

## Unit 5 Worksheet 4

Name:

Determining Molecular Polarity: Molecules are either Polar or Non-Polar. Determined by:

If all of the bonds are all ionic → the polarity is just "Ionic"

If all of the bonds are non-polar covalent → then the polarity of the molecule is non-polarIf all one of the bonds are polar → then the polarity of the molecule is polar

If there are more than one bond that is polar, then look at symmetry

- If the shape is linear, tetrahedron, or trigonal planar and all bonds are the same, then it is a non-polar molecule and it has symmetry.
- If the shape is pyramid, linear, or bent, then it is a polar molecule, and the molecule is Not symmetrical.

Fill in the following table:

Compound	Molecule Dot Diagram	Bond Type	Shape	Symmetry	Molecular Polarity
H <sub>2</sub>		H-H NPC	Linear	Yes	Non Polar Molecule
N <sub>2</sub>		N-N NPC	Linear	Yes	Non Polar Molecule
O <sub>2</sub>		O-O NPC	Linear	Yes	Non Polar Molecule
CaCl <sub>2</sub>		I	No Shape	None	Ionic
CO		C-O PC	Linear	No	Polar Molecule
CH <sub>4</sub>		C-H NPC	Tetrahedron	Yes	Non Polar Molecule
CO <sub>2</sub>		C-O PC	Linear	Yes	Non Polar Molecule
NH <sub>3</sub>		N-H PC	Pyramid	No	Polar Molecule
NCl <sub>3</sub>		N-Cl NPC	Pyramid	No	Non Polar Molecule
CF <sub>4</sub>		C-F PC	Tetrahedron	Yes	Non Polar Molecule