Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period \_\_\_\_\_\_\_\_

**Patterns in the Pizza Box Periodic Table**

Look closely at the pizza box periodic table. Notice the patterns you observe! Please write full sentence answers that are clear and thoughtful.

1. What interesting patterns do you notice as you look at the atom models on the periodic table?
2. What do you notice is similar about all of the atoms in each row (period) on the periodic table?
3. What do you notice is similar about each of the elements in a family on the periodic table? Which two families are the exceptions to this rule?
4. What change do you notice occurs with the atom’s nucei as you move from the low atomic numbers to the high atomic numbers?
   1. How does this change affect the density of the atoms as you move from low to high atomic numbers?
5. Where in the periodic table is there a large gap in the size of the nucleus as you move across the rows? Why does this gap occur?
6. Two elements are missing from the table. What are those elements? (use a periodic table to identify their names) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   1. Choose one of the missing elements. Based on its location on the periodic table, describe: protons\_\_\_\_\_, electrons\_\_\_\_\_\_\_, electron shells\_\_\_\_\_\_\_\_, valence electrons\_\_\_\_\_\_\_\_, density\_\_\_\_\_\_\_\_, approximate number of neutrons\_\_\_\_\_\_\_\_, other properties\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
7. Take a close look at the transition metals. Notice that they all have one or two valence electrons. As new electrons are added to each atom, where are these electrons placed? Look closely at the atom models to see.