

Ch. 10 Gases Continued

List some characteristics of gases

What are the 4 variables needed to define the physical state of a gas?

What are the units for standard atmospheric pressure?

Convert 0.836 atm to torr

Convert 172.8 kPa to torr

What is the Ideal-Gas Equation?

What is the volume of one mole of ideal gas at STP?

A sealed container has a gas pressure of **1.8 atm** at a temperature of **15°C**. If the container is heated to **200°C**, what is the new pressure? Assume the volume and amount of gas remain constant.

A **0.75 mol** sample of gas is at **20°C** and **1.5 atm**. The volume is **reduced to one-third** of its original volume, and the **final pressure is 3.6 atm**. What is the **final temperature** of the gas in **°C**?

Magnesium carbonate is heated and decomposes to produce **CO₂ gas**, which is collected in a **500. mL** container. The collected gas exerts a **pressure of 2.8 atm** at a temperature of **27°C**.

How many moles of CO₂ were produced?