

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

- \_\_\_\_\_ 1. Elements that do *not* combine with other elements except under specially controlled conditions belong to the  
a. alkali group.      b. halogens.      c. noble gases.      d. transition metals.
- \_\_\_\_\_ 2. The elements that are active, strongly nonmetallic, and react readily with metals to form salts are the  
a. alkali group.      b. halogens.      c. noble gases.      d. rare-earth elements.
- \_\_\_\_\_ 3. The lanthanoids and actinoids are found in the last  
a. row of the periodic table.      c. three rows of the periodic table.  
b. two rows of the periodic table.      d. four rows of the periodic table.
- \_\_\_\_\_ 4. Elements that are never found free in nature but are always found combined in a compound are the  
a. alkali group.      b. metalloids.      c. noble gases.      d. transition metals.
- \_\_\_\_\_ 5. Argon found in light bulbs is a member of the family of  
a. alkali elements.      b. halogens.      c. noble gases.      d. rare-earth elements.
- \_\_\_\_\_ 6. Lanthanoid elements are used to make  
a. glass.      b. insecticides.      c. neon lights.      d. nuclear fuel.
- \_\_\_\_\_ 7. An actinoid element is used to make  
a. glass.      b. insecticides.      c. neon lights.      d. nuclear fuel.
- \_\_\_\_\_ 8. Sulfur is used to manufacture  
a. cleaning agents.      b. gunpowder.      c. photographic lamps.      d. steel.
- \_\_\_\_\_ 9. Fluorine is a very active diatomic element that belongs to the  
a. alkali group.      b. halogens.      c. noble gases.      d. transition metals.
- \_\_\_\_\_ 10. The two rows that stand alone at the bottom of the periodic table are  
a. noble gases.      b. rare-earth elements.      c. halogens.      d. in the oxygen family.

**Completion** Complete each statement on the line at the left.

- \_\_\_\_\_ 1. \_\_\_\_\_ have no luster, are dull in appearance, are brittle, and do not conduct heat and electricity very well.
- \_\_\_\_\_ 2. The elements in group IIA of the periodic table are the \_\_\_\_\_ metals.
- \_\_\_\_\_ 3. The \_\_\_\_\_ metals have properties similar to one another, but they do not fit in with those of any other family.
- \_\_\_\_\_ 4. Elements in the family known as the \_\_\_\_\_ are the most active nonmetals.
- \_\_\_\_\_ 5. \_\_\_\_\_ is the most abundant element in the earth's atmosphere.

**True or False** Determine whether each statement is true or false. If it is true, write T. If it is false, change the underlined word or words to make the statement true.

- \_\_\_\_\_ 1. Halogens include fluorine, chlorine, bromine, iodine, and astatine.
- \_\_\_\_\_ 2. Gallium, indium, thallium, and aluminum are members of the carbon family.

- \_\_\_\_\_ 3. Carbon is the most abundant element in the earth's crust.
- \_\_\_\_\_ 4. Luster is a chemical property of metals.
- \_\_\_\_\_ 5. An alloy is a mixture of two elements that has the properties of a metal.

### Using Science Skills: Making comparisons

IA	IIA	IIIA	VIIA	VIIIA
3 <b>Li</b> Lithium 7	4 <b>Be</b> Beryllium 9	5 <b>B</b> Boron 11	9 <b>F</b> Fluorine 19	2 <b>He</b> Helium 4
11 <b>Na</b> Sodium 23	12 <b>Mg</b> Magnesium 24	13 <b>Al</b> Aluminum 27	17 <b>Cl</b> Chlorine 35	10 <b>Ne</b> Neon 20
19 <b>K</b> Potassium 39	20 <b>Ca</b> Calcium 40	31 <b>Ga</b> Gallium 70	35 <b>Br</b> Bromine 80	18 <b>Ar</b> Argon 40
37 <b>Rb</b> Rubidium 85	38 <b>Sr</b> Strontium 88	49 <b>In</b> Indium 115	53 <b>I</b> Iodine 127	36 <b>Kr</b> Krypton 84
55 <b>Cs</b> Cesium 133	56 <b>Ba</b> Barium 137	81 <b>Tl</b> Thallium 204	85 <b>At</b> Astatine 210	54 <b>Xe</b> Xenon 131
87 <b>Fr</b> Francium 223	88 <b>Ra</b> Radium 226			86 <b>Rn</b> Radon 222

- Which family contains elements with 1 valence electron? \_\_\_\_\_
- Which family contains metalloids? \_\_\_\_\_
- Which family of elements gains electrons most easily? \_\_\_\_\_
- Which family contains the second most active metals? \_\_\_\_\_
- Which family contains elements that are highly unreactive? \_\_\_\_\_