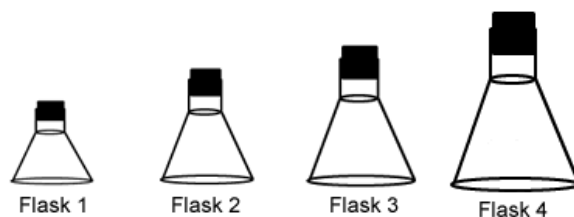


**GAS LAWS**  
**Exit Ticket 14**

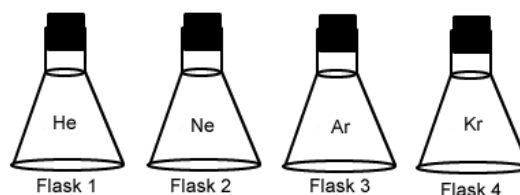
1. Mercury is used in a barometer due to its high density. Suppose another liquid with half the density of mercury was used in a barometer. What would be the normal atmospheric pressure with this barometer? Give a brief explanation for your answer.
  
2. A sample of gas in a container with a moveable piston has an initial volume of 2.50 L. If the gas is heated from 115°C to 175°C, and the pressure remains constant, what is the final volume of the gas?
  
3. A sample of gas occupying 2.10 L at a pressure of 750 mmHg is compressed to a volume of 1.20 L. Calculate the resulting pressure of the gas, assuming that the temperature and number of moles of gas remain constant.

4. A bag of potato chips contains 585 mL of air at  $25^{\circ}\text{C}$  and a pressure of 765 mmHg. Assuming the bag does not break, what will be its volume at the top of a mountain where the pressure is 442 mmHg and the temperature is  $5.0^{\circ}\text{C}$ ?

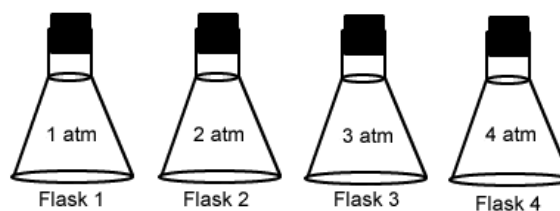
5. Each container in the diagram below contains the same number of molecules of gas. Which flask has the lowest pressure? Explain.



6. If all of the following flasks are the same size, at the same temperature, and contain the same number of molecules, in which flask will the pressure be highest? Explain.

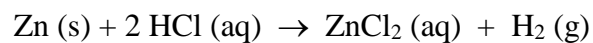


7. Each of these flasks is the same size and at the same temperature. Which one contains the most molecules? Explain.



8. A container of compressed oxygen gas has a volume of 12.0 L and a pressure of 53.7 atm and temperature of 28.4°C. How many grams of oxygen gas does this tank contain?

9. How many grams of HCl are needed to produce 30.0 L of H<sub>2</sub> gas at a temperature of 25°C and a pressure of 750 mmHg according to the reaction shown below:



10. What volume will 8.92 g of neon gas occupy at 22.0°C and 782 mmHg?