

Name: \_\_\_\_\_

Experiment: Drawing Models to Show Two Types  
of Bonds (B. Science 10-2-2)

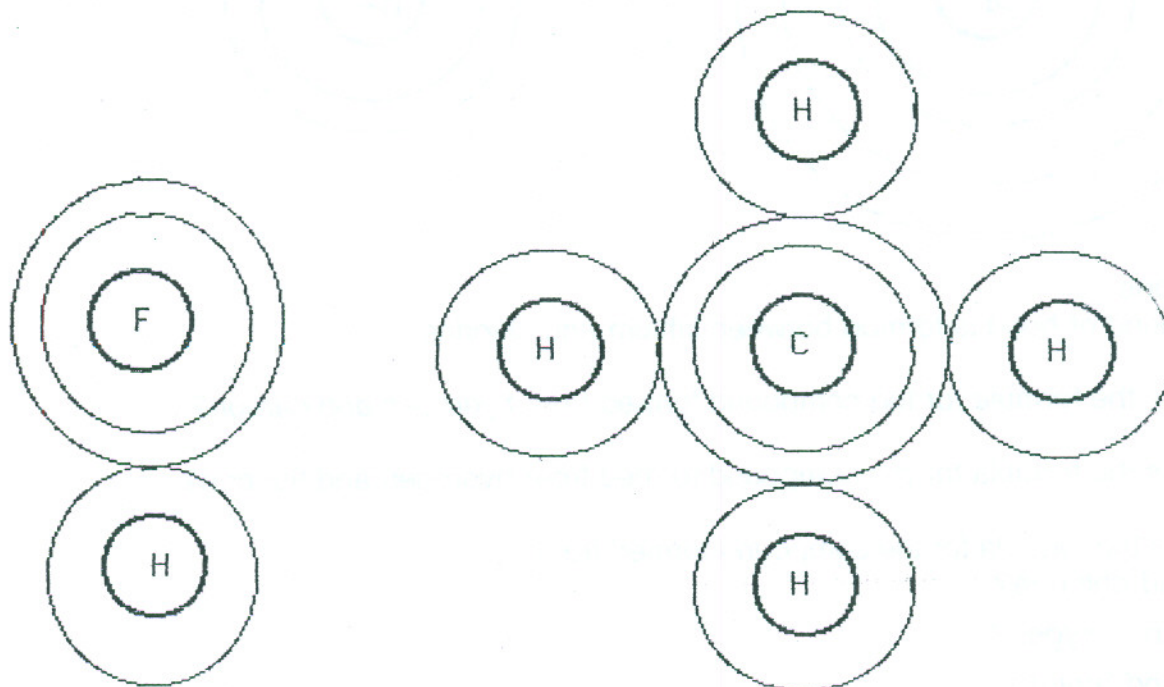
Purpose: To demonstrate the electron sharing  
and then electron transfer through the use of a  
paper and pencil model.

Materials: Periodic Table      Pencil Brain

Methods: **Part A: Covalent Bonding -  
Sharing electrons**

1. Draw an electron cloud diagram of a hydrogen atom.
2. Next to it draw a diagram of a fluorine atom.  
Draw the fluorine atom in such a way that the  
outer energy level overlaps with the hydrogen  
energy level.
3. The one electron in the hydrogen energy level should look like it could belong to  
either the hydrogen atom or the fluorine atom. Indicate the electrons that are being  
shared between the two
4. Draw a diagram to show how carbon can form four covalent bonds with four  
hydrogen atoms.

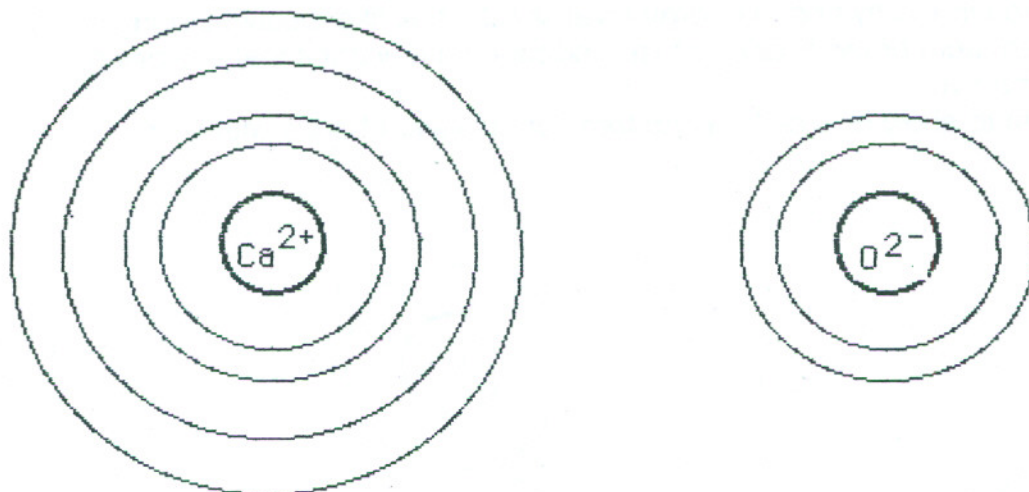
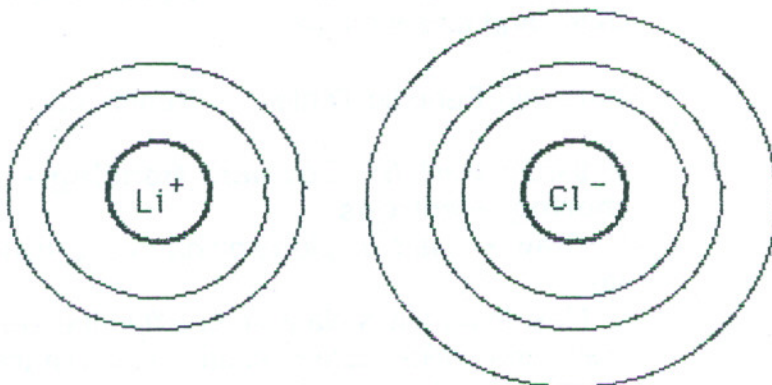
Results:



**Part B: Ionic Bonding**

1. Draw an electron cloud diagram of a Lithium atom.
2. Next to it draw a diagram of a chlorine atom.
3. Now draw an arrow to show that the outer electron(s) in lithium moves to the outer energy level in chlorine.
4. Repeat steps 1-3 but with calcium and oxygen

Results:



Conclusions:

1. What kind of bond is formed between lithium and chlorine?
2. What is the formula for the compound formed from hydrogen and carbon?
3. What is the formula for the compound formed from hydrogen and fluorine?
4. What is the formula for the compound formed from:  
lithium and chlorine?  
calcium and oxygen?  
calcium and bromine?