

Name _____

The Atomic Mystery: Why Don't Atoms Collapse?

Multiple Choice Questions

1. What are the three fundamental particles that make up an atom?
 - A. Electrons, photons, and quarks
 - B. Protons, neutrons, and electrons
 - C. Electrons, positrons, and neutrinos
 - D. Photons, electrons, and quarks

2. What is the dense core of an atom that contains protons and neutrons called?
 - A. Electron cloud
 - B. Nucleus
 - C. Energy level
 - D. Orbital

3. Which principle in quantum mechanics states that we cannot precisely know both the position and the velocity of a particle at the same time?
 - A. Newton's Law of Gravitation
 - B. The Pauli Exclusion Principle
 - C. The Heisenberg Uncertainty Principle
 - D. Bohr's Atomic Model

4. Why don't electrons in atoms follow classical paths like planets orbiting the sun?
 - A. Because they are too small to follow paths
 - B. Because they exist in regions called orbitals
 - C. Because they are too fast to track
 - D. Because they are attracted to the moon

5. What force keeps electrons in their respective shells and prevents them from collapsing into the nucleus?
 - A. Electromagnetic force
 - B. Gravitational force
 - C. Magnetic force
 - D. Nuclear force

