

2.1 Subatomic Particles Prequiz (E)

1. _____ and _____ reside in the atomic nucleus.
 A) Protons, electrons
 B) Protons, neutrons
 C) Electrons, neutrons
 D) none of the above
 E) Neutrons, only neutrons

2. In the Rutherford nuclear-atom model, _____.
 A) the light subatomic particles, protons and neutrons, reside in the nucleus
 B) the three principal subatomic particles (protons, neutrons, and electrons) all have essentially the same mass
 C) the heavy subatomic particles, protons and neutrons, reside in the nucleus
 D) the three principal subatomic particles (protons, neutrons, and electrons) all have essentially the same mass and mass is spread essentially uniformly throughout the atom
 E) mass is spread essentially uniformly throughout the atom

3. Cathode rays are deflected away from a negatively charged plate because _____.
 A) they are negatively charged particles
 B) they are not particles
 C) they are positively charged particles
 D) they are neutral particles
 E) they are emitted by all matter

4. Of the following, the smallest and lightest subatomic particle is the _____.
 A) nucleus B) proton C) neutron D) electron E) alpha particle

5. The atomic number indicates _____.
 A) the number of different isotopes of an element
 B) the number of neutrons in a nucleus
 C) the number of atoms in 1 g of an element
 D) the total number of neutrons and protons in a nucleus
 E) the number of protons or electrons in a neutral atom

6. Which one of the following is not one of the postulates of Dalton's atomic theory?
 A) During a chemical reaction, atoms are changed into atoms of different elements.
 B) Each element is composed of tiny, indivisible particles called atoms.
 C) Compounds are formed when atoms of different elements combine.
 D) Atoms of an element are not changed into different types of atoms by chemical reactions.
 E) All atoms of a given element are identical to each other and different from those of other elements.

7. Different isotopes of a particular element contain the same number of _____.

- A) subatomic particles
- B) protons, neutrons, and electrons
- C) neutrons
- D) protons and neutrons
- E) protons

8. According to John Dalton's observations, when elements combine in a compound,

- A) their masses are always equal.
- B) the ratio of their masses is always the same.
- C) each element contributes an equal number of atoms.
- D) their volumes are always equal.

9. Rutherford's gold foil experiment provided evidence for which of the following?

- A) Alpha particles have a positive charge.
- B) Gold is not as dense as previously thought.
- C) Negative and positive charges are spread evenly throughout an atom.
- D) There is a dense, positively charged mass in the center of an atom.

10. Which subatomic particle has a negative charge?

- A) electron
- B) proton
- C) neutron

Name _____ Date _____ Period _____

Answer Key

1. B
2. C
3. A
4. D
5. E
6. A
7. E
8. B
9. D
10. A