















AP Chemistry Lab Handout "Molecular Model Polarity and Geometry"

Purpose:

Materials: Molecular Model Building Kit

 Carbon (black) 6	 Oxygen (red) 2
 Hydrogen (yellow) 10	 Chlorine (green) 4
 Nitrogen (blue) 2	 Sulfur (red) 0
 Bromine (orange) 1	 Germanium (black) 0
 Fluorine (green) 0	 Iodine (green) 0
 Silicon (black) 0	 Tellurium (red) 0
 Antimony (blue) 0	 Boron (wood colored) 1

8 long sticks, 20 short sticks & 8 springs

Procedure:

1. Assemble each molecule and fill out the observations table. Use the key above for drawing structural model.
2. Rules for building:
 - A. All holes must be filled.
 - B. Use springs only when the bond must be curved to fit.
3. Complete all the observations for a single molecule before going on to the next molecule.

1. HCOOH	2. CO(NH ₂) ₂	3. HCN	4. H ₂ S
5. SiCl ₄	6. SbI ₃	7. Cl ₂ GeO	8. OBr ₂
9. CS ₂	10. C ₂ Cl ₂ H ₂	11. TeI ₂	12. BF ₃

Here are the suggested column titles for your lab book: (across 2 pages)

<u>Formula</u>	<u>Model Drawing</u>	<u>Lewis Structure</u>	<u>σ Bonds</u>	<u>π Bonds</u>	<u>Bond Angles</u>	<u>e⁻ domain Geometry</u>	<u>Molecular Geometry</u>	<u>Orbital Hybridization</u>	<u>Bond Polarity</u>	<u>Molecular Polarity</u>
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