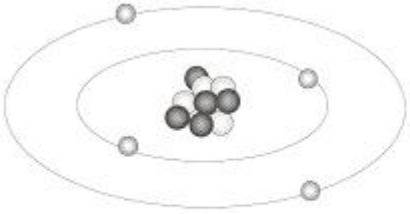
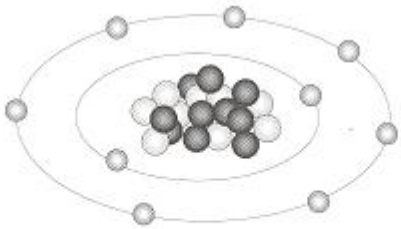
Name:_____ Per:_____

Atoms, Subatomic Particles, & the Periodic Table

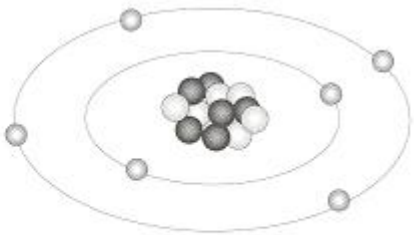
The following drawings are Bohr models for a beryllium, fluorine, and carbon atom.



Beryllium Atom



Fluorine Atom



Carbon Atom

Answer the following questions:

1. On the pictures above, label the electrons, nucleus, neutrons, and protons.

2. Each atom is neutral. Explain why.

3. How did you know which ones were the protons and which were the neutrons? (in the pictures)

4. Is the nucleus of these atoms positive, negative, or neutral? Explain your reasoning.

5. Use your periodic table and your notes to fill in the following table:

Element	**chemical symbol**	**atomic number**	**#of protons**	**# of electrons**	**# of neutrons**	**mass number**	**Avg atomic mass**
beryllium					**5**		
fluorine					**10**		
				6		**12**	
chlorine					**18**		**35.45**
lead							
potassium			**19**			**39**	
tin							
tungsten						**184**	**183.84**
			29				
gold					**118**		

6. In general, how do you figure out the number of electrons in each atom?

7. How do you figure out the number of protons in each atom?

8. How do you figure out the number of neutrons in each atom?

9. How does the mass number compare to the average atomic mass given on the periodic table?

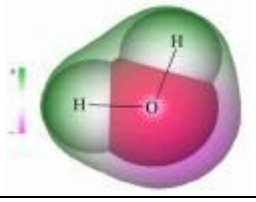
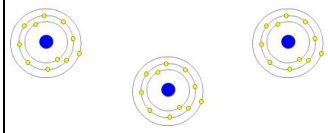
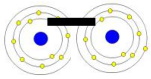
10. If you know the atomic number of an element, what other information can you figure out?

11. Why does the mass number only include the number of protons and the neutrons (not electrons)?

12 . "Electromagnetic forces" keep the electrons orbiting around the nucleus. Draw a picture showing how the electromagnetic force works & explain your picture in words.

13. In the nucleus of an atom, "Nuclear Forces" overpower the "electromagnetic forces" in order to keep the nucleus together in an atom. Draw a picture that shows why the nucleus would split apart if the nuclear forces did not exist & explain your picture in words.

14. Label each of the following as either: an **atom**, an **element**, or a **molecule**

			Bonded together 

15. Which is greater on earth, the number of molecules or the number of elements? Explain.