LESSON 10

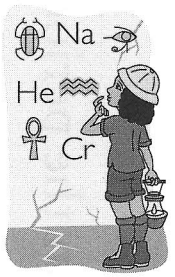
FOLLOW-UP

Breaking the Code

The Periodic Table

Name _____

Date _____ Period _____



Purpose

To identify many of the patterns in the periodic table of the elements.

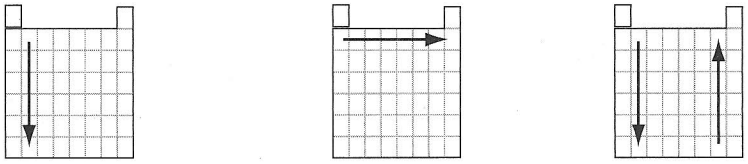
Materials

- Create a Table card deck
- handout—Periodic Table

1. Sort the cards. Make a list of all the patterns and trends you can find, going horizontally (from left to right) on the card sort.

2. Make a list of all the patterns and trends you can find, going vertically (from top to bottom).

3. The arrows in these diagrams represent increases. Which trend or pattern does each diagram describe?



4. Where are the metals located on the periodic table? the nonmetals?

5. Is calcium, Ca, a metal or a nonmetal? Explain your thinking.

6. The elements inserted into the card sort from Mendeleyev's table are called transition elements. Do you expect these elements to be solids, liquids, or gases at room temperature? Explain.

7. Where are most of the gases located on the periodic table?

8. Is thallium, Tl, a solid, liquid, or gas?

9. In what areas of the periodic table do you find the most highly reactive elements?

10. How would you expect cesium, Cs, to react with water? Explain your reasoning.

11. What element has average atomic mass 137.3? If there were a card for this element, what would it probably say in the lower left corner?

12. Place these elements in order from most reactive to least reactive:
rubidium, Rb neon, Ne silicon, Si calcium, Ca

13. For each compound listed, specify how many different metals, metals and nonmetals, or nonmetals were combined.

a. NaCl, sodium chloride (table salt)

b. CH_4O_2, acetic acid (vinegar)

c. CuSn, copper tin alloy (bronze)

14. Making Sense The elements copper and gold are both relatively nonreactive. It is easy to bend and shape both metals. Both are used to make coins and jewelry. Is the similarity in their properties consistent with their locations on the periodic table? Explain why or why not.

15. If You Finish Early Create a card for the element Pb.