

## Answer on Question #60305, Chemistry / General Chemistry

1. Which of the following statements is not consistent with the results obtained in Rutherford's gold foil experiment?
- A. The nucleus of an atom is positively charged.
  - B. The nucleus of an atom contains almost all the mass of the atom.
  - C. Atoms are composed mainly of empty space.
  - D. Electrons are contained in the nucleus of an atom.

### Solution:

By studying the scattering of alpha particles passing through the gold foil, Rutherford concluded that all the positive charge of the atom is concentrated in its center in a very massive and compact nucleus. A negatively charged particles (electrons) revolve around this nucleus. This model is radically different from the widespread while the Thomson model of the atom, in which the positive charge is uniformly fills the entire volume of the atom and the electrons were embedded in it. Somewhat later, Rutherford's model was called the planetary model of the atom (which is really similar to the solar system: hard core - the Sun and the electrons orbiting it - the planets

Hereof that the answer "D" isn't correct, because of the electrons move around the positive charged core in their orbits

**Answer: D is not consistent with the results obtained in Rutherford's gold foil experiment.**