Name: _____

Chem4Bio Module 3 Worksheet

1. Look at the chemical formula for each of the following compounds, then decide whether each compound contains only **Ionic** bonds, only **Covalent** bonds, or **Both** types of bonds

Chemical Formula	**(Ionic / Covalent / Both)**
NaCl	
HCl	
$NaNO_3$	
CH_4	
NH_3	
NaOH	
H_2O	
CO_2	

2. **Five** of the compounds in Question #1 contain only covalent bonds. For **each** of those five compounds, do the following: i) Draw the structural formula for the compound, drawing the molecular shape as accurately as possible; ii) describe the bonds in the compound as **non-polar** bonds or **polar** bonds; describe the overall polarity of the molecule (either **non-polar molecule** or **polar molecule**).

	Structural Formula	**Non-Polar or Polar Bonds?**	**Non-Polar or Polar Molecule?**
1			
2			

Name: _____

3			
4			
5			

3. Which of the five covalent compounds in Question #2 can undergo **hydrogen-bonding?** Why?

4. Which type of bonding is the *strongest* attractive force? (Circle one)

   ionic bonding covalent bonding hydrogen bonding

5. Which type of bonding is the *weakest* attractive force? (Circle one)

   ionic bonding covalent bonding hydrogen bonding