

## COVALENT BONDS WORKSHEET

**DRAW LEWIS STRUCTURES AND DRAW DIPOLES FOR THE FOLLOWING SUBSTANCES IN THE SPACE BELOW. TELL THE SHAPE OF EACH MOLECULE. PREDICT THE TYPE OF MOLECULE - WHETHER POLAR OR NONPOLAR.**

A)  $\text{SiCl}_3\text{Br}$       SHAPE: \_\_\_\_\_  
TYPE: \_\_\_\_\_

E) Boron trichloride      SHAPE: \_\_\_\_\_  
TYPE: \_\_\_\_\_

B)  $\text{C}_2\text{HF}$       SHAPE: \_\_\_\_\_  
TYPE: \_\_\_\_\_

F) Nitrite ion      SHAPE: \_\_\_\_\_  
TYPE: \_\_\_\_\_

C) Chlorate ion      SHAPE: \_\_\_\_\_  
TYPE: \_\_\_\_\_

G) Hydrogen cyanide      SHAPE: \_\_\_\_\_  
TYPE: \_\_\_\_\_

D) Carbon dioxide      SHAPE: \_\_\_\_\_  
TYPE: \_\_\_\_\_

(H) Acetate ion      SHAPE: \_\_\_\_\_  
TYPE: \_\_\_\_\_

**USING INFORMATION FROM THIS CHAPTER, DISCUSS THE FOLLOWING IN THE SPACE BELOW. If you need more room, answer on a separate sheet of paper.**

1) On a hot summer day, where does the condensation on a glass of iced tea come from? Include a diagram showing water molecules to explain what is happening at the molecular level.

2) How can fish and other sea creatures breathe under water? Include a diagram showing water molecules to explain why this should be an impossibility and why, in fact, it is not!

3) How do lava lamps work? *Hint: you'll need to use concepts from this chapter AND also concepts from a chapter much, much earlier in the year.*