

Name: _____

Chem 10, Section: _____

Lab Partner: _____

Exercise Date: _____

Lewis Structures and Molecular Shapes

1. H₂S

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
	Molecular Shape:	
Any polar bonds in the molecule? Yes No	Molecular Polarity:	Polar Non-Polar

2. COCl₂

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
	Molecular Shape:	
Any polar bonds in the molecule? Yes No	Molecular Polarity:	Polar Non-Polar

3. SiI₄ (use a black ball for silicon when constructing this model)

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
	Molecular Shape:	
Any polar bonds in the molecule? Yes No	Molecular Polarity:	Polar Non-Polar

4. HCN

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
	Molecular Shape:	
Any polar bonds in the molecule? Yes No	Molecular Polarity:	Polar Non-Polar

5. NO_2^-

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Symmetry:	Symmetric Asymmetric

6. H_3O^+ (use a yellow ball for oxygen (not red) when constructing this model)

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Symmetry:	Symmetric Asymmetric

7. CHBr_3

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Polarity:	Polar Non-Polar

8. OF_2

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Polarity:	Polar Non-Polar

9. CO_3^{2-}

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Symmetry:	Symmetric Asymmetric

10. CS_2

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Polarity:	Polar Non-Polar

11. PF_3 (use a blue ball for phosphorus when constructing this model)

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Polarity:	Polar Non-Polar

12. NOCl

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Polarity:	Polar Non-Polar

13. BO_3^{3-}

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Symmetry:	Symmetric Asymmetric

14. O_3

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Polarity:	Polar Non-Polar

15. N_3^-

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Symmetry:	Symmetric Asymmetric

16. AlCl_3

Total # of Valence Electrons:	3-D Model Sketch	Bond Angles
Lewis Structure (show all resonance structures if applicable)		
Molecular Shape:		
Any polar bonds in the molecule? Yes No	Molecular Polarity:	Polar Non-Polar