

**M O D E R N E A R T H S C I E N C E**

Section 8.1  
**Matter**

**Read each statement below. If the statement is true, write *T* in the space provided. If the statement is false, write *F* in the space provided.**

- \_\_\_\_\_ 1. Physical properties describe how a substance interacts with other substances to produce different kinds of matter.
- \_\_\_\_\_ 2. Elements are formed from atoms that have a characteristic set of physical and chemical properties.
- \_\_\_\_\_ 3. The particles of a solid are more tightly packed than those of a gas.
- \_\_\_\_\_ 4. Isotopes are atoms of the same element that differ in atomic number.
- \_\_\_\_\_ 5. The particles in a liquid move faster when heated.

**Choose the one best response. Write the letter of that choice in the space provided.**

- \_\_\_\_\_ 6. Which of the following has a negative charge?  
 a. neutron      b. nucleus      c. proton      d. electron
- \_\_\_\_\_ 7. Atoms of an element with an atomic number of 8 must have:  
 a. 8 neutrons.      b. 8 protons.      c. 16 neutrons.      d. 16 protons.
- \_\_\_\_\_ 8. Different elements are made up of different kinds of:  
 a. electrons.      b. protons.      c. molecules.      d. atoms.

63.55 <sup>2</sup> / <sub>8</sub> <sup>18</sup> / <sub>1</sub> <b>Cu</b> Copper 29	65.39 <sup>2</sup> / <sub>8</sub> <sup>18</sup> / <sub>2</sub> <b>Zn</b> Zinc 30	69.72 <sup>2</sup> / <sub>8</sub> <sup>18</sup> / <sub>3</sub> <b>Ga</b> Gallium 31
107.9 <sup>2</sup> / <sub>8</sub> <sup>18</sup> / <sub>1</sub> <b>Ag</b> Silver 47	112.4 <sup>2</sup> / <sub>8</sub> <sup>18</sup> / <sub>2</sub> <b>Cd</b> Cadmium 48	114.8 <sup>2</sup> / <sub>8</sub> <sup>18</sup> / <sub>3</sub> <b>In</b> Indium 49
197.0 <sup>2</sup> / <sub>8</sub> <sup>32</sup> / <sub>1</sub> <b>Au</b> Gold 79	200.6 <sup>2</sup> / <sub>8</sub> <sup>32</sup> / <sub>2</sub> <b>Hg</b> Mercury 80	204.4 <sup>2</sup> / <sub>8</sub> <sup>32</sup> / <sub>3</sub> <b>Tl</b> Thallium 81

- \_\_\_\_\_ 9. According to this table, how many electrons does the element silver (Ag) have?  
 a. 47      b. 61  
 c. 108      d. 148
- \_\_\_\_\_ 10. How many neutrons could an atom of the element zinc (Zn) have?  
 a. 30      b. 36  
 c. 65      d. 95