

Exercise 4 data sheet (page 1 of 3)

Chemical formula	Lewis dot structure	Number of bonds (bonded pairs) around central atom	Number of lone pairs around central atom	Description of electron pair arrangement	Molecular shape prediction	Sketch of model, including approximate bond angle	Polar? (if yes, sketch the direction of the dipole moment)
NH ₃	H:N:H H	3	1	tetrahedral	pyramidal		Yes
H ₂ S							
PBr ₃							
SiCl ₄							

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Chemical formula	Lewis dot structure	# of bonds around central atom	# of lone pairs	Description of electron pair arrangement	Molecular shape prediction	Sketch of model and bond angle	Polar? (dipole moment)
CO_3^{2-}							
SO_3^{2-}							
NO_3^-							
NO_2^-							
NO_2^+							

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Chemical formula	Lewis dot structure	# of bonds around central atom	# of lone pairs	Description of electron pair arrangement	Molecular shape prediction	Sketch of model and bond angle assessment	Polar? (dipole moment)
H ₂ O							
CH ₃ CH ₂ OH (ethanol)						(don't worry about bond angles)	(yes/no?)
C ₆ H ₁₄ (hexane)						(don't worry about bond angles)	(yes/no?)

Sketch of the different mixtures (clearly show any **immiscibility** lines):

Water/ethanol

Water/hexane

Ethanol/hexane