives
2. If the half-life of a sample was 20 minutes, and the initial count rate was 8000 counts per minute, what would the count rate be after 2 hours?
3. What must you always remember to do to ensure count rate measurements are accurate?

