

LEWIS STRUCTURES 1 WORKSHEET

1. SiF_4 Molecular Polarity: Class: Shape:	2. BF_3 Molecular Polarity: Class: Shape:	3. NH_3 Molecular Polarity: Class: Shape:
4. H_2O Molecular Polarity: Class: Shape:	5. CHBr_3 Molecular Polarity: Class: Shape:	6. HI Molecular Polarity: Class: Shape:
7. SO_3 Molecular Polarity: Class: Shape:	8. AsCl_3 Molecular Polarity: Class: Shape:	9. H_2S Molecular Polarity: Class: Shape:
10. SeH_2 Molecular Polarity: Class: Shape:	11. PO_4^{-3} Molecular Polarity: Class: Shape:	12. NO_2^{-1} Molecular Polarity: Class: Shape:

13. ClO_3^{-1}	14. HCN	15. PI_3
Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:

LEWIS STRUCTURES 2 WORKSHEET

1. OF_2	2. GeI_4	3. SCl_2
Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:
4. SeO_2	5. PCl_3	6. NH_4^{+1}
Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:
7. NOCl	8. CO_2	9. SO_4^{-2}
Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:

10. ICl	11. CH ₂ Cl ₂	12. H ₃ O ⁺¹
Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:
13. N ₂	14. ClO ⁻¹	15. CH ₂ O
Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:	Molecular Polarity: Class: Shape:

Unit 6 Review Worksheet

- Individual atoms of elements are (more / less) stable than when they are combined with other elements.
- What is the difference between ionic and covalent bonding?
- What is the cut-off number for the difference in electronegativity to determine whether a bond is ionic or covalent?
- Between what types of elements does ionic bonding occur?
- Between what types of elements does polar covalent bonding occur? Nonpolar covalent?
- When must you use multiple bonds when drawing a Lewis structure?
- How can you tell which is the central atom by looking at the chemical formula?
- What two (2) requirements must a molecule meet in order to be considered nonpolar?
- What do "A", "B", and "E" stand for when determining the class of a molecule?
- What does the subscript "2" mean in the class AB₂E?
- Which classes of molecules have a bent shape?
- Which class of molecules has a linear shape?
- Which class has a tetrahedral shape?
- Which class has a trigonal planar shape?
- Which class has a trigonal pyramid shape?
- What is the smallest unit of an ionic compound called? A covalent compound?
- Which type of compound has low melting points?
- Which type of compound dissolves in water?

19. Which type of compound conducts electricity when melted?
20. Which type of compound occurs as liquids, gases, or non-crystalline solids?
21. What are the four types of intermolecular forces?
22. Between which types of compounds do these intermolecular forces occur?
23. Arrange the following in order of increasing strength:
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|--------------------------|------------------------------|
| (A) hydrogen bonding | (B) covalent bonding |
| (C) dipole-dipole forces | (D) London dispersion forces |
24. For each of the following compounds, draw the Lewis structure. Then tell the molecular polarity, class, and shape of the molecule. Also tell the type(s) of IM forces that occur within a sample of that compound.
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|-----|------------------|
| (A) | SiF ₄ |
| (B) | SBr ₂ |
| (C) | NH ₃ |
| (D) | SO ₃ |
| (E) | SiO ₂ |
| (F) | SeS ₂ |