

Gas Laws Activity

Experiment #1

- Select the Boyle's Law simulation
- Select Air
- Move the plunger with the mouse to record data (record at least 10 points)
- Create a Pressure vs Volume graph using Graphical Analysis
- Create a Pressure vs (1/Volume) graph using Graphical Analysis
- Describe the relationship between volume and pressure.

Experiment #2

- Select the Charles' Law simulation
- Click the blue button on the right hand side of the simulator to show the data table
- Move the temperature slide to the left to about 180 K
- When the light is yellow, the new volume will be recorded in the data table on the left of the screen
- Move the temperature slide to about 120 K
- When the light is yellow, the new volume will be recorded in the data table on the left of the screen
- Repeat by move the slide to 8 other locations (above and below 273 K)
- Construct a graph of Volume vs Temperature using Graphical Analysis
- Describe the relationship between volume and temperature.

Experiment #3

- Select the Gas Properties simulation
- Select Volume as the Constant Parameter
- Do not change any of the other parameters
- Move the pump handle to add gas molecules to the container
- Use the heat control to add and remove heat from the system
- Describe the relationship between volume and temperature.