Transparency Worksheet

Name _____

Charles's Law

Class _____ Date _____

1. What observations can you make about the contents of the two flasks in the diagram? _____

_____

_____

2. (a) On the graph, what does K represent? _____

(b) How does it differ from the Celsius scale? _____

3. According to the graph, what would be the volume of a gas at a temperature of 250 K? _____

4. What relationship does this graph indicate? _____

5. (a) State *Charles's Law.* _____

_____

(b) What equation represents Charles's Law? _____

6. If a sample of gas occupies a volume of 150 cm^3 at 27°C, what would its volume be at 0°C? The pressure and amount of gas remain constant. _____

Critical Thinking

7. Why must the temperature be converted to the kelvin scale when you are using Charles's Law to calculate the volume of a gas? _____

8. Use the data below to answer the following questions.

Volume of Gas (L)	**Temperature** (K)
1.00	573
0.48	273

(a) Use the back of this worksheet to draw a graph of the relationship between volume and temperature.

(b) Determine the slope of the line. _____

(c) Calculate the expected volume when the temperature reaches 673 K. _____