Activity Sheet **Name**_____
Chapter 4, Lesson 3
The Periodic Table and Energy Level Models **Date** _____

Your group will receive a set of cards with information about the energy levels of a particular atom.

Your job is to figure out which atom the card describes and to place it in the area in your classroom for that atom. Use the activity sheet from lesson 2 along with this activity sheet as areference.

Energy levels

Electrons surround the nucleus of an atom in regions called **energy levels**. Even though atoms are spherical, the energy levels in an atom are more easily shown in concentric circles.

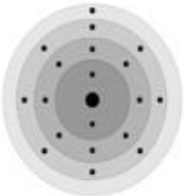
How do you know the model at the right represents oxygen?

The larger dot in the center of this atom represents the nucleus, which contains both protons and neutrons. The smaller dots surrounding the nucleus represent electrons.

To figure out which atom this represents, count the number of electrons. There are 8 electrons in this atom. Because the number of electrons and protons is the same in an atom, this atom has 8 protons. Look at the chart **Periodic Table, Elements 1–20**. The number of protons is the same as the atomic number, so this drawing represents the atom whose atomic number is 8 (oxygen).

ENERGY LEVELS
ELEMENTS 1–20

Complete each energy level model by drawing the correct number of electrons in their corresponding energy levels.

HYDROGEN 1  1.01							HELIUM 2  4.00
LITHIUM 3  6.94	BERYLLIUM 4  9.01	BORON 5  10.81	CARBON 6  12.01	NITROGEN 7  14.01	OXYGEN 8  16.00	FLUORINE 9  19.00	NEON 10  20.18
SODIUM 11  22.99	MAGNESIUM 12  24.31	ALUMINUM 13  26.98	SILICON 14  28.09	PHOSPHORUS 15  30.97	SULFUR 16  32.07	CHLORINE 17  35.45	ARGON 18  39.95
POTASSIUM 19  39.10	CALCIUM 20  40.08						