

- 39** A material contains a radioactive isotope that disintegrates solely by the emission of α -particles at a rate of 100 s^{-1} .

Which statement about this material is correct?

- A** The number of atoms in the material diminishes at a rate of 100 s^{-1} .
- B** The number of neutrons in the material diminishes at a rate of 100 s^{-1} .
- C** The number of nucleons in the material diminishes at a rate of 400 s^{-1} .
- D** The number of protons in the material diminishes at a rate of 100 s^{-1} .

- 40** A different nucleus can be formed by bombarding a stable nucleus with an energetic α particle.