

# Elements and the Periodic Table

## Multiple Choice

*Write the letter of the correct answer on the line at the left.*

- \_\_\_\_\_ 1. Which particles are found in the nucleus of an atom?
  - a. electrons and protons
  - b. neutrons and protons
  - c. neutrons and electrons
- \_\_\_\_\_ 2. The number of protons in an atom is the element's
  - a. chemical symbol.
  - b. group.
  - c. atomic number.
- \_\_\_\_\_ 3. Dmitri Mendeleev created the first
  - a. chemical reaction.
  - b. periodic table.
  - c. semiconductor.
- \_\_\_\_\_ 4. A row of elements in the periodic table is called a
  - a. period.
  - b. group.
  - c. family.
- \_\_\_\_\_ 5. A one or two letter representation of an element is a(an)
  - a. chemical symbol.
  - b. atomic number.
  - c. energy level.
- \_\_\_\_\_ 6. If an object can be pulled into a long wire, then the object is
  - a. ductile.
  - b. reactive.
  - c. easy to break.
- \_\_\_\_\_ 7. When metal atoms react with the atoms of other elements, the metal atoms
  - a. gain neutrons.
  - b. share protons.
  - c. lose electrons.
- \_\_\_\_\_ 8. Scientists make elements heavier than uranium in machines called
  - a. semiconductors.
  - b. particle accelerators.
  - c. lasers.

**Elements and the Periodic Table ▪ Chapter Test B**

- \_\_\_\_\_ 9. Which is a property of nonmetals?
- a. good conductor
  - b. malleable
  - c. not shiny
- \_\_\_\_\_ 10. Elements that have some properties of both metals and nonmetals are called
- a. semimetals.
  - b. noble gases.
  - c. alkali metals.

**Completion**

*Read each word in the box. In each sentence below, fill in the correct word or words. Not all of the words will be used.*

alkali metals	atomic mass	halogens
isotopes	radioactivity	noble gases

11. Atoms with the same number of protons but different numbers of neutrons are called \_\_\_\_\_.
12. The average mass of all the isotopes of an element is called the element's \_\_\_\_\_.
13. The most reactive group of metals in the periodic table is the \_\_\_\_\_.
14. The most reactive group of nonmetals whose atoms gain or share one electron in chemical reactions are the \_\_\_\_\_.
15. The ability of a substance to spontaneously give off radiation is called \_\_\_\_\_.

**True or False**

*If a statement is true, write true. If it is false, write false.*

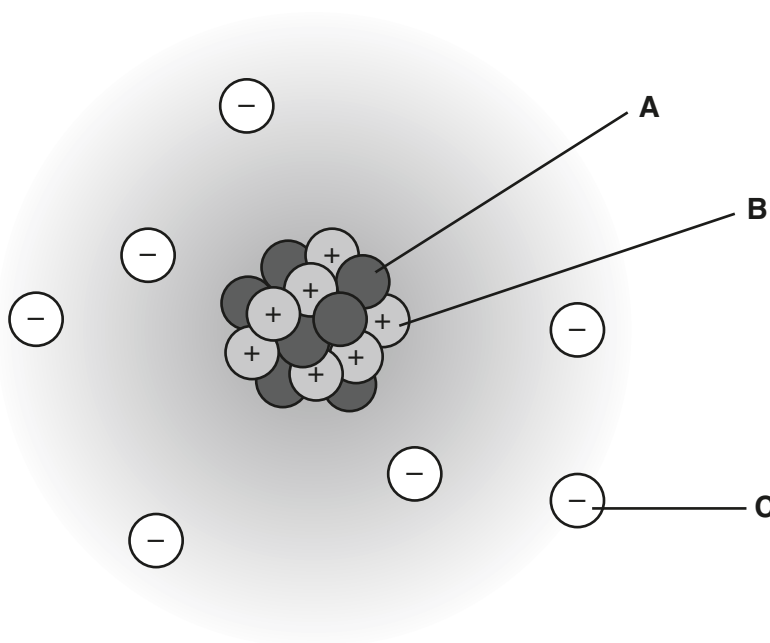
- \_\_\_\_\_ 16. In an atom, the number of protons is equal to the number of electrons.
- \_\_\_\_\_ 17. It is impossible to predict the properties of any element by its position in the periodic table.

**Elements and the Periodic Table • Chapter Test B**

- \_\_\_\_\_ 18. Heat and electric current can easily flow through metals.
- \_\_\_\_\_ 19. Nonmetals can be hammered into thin sheets.
- \_\_\_\_\_ 20. Radioactive tracers can be used to follow the steps of a chemical reaction.

**Using Science Skills**

Use the diagram below to answer questions 21, 22, and 23.



- \_\_\_\_\_ 21. **Inferring** The part of an atom labeled B is a(an)  
a. proton.  
b. neutron.  
c. electron.
- \_\_\_\_\_ 22. **Applying Concepts** Which part of an atom has the least mass?  
a. A  
b. B  
c. C
- \_\_\_\_\_ 23. **Applying Concepts** Which parts of an atom make up nearly all the mass of an atom?  
a. A + C  
b. A + B  
c. B + C

## Elements and the Periodic Table ▪ Chapter Test B

**Using Science Skills**

Use the diagram below to answer questions 24 and 25.

15
7 <b>N</b> Nitrogen
15 <b>P</b> Phosphorus
33 <b>As</b> Arsenic
51 <b>Sb</b> Antimony
83 <b>Bi</b> Bismuth

- \_\_\_\_\_ 24. **Inferring** The chemical symbol for phosphorus is
- 15.
  - P.
  - Sb.
- \_\_\_\_\_ 25. **Applying Concepts** The elements shown in the diagram are
- part of the same group.
  - part of the same period.
  - not related.