

- 38** In an experiment on  $\alpha$ -particle scattering,  $\alpha$ -particles are directed at a thin gold foil. Most of the  $\alpha$ -particles pass straight through the foil or are deflected by a small angle. A small number of  $\alpha$ -particles are deflected by a large angle.

Which statement **cannot** be deduced from this experiment?

- A** Atoms are mostly empty space.
- B** Most of the mass of an atom is concentrated in the nucleus.
- C** The nucleus of an atom contains protons.
- D** The nucleus of an atom is small compared to the size of an atom.