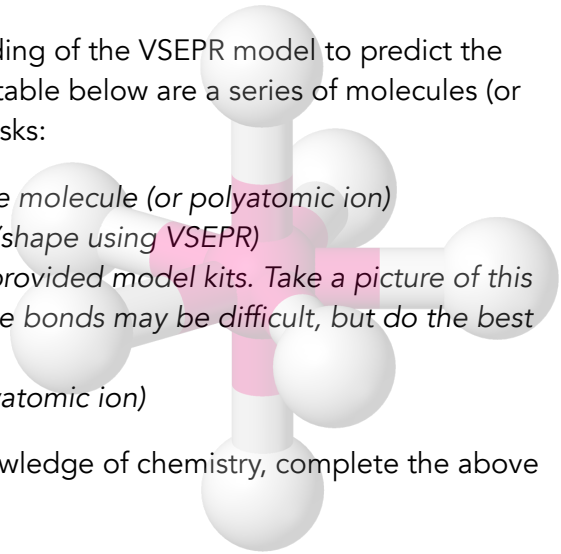
Name: _____

Molecular Geometry & Bonding



This activity is designed to improve your understanding of the VSEPR model to predict the molecular geometries (shapes) of molecules. In the table below are a series of molecules (or polyatomic ions). For each, perform the following tasks:

- *Determine and draw the Lewis structure for the molecule (or polyatomic ion)*
- *Determine and draw the molecular geometry (shape using VSEPR)*
- *Construct a model of the molecule using the provided model kits. Take a picture of this model and insert it into this document. (Double bonds may be difficult, but do the best you can.)*
- *State the bond angles in the molecule (or polyatomic ion)*

Using your textbook, your class notes, and your knowledge of chemistry, complete the above in the space provided.

Molecule (or polyatomic ion)	Lewis Structure	Geometry (shape)	Model Picture	Bond Angles
$SiCl_4$				
PCl_3				

Name: _____

Molecule (or polyatomic ion)	Lewis Structure	Geometry (shape)	Model Picture	Bond Angles
NO_3^-				
SF_6				
PBr_5				
IF_3				

Name: _____

Molecule (or polyatomic ion)	Lewis Structure	Geometry (shape)	Model Picture	Bond Angles
XeF_5^+				
SO_4^{-2}				
BrF_2^-				
SO_2				

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Molecule (or polyatomic ion)	Lewis Structure	Geometry (shape)	Model Picture	Bond Angles
CS_2				
PH_3				
SF_2				
NH_3				

Name: _____

Molecule (or polyatomic ion)	Lewis Structure	Geometry (shape)	Model Picture	Bond Angles
CF_4				
CO_2				
NH_4^+				
PO_4^{-3}				