

What Goes Up HW

Read and outline (Cornell style) Section 14.2 in your chemistry textbook. ****Your section outline must be at least ½ page and have 3-4 topic questions.**** Then answer the following assessment questions:

1. State the combined gas law using a sentence and then an equation.
2. What variable is assumed to be constant when using the combined gas law?
3. What 3 laws are used to make the combined gas law?

Use the Gas Laws to solve the following problems:

4. 1. The temperature inside my refrigerator is about 4°C . If I place a balloon in my fridge that initially has a temperature of 22°C and a volume of 0.5 liters, what will be the volume of the balloon when it is fully cooled by my refrigerator?
5. A man heats a balloon in the oven. If the balloon initially has a volume of 0.4 liters and a temperature of 20°C , what will the volume of the balloon be after he heats it to a temperature of 250°C ?
6. Synthetic diamonds can be manufactured at pressures of $6.00 \times 10^4 \text{ atm}$. If we took 2.00 liters of gas at 1.00 atm and compressed it to a pressure of $6.00 \times 10^4 \text{ atm}$, what would the volume of that gas be?
7. On hot days, you may have noticed that potato chip bags seem to “inflate”, even though they have not been opened. If I have a 250 mL bag at a temperature of 19°C , and I leave it in my car which has a temperature of 60°C , what will the new volume of the bag be?
8. A soda bottle is flexible enough that the volume of the bottle can change even without opening it. If you have an empty soda bottle (volume of 2 L) at room temperature (25°C), what will the new volume be if you put it in your freezer (-4°C)?
9. Some students believe that teachers are full of hot air. If I inhale 2.2 liters of gas at a temperature of 18°C and it heats to a temperature of 38°C in my lungs, what is the new volume of the gas?