



Reflecting on the Activity and the Challenge

In this activity you learned that electrons in atoms are assigned not only to energy levels but also to sublevels, labeled *s*, *p*, *d*, and *f*. You have also learned that the electron configuration of atoms of all elements in the same column of the periodic table end with the same sublevel and number of electrons in that sublevel. Mendeleev organized elements into columns based on similar chemical properties. Thus, electron energy sublevels are clearly associated with chemical properties of elements and their position on the periodic table. You may wish to incorporate the information about electron configuration in your game to meet the *Chapter Challenge*.

Chem to Go

- Write the complete configuration of electron energy levels, from 1s to 4s.
- Consider the element boron (B) as an example.
 - What is boron's atomic number?
 - How many electrons does boron have?
 - What is the complete electron configuration for boron? (Be sure to include the number and letter of the appropriate sublevels, as well as the number of electrons in each sublevel.)
- Answer the following questions for the element zinc.
 - What is zinc's atomic number?
 - How many electrons does zinc have?
 - What other elements might you expect to have chemical properties similar to zinc? Explain your choices.
- Answer the following questions for the element calcium.
 - What is calcium's atomic number?
 - How many electrons does calcium have?
 - What is the complete electron configuration for calcium? (Be sure to include the number and letter of the appropriate sublevels, as well as the number of electrons in each sublevel.)

