Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_Block:\_\_\_\_\_\_

Molecular Models Activity – Absent Version

**Purpose:** to use molecular model kits to determine the geometry (shape) and polarity of molecules.

**Procedure:**

1. Complete the information for each compound in the chart below.
2. Answer the discussion questions.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Molecular Formula** | **Lewis Structure** | **Draw the Molecular Shape (Geometry)** | **Name of Molecular Shape** | **Bond Polarity** | **Molecular Polarity** | **IMF** |
| 1 | BrCl |  |  |  |  |  |  |
| 2 | NH3 |  |  |  |  |  |  |
| 3 | CH4 |  |  |  |  |  |  |
| 4 | PCl3 |  |  |  |  |  |  |
| **#** | **Molecular Formula** | **Lewis Structure** | **Draw the Molecular Shape (Geometry)** | **Name of Molecular Shape** | **Bond Polarity** | **Molecular Polarity** | **IMF** |
| 5 | CO2 |  |  |  |  |  |  |
| 6 | CH2O |  |  |  |  |  |  |
| 7 | CH3Cl |  |  |  |  |  |  |

**Discussion Questions:**

1. Describe the relationship between the strength of intermolecular forces and melting/boiling points.
2. Which substance(s) from the activity would have the highest boiling point? Explain your reasoning.
3. Water is a polar molecule. Which substances from the activity will dissolve in water? Explain your reasoning.