

LO: Students will be able to draw, label, and discuss polarity of molecular geometries.

DOL: Students will be able to correctly identify at least 4/5 molecular geometries.

Molecular shapes with unbonded pairs of electrons on the central atom.

1) draw the Lewis structure

2) determine the electron geometry

-this is how many "things" are connected to the central atom, pairs of unbonded electrons count as 1 thing, atoms count as 1 thing each

3) determine molecular shape

Draw the Lewis Structure for carbon dichloride:

How many "things" are around the central atom?

How many of these things are unbonded pairs?

Let's look at the Lab software...

Draw the Lewis Structure for water.

How many things are around the central atom?

How many things are unbonded pairs?

Let's look at the Lab software...

Draw the Lewis Structure for XeF_2

How many things are around the central atom?

How many things are unbonded pairs?

Let's look at the Lab software...

Draw the Lewis Structure for NH_3

How many things are around the central atom?

How many things are unbonded pairs?

Let's look at the Lab software...

Draw the Lewis structure for ClF_5

How many things are around the central atom?

How many things are unbonded pairs?

Let's look at the Lab software...

Shapes with Lone Electron Pairs

# of things	# of Lone e ⁻ pairs	shape
3	1	bent
4	1	trigonal pyramidal
4	2	bent
5	3	linear
6	1	square pyramidal

Polar Bonds

A type of covalent bond between two atoms in which electrons are shared unequally. Because of this, one end of the molecule has a slightly negative charge and the other a slightly positive charge.

Polar molecules depend on geometric structure of the atom and the difference in electronegativity of the elements in the compounds.

Water is a polar molecule.

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