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Academy

Nuclear Decay Equation Questions

1. In what way is a helium nucleus similar to an alpha particle?

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2. What is the symbol for an alpha particle?

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3. Complete the equation for the decay of uranium-235 into thorium-231 by alpha emission.

$$^{235}_{92}U \rightarrow ^{\cdots}_{\cdots}Th + ^{4}_{2}He$$

4. What is a beta particle?

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5. Complete the equation for the decay of copper-64 into zinc-64 by beta emission.

$$^{64}_{29}Cu \rightarrow {}^{\cdots}_{\cdots}Zn + {}^{0}_{-1}e$$

6. Complete the equation for the decay of carbon-14 into nitrogen.

$$^{14}_{6}C \rightarrow {}^{14}_{7}N + {}^{\cdots}_{\cdots}\cdots$$

7. Complete the equation for the decay of polonium-210 into lead.

$$^{210}_{84}Po \rightarrow {}^{206}_{82}Pb + {}^{\cdots}_{\cdots}\cdots$$

8. Radium-226 ($^{226}_{88}Ra$) decays into Radon gas by alpha decay. Complete the symbol for the daughter nucleus.

$$^{\cdots}_{\cdots}Rn$$

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9. Potasium-40 ($^{40}_{19}K$) decays into calcium by beta decay. Complete the symbol for the daughter nucleus.

$$^{\cdots}_{\cdots}Ca$$

10. Technetium decays into ruthenium. Complete the equation.

$$^{99}_{\cdots}Tc \rightarrow {}^{99}_{44}Ru + {}^{\cdots}_{\cdots}\cdots$$

11. Thorium decays into radon. Complete the equation.

$$^{228}_{\cdots}Th \rightarrow {}^{224}_{88}Ra + {}^{\cdots}_{\cdots}\cdots$$

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12. Hydrogen-3 can decay into helium-3. Write the equation.

13. Cobalt can decay to nickel by beta decay. Complete the equation.

$$\overset{\cdots}{\underset{\cdots}{}}Co \rightarrow {}^{60}_{28}Ni + \overset{\cdots}{\underset{\cdots}{}}\ldots$$

14. Uranium can decay into thorium by alpha decay. Complete the equation.

$$\overset{\cdots}{\underset{\cdots}{}}U \rightarrow {}^{234}_{90}Th + \overset{\cdots}{\underset{\cdots}{}}\ldots$$

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