**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Types of Bonds Comparison & Key Questions**

1. **Fill out the chart below using your notes.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **IONIC** | **COVALENT** | **METALLIC** |
| **What two things make the bond?** |  |  |  |
| **How is the bond formed?** |  |  |  |
| **Physical State (solid, liquid, or gas)** |  |  |  |
| **Melting Point (high or low)** |  |  |  |
| **Solubility in water (yes or no)** |  |  |  |
| **Conducts electricity?** **(yes or no)** |  |  |  |
| **Other** **Properties** |  |  |  |

1. **Why do bonds form?**
2. **What is the difference between bond length and bond angles?**
3. **What is the difference between a space filling and ball and stick modeling?**
4. **What is the difference between a formula unit and molecular formula?**
5. **What is the difference between a binary and ternary compound?**
6. **In an ionic bond, is a metal or nonmetal the cation?**
7. **What is the difference between a polar covalent and non-polar covalent bond?**
8. **How many electrons in a pair of electrons?**
9. **How many pairs do single bonds share in covalent bonds?**
10. **How many pairs do double bonds share in covalent bonds?**
11. **How many pairs do triple bonds share in covalent bonds?**
12. **What are the 7 diatomic molecules?**
13. **Why are metallic bonds such good conductors of electricity?**
14. **What are hydrogen bonds?**