



Section 7.2

Half-life

Study Notes

By the end of section 7.2 you should be able to understand the following:

- The half-life of a radioactive element reveals the rate of radioactive decay; the shorter the half-life, the faster the rate of decay.
- After one half-life, half of the original amount of radioactive material remains.
- All radioactive decay follows a pattern of decay called a decay curve. The decay curve can be used to determine the amount of isotope remaining, or the time it took to decay to the current amount.
- The Common Isotope Pairs Chart identifies the parent isotope and the daughter isotope, the half-life of the isotope, and the dating range the isotope can be used for.

NOTES

What is radiocarbon dating?

1.

What is half-life? If you had 24 g of strontium-90 today, how much strontium-90 would you have after 58 years?

1.

2.

Sketch the general shape of a decay curve. What is the only difference between the decay curves of all radioisotopes?

1.

2.

NOTES

What is the Common Isotope Pairs chart? What is it used for?

1.

2.

What is the potassium-40 clock? How long is the half-life of potassium-40?

1.

2.

Using the potassium-40 decay curve, determine the age of a rock with 25% potassium-40 and 75% argon.

1.