

#### Main Ideas, Key Points, Questions:

After watching the video segment, write down key points, main ideas, and big questions.

#### Objective(s):

- Develop a mathematical model that indicates the relationship between half-life, time, and mass.
- Use a mathematical model to relate the amount of a substance, its half-life, and the total time elapsed.

#### Notes:

During the video segment, use words, phrases, or drawings to take notes.

#### Summary:

After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself: "If I was going to explain this to someone else, what would I say?"

**Answer the following.**

1. Define half-life in your own words.

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2. How much of a radioactive sample decays in one half-life?

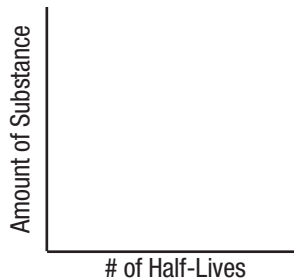
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3. Will the amount of radioactive material ever reach zero?

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4. Graph the rate of decay of a radioactive substance, which is the amount of a radioactive substance versus the number of half-lives.



5. What is the equation that relates the remaining mass of a radioactive sample, the initial mass of the sample, and the number of half-lives that pass?

6. What does the length of a radioactive isotope's half-life indicate about the stability of that isotope?

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7. What method do scientists use to determine the age of fossils, and what radioactive isotope do scientists use to determine the age of organic fossils?

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