



## Concept:

The direct proportionality between pressure and temperature is clearly shown here for a fixed volume of gas.

## Procedure:

1. Verify that the constant volume bulb is securely connected to the pressure gauge.
2. Note the pressure reading at room temperature.
3. Fill the beaker about 2/3 full with liquid nitrogen and place the bulb in the liquid nitrogen bath.
4. Watch the pressure in the bulb fall.
5. Light the propane torch and carefully hold the bulb over the flame.
6. Watch the pressure in the bulb rise.

## Equipment:

1. 2000 mL Pyrex Beaker
2. Liquid Nitrogen
3. Propane Torch
4. Boyle's Law Pressure Gauge
5. Constant Volume Bulb
6. Metal Tray
7. Overhead Projector or Document Camera (not pictured)
8. Large Display Thermometer (not pictured, available upon request)