

Facts on Isotopes and Atoms

<https://gemini.google.com/app/540c626bab8bd163>

Response: Statements **(b)** and **(c)** are correct.

Analysis of Statements:

- **(a) Incorrect:** The most common isotope of hydrogen, protium (^1H), consists of only one proton and one electron; it contains no neutrons.
 - **(b) Correct:** Carbon-12 ($^{12}_6\text{C}$) is a non-radioactive, stable isotope that makes up about 98.9% of naturally occurring carbon.
 - **(c) Correct:** Radioactivity is caused by an unstable nucleus undergoing spontaneous decay to achieve a more stable energy state.
 - **(d) Incorrect:** Atoms are composed of subatomic particles (protons, neutrons, and electrons) and can be split through nuclear reactions.
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