

TRUE/FALSE

1. Atoms are the basic building blocks that make up all matter.
ANS: T PTS: 1 REF: Structure of the Atom
2. An atom has an equal number of protons and electrons.
ANS: T PTS: 1 REF: Structure of the Atom
3. When electrons break free from orbit around the nucleus, they are called free electricity.
ANS: F PTS: 1 REF: Electric Current
4. Semiconductors have many free electrons and allow current to flow easily.
ANS: F PTS: 1 REF: Materials Used in Electricity
5. Photons are the basic unit of light energy.
ANS: T PTS: 1 REF: The Characteristics of Light

COMPLETION

1. There are three major types of particles that make up an atom: electrons, protons, and _____.
ANS: neutrons
PTS: 1 REF: Structure of the Atom
2. A(n) _____ is the smallest part of an element that still has the characteristics of the element.
ANS: atom
PTS: 1 REF: Structure of the Atom
3. The orbit farthest from the nucleus contains the _____ electrons.
ANS: valence
PTS: 1 REF: Structure of the Atom
4. The Law of Charges states: _____ charges attract and unlike charges repel.
ANS: like
PTS: 1 REF: Law of Charges

5. A(n) _____ is a solid piece of pure material.

ANS: crystal

PTS: 1 REF: Materials Used in Electricity

6. Light has both wave and _____ characteristics.

ANS: particle

PTS: 1 REF: The Characteristics of Light

SHORT ANSWER

1. Describe the charge of protons, electrons, and neutrons as well as their location within an atom.

ANS:

Protons are positively charged and located within the nucleus. Electrons are negatively charged and located in orbit around the nucleus. Neutrons are not charged and located within the nucleus.

PTS: 1 REF: Structure of the Atom

2. Why are valence electrons of primary interest in electricity?

ANS:

Valence electrons are of primary interest in electricity because they are the source of electric current.

PTS: 1 REF: Structure of the Atom

3. What is electric current?

ANS:

Electric current is the free flow of electrons in a material.

PTS: 1 REF: Electric current

4. What are the three categories of materials used in electricity?

ANS:

The three categories are conductors, insulators, and semiconductors.

PTS: 1 REF: Materials Used in Electricity