

CHAPTER

22

REINFORCEMENT WORKSHEET

Placing All Your Elements on the Table

Complete this worksheet after you have finished reading Chapter 22, Section 2.

You can tell a lot about the properties of an element just by looking at the element's location on the periodic table. This worksheet will help you better understand the connection between the periodic table and the properties of the elements. Follow the directions below, and use crayons or colored pencils to color the periodic table at the bottom of the page.

1. Color the square for hydrogen yellow.
2. Color the groups with very reactive metals red.
3. Color and label the noble gases orange.
4. Color the transition metals green.
5. Using black, mark the zigzag line that shows the position of the metalloids.
6. Color the metalloids purple.
7. Use blue to color all of the nonmetals that are not noble gases.
8. Color the metals in Groups 13–16 brown.
9. Circle and label the actinides in yellow.
10. Circle and label the lanthanides in red.
11. Circle and label the alkali metals in blue.
12. Circle and label the alkaline-earth metals in purple.
13. Circle and label the halogens in green.

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Placing All Your Elements on the Table, continued

Answer the following questions using the periodic table on the previous page.

- 14.** The alkaline-earth metals react similarly because they all have the same number of electrons in their outer energy level. Which group contains the alkaline-earth metals?

- 15.** How many electrons are in the outer energy level of the atoms of alkaline-earth metals? _____

- 16.** Hydrogen is in a different color than the rest of the elements in Group 1. Give an example of how hydrogen's characteristics set it apart from other Group 1 elements.

- 17.** What is the name for the group of elements that are particularly unreactive?

- 18.** Except for the metalloids, what do all of the elements on the right side of the zigzag line have in common?

- a.** They are not very reactive. **c.** They are all metals.
b. They are all nonmetals. **d.** They are all very reactive.

- 19.** Lanthanide and actinide elements are transition metals.

True or False? (Circle one.)

Imagine you are a scientist who has just discovered a new element. The element has an atomic number of 113, and it has three electrons in the outer energy level of each atom.

- 20.** Where would you place this new element in the periodic table?

- 21.** Which element would have properties most similar to the new element?

- a.** hydrogen **c.** boron
b. beryllium **d.** carbon

- 22.** What name would you suggest for this new element?
