

Molecular Compounds, Acids, and Hydrates

Student Worksheet | g09_u05_w19

I can: use molecular prefixes, apply classroom acid/hydrate naming conventions, and distinguish a name/formula from properties or safety.

Vocabulary: molecular compound, prefix, acid, binary acid, oxyacid, hydrate, anhydrous, water of hydration.

1. Name CO.

2. Name CO₂.

3. Name N₂O₄.

4. Write formula for dinitrogen pentoxide.

5. Write formula for sulfur hexafluoride.

6. Why are prefixes used for molecular compounds?

7. Why is “mono-” usually omitted on first element?

8. Name HCl(aq) using classroom acid convention.

9. Name HNO₃(aq).

10. Name H₂SO₄(aq).

11. Distinguish HCl(g) from HCl(aq) in naming/context.

12. What does the dot in CuSO₄ · 5H₂O represent?

13. Name $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$.

14. Write formula for cobalt(II) chloride hexahydrate.

15. What does anhydrous mean?

16. Why is a hydrate formula not a drinking-water recommendation?

17. Compare ionic calcium chloride with molecular carbon dioxide naming strategy.

18. Explain why “carbon dioxide” is the correct name for CO_2 using prefix logic.

19. A student calls H_2SO_4 “dihydrogen sulfate acid.” Explain classroom convention and limitation.

20. Critique: “A chemical name alone tells whether a substance is safe to touch.”
