

High Oleic Oil

Molecular Shapes and Polarity-Key

Name _____ Date _____

Watch the videos: : <https://vimeo.com/album/3440693>

Materials:

Ball and stick model pieces

Procedure:

1. Use VSEPR Theory to predict the shape of each of the following molecules:

(Count the valence electrons; determine electrons pairs available for bonding by dividing by two, determine the central atom, attach the terminal atoms, adjust electron pairs to satisfy the octet rule.

2. Count the shared and lone pairs.
3. Predict the shape and draw it.
4. Build a model of each molecule to check your predictions.
5. Note that if there is a double or triple bond, multiple springs will need to be used.
6. Watch the video, Polar & Nonpolar – Crash Course in Chemistry :
<https://www.youtube.com/watch?v=PVL24HAesnc>

(Find at least 20 cool facts from this video, write them down and submit them for bonus points. Ask your instructor for point count.)

	Val. Shell Electrons/ Pairs	Draw Lewis Structure	Shared pairs/Lone Pairs	Predicted Shape	Polar (yes/no)
H ₂	2/1		1/0	linear	no
H ₂ O	2/2		8/4	bent	yes
CO ₂	16/8		2/0	linear	no
NH ₃	8/4		3/1	trigonal pyramidal	yes
CH ₄	8/4		4/0	tetrahedral	no
CH ₃ Cl	14/7		4/0	tetrahedral	yes

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	Val. Shell Electrons/ Pairs	Draw Lewis Structure	Shared pairs/Lone Pairs	Predicted Shape	Polar (yes/no)
H ₂ O ₂	14/7		2/2	bent	yes
F ₂	14/7		1/3	linear	no
N ₂	10/5		1/0	linear	no
H ₂ S	8/4		2/2	bent	yes
PH ₃	8/4		3/1	trigonal pyramidal	yes
HCl	8/4		1/3	linear	yes