Gas Pressure Volume Relationships Laboratory Simulation

Name	Lat	Section	
Problem Statement: How are the How do pre	pressure and volun	•	
Your instructor will inform you	which of the follow	ing sections you are	to do.
I. Air			
A. Data Collection:			
clicking on the appropria	nte radio button. Us e mouse button. Do	ing your mouse, dr this at least six tim	ose air as the gas to study by ag the piston to compress the les to collect pressure data for allowing table.
	Data T	able	
	Pressure	Volume	

ъ	T	A 1	
В.	Data	Δnal	WC1C.
D .	Data	mia	Ly SIS.

1. How is the pressure and volume data that you collected mathematically related? (Try combining this data using various operations (addition, subtraction, multiplication and division) to see if you can find a pattern.)

II. Oxygen Gas

A. Data Collection:

Open the Boyles' Law Laboratory Simulation program. Choose oxygen as the gas to study by clicking on the appropriate radio button. Using your mouse, drag the piston to compress the oxygen sample and release the mouse button. Do this at least six times to collect pressure data for volumes ranging from 5mL to 30mL. Record your data in the following table.

Data Table

Pressure	Volume

т.	T	A 1	
В.	Data	Δnal	V/C1C .
D .	Data	mia	Lyono.

1. How is the pressure and volume data that you collected mathematically related? (Try combining this data using various operations (addition, subtraction, multiplication and division) to see if you can find a pattern.)

III. Helium Gas

A. Data Collection:

Open the Boyles' Law Laboratory Simulation program. Choose helium as the gas to study by clicking on the appropriate radio button. Using your mouse, drag the piston to compress the helium sample and release the mouse button. Do this at least six times to collect pressure data for volumes ranging from 5mL to 30mL. Record your data in the following table.

Data Table

Pressure	Volume

B. Data Analysis:

1. How is the pressure and volume data that you collected mathematically related? (Try combining this data using various operations (addition, subtraction, multiplication and division) to see if you can find a pattern.)

IV. Hydrogen Gas

A. Data Collection:

Open the Boyles' Law Laboratory Simulation program. Choose air as the gas to study by clicking on the appropriate radio button. Using your mouse, drag the piston to compress the air sample and release the mouse button. Do this at least six times to collect pressure data for volumes ranging from 5mL to 30mL. Record your data in the following table.

Data Table

Pressure	Volume

В.	Data	Anal	lysis

1. How is the pressure and volume data that you collected mathematically related? (Try combining this data using various operations (addition, subtraction, multiplication and division) to see if you can find a pattern.)

V.	Int	erpretation and Conclusions:
	A.	Choose one of the gases you studied and write a statement that summarizes how the pressure and volume of this gas are related?
		and volume of this gas are related?
	В.	Using your data for one of the gases you studied, predict the pressure of this gas sample at a volume of 100L. Show how you made your prediction.
	C.	Combine the pressure volume data for the four gases. Plot these data on the same graph using a different color for your data points for the different gases. What conclusions can you draw?