

Click [here](#) for practice quiz. Click [here](#) for solutions.

Be able to define:

- Covalent Compound
 - Covalent Bond
 - Polarity
 - States of Matter
 - Kinetic Molecular Theory (KMT)
 - Ideal Gas Conditions (both molecular structure and environmental conditions)
 - Pressure, Volume, Moles, Temperature
 - Ideal Gas Law Equation
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Be able to perform:

- Draw simple Lewis structures for covalent compounds using valence electrons and the “connect-the-dots” method (examples: N₂, H₂O, CH₄, CS₂).
- Determine whether a covalent compound is polar or nonpolar by analyzing its Lewis structure.
- Connect a molecule’s polarity to its state of matter (solid, liquid, or gas).
Explain how polarity affects interactions between covalent molecules.
- Interpret basic chromatography data and calculate R_f values.
- Explain why the ideal gas law works best for small, nonpolar gases.
- Use the ideal gas law to solve problems involving pressure, volume, moles/grams, and temperature (in both Celsius and Kelvin).
- Balance chemical reactions and use the balanced equation to solve stoichiometry problems following the flow chart:
grams A → moles A → moles B → grams B (as practiced in warm-ups).