Gas Pressure and Temperature Relationships
Exp. Computer Simulation -B

Name_____ Lab Section_____

Problem Statement: How are the pressure and temperature of a gas sample related?

I. Data Collection:

A. Record the values for pressure, volume and temperature on the digital read-outs of the Controls window.

B. Observe the action in the Velocity Distribution window. Relate what you see with the behavior of the objects in the Gas Sample window.

Click the Pause button and sketch and label the graph in the space below.

B. Using the controls in the Control Bar window, change the temperature in the container and observe what happens to the pressure of the system. Also observe what happens in the Velocity Distribution window. Explain how the activity in the Gas Sample window accounts for your observations.

C. Collect five additional observations of pressure/temperature relationships and record all of your data in the following table.

Data Table

Pressure	Temperature
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

II. Data Analysis:

A. What patterns are shown in these data? It might be helpful to graph the data. Try to come up with an algebraic equation that expresses the pattern you found.

III. Interpretation and Conclusions:

A. How are the pressure and temperature of a gas sample related?

B. Relate what you observed concerning the motion of objects in this activity with your observations in experiment E-1 B of your *Inquiries into Chemistry* laboratory manual.

C. Using your data, predict the pressure of a gas sample at a temperature of 10 Kelvins. Show how you made your prediction.