

Unit B – Solids, Liquids and Gases (especially gases)

Name _____ Per _____

Papers worth reviewing

- What Makes a Good Data Table?
- What makes a Good Graph?
- LAD B1 – Solid, Liquid, Gas
- LAD B2 – Effect of Temp on Water
- LAD B3 – Pressure Volume
- LAD B4 – Pressure Temperature
- NoteSheet B1 – Classify Matter (only front side)
- NoteSheet B2 – Particle Vocabulary
- NoteSheet B3 – Combined Gas Law
- Practice B1 – Literal Equations
- Practice B2 – Particle Vocabulary
- Practice B3 – Combined Gas Law
- Practice B4 – Manometers
(error on answer #1a, should be 400 mmHg)
- Consider using the class presentation and clicker questions for review as well
(available on the unit B document page at the top)
- Consider reviewing your openers

Objectives

1. Be able to compare and contrast the three phase of matter; solid, liquid and gas.
 - relate the macroscopic properties of fluidity and compressibility with the nanoscopic explanation.
2. Explain what is occurring nanoscopically when a substance increases or decreases temperature.
 - relate the flask & skinny tube apparatus in LAD B2 to the method by which a thermometer works.
3. Know the important temperatures on the Celsius scale (water melting, water boiling, ~room temp, body temp).
4. Be able to describe the motion of gas particles as related to pressure with respect to # of collisions and force of collisions.
5. Understand the temperature is proportional to kinetic energy.
6. Understand and be able to work problems involving the four variables that interrelate for gases; pressure, volume, temperature, and amount of particles.
 - P, V, n, T working together for the combined gas to produce the Combined Gas Law $\frac{P_1V_1}{n_1T_1} = \frac{P_2V_2}{n_2T_2}$
7. Understand the importance of the Kelvin scale and absolute zero. Be able to convert between the two scales. $K = ^\circ C + 273$
8. Be able to convert between atmospheres and mmHg (or torr) (1 atm = 760 mmHg or torr) 1 torr = 1 mmHg

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Vocabulary List

- macroscopic
- nanoscopic (particulate-level)
- particulate diagram
- association statements
 - direct
 - inverse
- solids, liquids, and gases
 - fluid (vs rigid)
 - compressible (vs incompressible)
- kinetic energy
- potential energy
- combined gas law
- standard temperature and pressure (STP)
- pure vs mixture
- atoms vs molecules
- elements vs compounds
- barometer
- manometer
- literal equations (isolating for a particular variable)

This vocabulary list is meant to complement your study. Knowing this list alone, without the concepts on the front would not prepare you for the test.