

CHAPTER 13 NOTES
GASES
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SECTION 13-1

What are the physical or behavioral properties of gases?

How can we explain these physical properties of gases?

What are the 6 postulates of the kinetic molecular theory of gases?

What is the difference between an elastic collision and an inelastic collision?

What type of collision does a tennis ball experience with the ground?

What happens to the energy in an inelastic collision?

What causes the pressure of a gas to increase?

SECTION 13-2

Explain how the 4 gas variables are expressed.

Describe atmospheric pressure.

What units represent atmospheric pressure?

Explain how a barometer measures pressure. Include an illustration of a simple barometer.

Explain how a manometer measures pressure. Include an illustration of a manometer.

What is STP and why is it important?

SECTION 13-3

Explain the relationships described by Boyle's Law.

What is the mathematical relationship described in Boyle's Law?

A 2.0 L container of nitrogen had a pressure of 3.2 atm. What volume would be necessary to decrease the pressure to 1.0 atm?

Explain the relationships described by Charles's Law.

What is the mathematical relationship described in Charles's Law?

What happens at absolute zero?

Oxygen gas is at a temperature of 40° C when it occupies a volume of 2.3 L. To what temperature should it be raised to occupy a volume of 6.5 L?

Describe the mathematical relationship of Avogadro's Law.

What is molar volume?

State Dalton's Law of Partial Pressure.

Section 13-4

State the ideal gas law and write the mathematical equation.

Explain the difference between an ideal gas and a real gas.

Why must the temperature in the ideal gas law equation be in kelvins?

How many moles of oxygen will occupy a volume of 2.5 L at 1.2 atm and 25° C?

SECTION 13-5

How is density related to molar mass and temperature?

Name two methods in which you can lower the density of a gas.

Explain gas effusion.