

Gas Law Demos – Accel. Chemistry

Name: _____ Pd: _____

Problem: How are the different variables (Pressure, Volume and Temperature) of a gas related?

Pre-lab: Use your book and notes to answer the following questions.

1. What is pressure?
2. In chemistry, what are the common units used to measure pressure? _____
3. In chemistry, what are the common units used to measure volume? _____
4. In chemistry, what are the common units used to measure temperature? _____

Procedure: For each demonstration, record your observations & determine what is happening with each of the variables: pressure, temperature & volume. There will always be 1 constant variable & 2 changing variables.

- If the variable is constant (no change), write “constant” in the box.
- If the variable is increasing, draw an up arrow.
- If the variable is decreasing, draw a down arrow.

Name	Variables			Observations
	Pressure (P)	Temperature (T)	Volume (V)	(Record your observations of each demo below.)
1: Ivory Soap in Microwave				
2: Can Crusher				
3: Vacuum Pump and Peeps				
4: Cartesian Diver				

Analysis:

1. Which gas variable was not studied in this lab? _____
2. List the demonstration(s) where pressure was held constant. _____
3. List the demonstration(s) where temperature was held constant. _____
4. List the demonstration(s) where volume was held constant. _____

Conclusion:

5. Complete the following table, relating volume and temperature to pressure:

Three of the variables used to describe a gas:	Symbol	Common Unit(s)	Relationship to Pressure (indirect or direct?)	Would you multiply or divide the variables?	Why is pressure affected?
Pressure			N/A	N/A	N/A
Volume					
Temp					

6. How would you describe the relationship between volume and temperature when pressure is constant?
7. Based on your answer for #2, would you multiply or divide volume and temperature in a calculation?
8. Why does temperature have this effect on the volume of a gas?