

Chapter 3 Study Guide

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. Which of the following have the same number of valence electrons?
 - a. the elements having similar atomic numbers
 - b. the elements in a period
 - c. the elements having similar atomic masses
 - d. the elements in a group/family
- _____ 2. In the periodic table, the most reactive metals are found
 - a. in Periods 6 and 7 at the bottom.
 - b. in Groups 13 through 16 in the center.
 - c. in Group 1, the first column on the left.
 - d. in Period 1, the first row across the top.
- _____ 3. Mendeleev created the first periodic table by arranging elements in order of
 - a. increasing atomic number.
 - b. increasing densities.
 - c. decreasing atomic mass.
 - d. increasing atomic mass.
- _____ 4. What is the greatest number of valence electrons an atom can have?
 - a. 1
 - b. 3
 - c. 100
 - d. 8
- _____ 5. Fluorine, chlorine, bromine, and iodine are part of a family called
 - a. metalloids.
 - b. alkali metals.
 - c. halogens.
 - d. noble gases.
- _____ 6. What information in the periodic table indicates the number of protons in an atom?
 - a. the element's atomic mass
 - b. the element's chemical symbol
 - c. the position of the element in its column
 - d. the element's atomic number
- _____ 7. The state of matter in which atoms are stripped of their electrons and the nuclei are packed close together is called
 - a. a solid.
 - b. a gas.
 - c. a liquid.
 - d. plasma.
- _____ 8. Electrons involved in bonding between atoms are
 - a. inside the nucleus.
 - b. positively charged.
 - c. valence electrons.
 - d. closest to the nucleus.
- _____ 9. Which of the following statements about transition metals is true?
 - a. They are so similar that it's often difficult to find differences between them.
 - b. They are the most reactive of all the types of metals.
 - c. They are so soft that they can be cut with an ordinary knife.
 - d. They are never found uncombined in nature.
- _____ 10. How does nuclear fusion create new elements inside stars?
 - a. Small nuclei combine to form larger nuclei.
 - b. Small nuclei cause large nuclei to break apart.
 - c. Large nuclei combine, then form smaller nuclei.
 - d. All the nuclei repel one another because of their positive charges.