

Unit 9: States of Matter/Gas Laws

Reading Assignments

Modern Chemistry (2006), Chpt. 10-11

Supplementary Reading

“Titan's Lakes: Evidence of liquid on Saturn's largest moon”, *Science News* v170 #6

Homework/Activities

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| 9 Sect. Review (Chpt. 10, Sect. 1) (p.332) #2-3, 5-7 | Due: _____ |
| 9 Sect. Review (Chpt. 10, Sect. 4) (p.348) #1, 2, 7 | Due: _____ |
| 9 Worksheet - Phase Diagrams | Due: _____ |
| 9 Chapter Review (Chpt. 10) #3, 35 | Due: _____ |
| 9 Sect. Review (Chpt. 11, Sect. 1) (p.367) #1*, 2-5, 7-8 | Due: _____ |
| 9 Sect. Review (Chpt. 11, Sect. 2) (p.375) #2-5 | Due: _____ |
| 9 Sect. Review (Chpt. 11, Sect. 3) (p.385) #2-6 | Due: _____ |
| 9 Sect. Review (Chpt. 11, Sect. 4) (p.388) #2-6 | Due: _____ |
| 9 Chapter Review (Chpt. 11)
#1, 9-12, 14-15, 17, 20-24, 31-33, 41-44, 46-49, 52, 55-56, 58 | Due: _____ |
| 9 Science Article: Titan's Lakes | Due: _____ |
| 9 TBA: _____ | Due: _____ |

Concepts/Topics

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| 9 Temperature, phase changes, energy, P vs. T, triple point | [p. 342-348] |
| 9 Kinetic-molecular theory of gases; ideal gases
(exceptions: polar/lg. molecules - intermolecular forces; low temps, high pressures) | [p. 329-332, 383-385] |
| 9 Units of pressure (kPa, mm Hg, torr, psi, atm); STP | [p. 361-365] |
| 9 Dalton's law of partial pressures; Adjusting for water vapor | [p. 365-367] |
| 9 Gas laws (Charles's, Boyle's, Gay-Lussac's, Combined Gas Law!) | [p. 369-375] |
| 9 Avogadro's Law; Gas stoichiometry (vol/vol, vol/mass) | [p. 378-382] |
| 9 Ideal Gas Equation (PV=nRT) | [p. 383-385] |
| 9 Graham's Law and diffusion (diffusion, effusion, relation to molar mass) | [p. 386-388] |

Web Resources

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| Combined Gas Law | science.widener.edu/svb/tutorial/combinedgascsn7.html |
| Ideal Gas Equation | science.widener.edu/svb/tutorial/idealgascsn7.html |