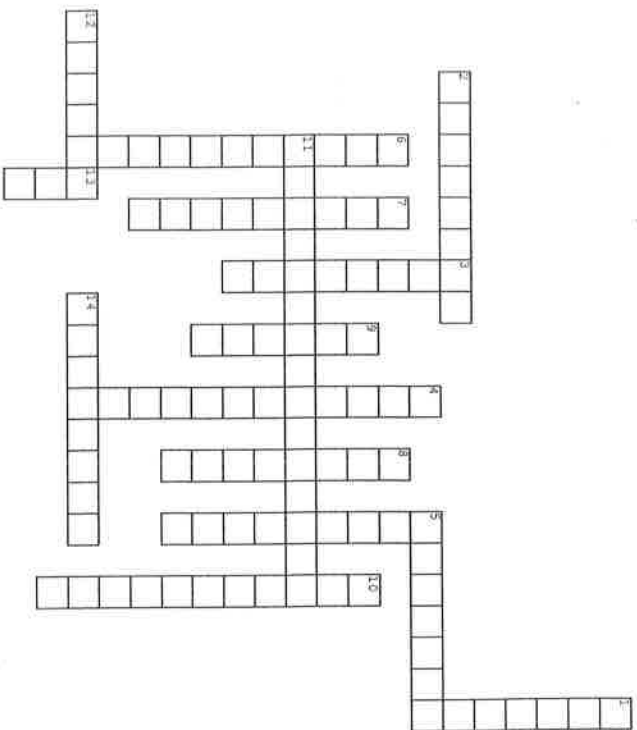


Gas Laws

Name: _____



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Across

2. The _____ Gas Law expresses the relationship between pressure, temperature, and volume.
 5. _____ Law: In a gas mixture each individual gas contributes to the pressure of the whole system
 11. The pressure of an individual gas within a mixture of gases
 12. _____ Law describes the relationship between the pressure and volume of a gas.
 14. According to Gay-Lussac's Law the pressure and temperature of a gas are _____ proportional.

Down

1. _____ Law: Gases of lower molar mass diffuse and effuse faster than gases of higher molar mass
 3. Occurs when gases escape through a tiny hole in a container
 4. Due to the spaces between molecules, gases are easily _____
 5. The tendency of molecules to move toward areas of lower concentrations until the concentration is uniform throughout
 6. Pressure, volume, and _____ are all factors that affect how a gas behaves.
 7. As the temperature of a gas increases, the volume of the gas _____
 8. If you increase the volume of a gas, the _____ of the gas will decrease.
 9. Charles's Law states that the temperature and _____ of a gas are directly proportional.
 10. The volume occupied by a gas at a specified temperature and pressure is dependent upon the number of particles.
 13. A gas at 273K and 101.3 is at _____

Technical Chemistry - Gas Laws Magic Square

Name: _____

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|--|---|--|
| <p>A. A sample of neon gas occupies a volume of 2.8 L at 1.8 atm. What would its volume be at 1.2 atm?</p> | <p>B. A balloon full of air has a volume of 2.75 L at a temperature of 18°C. What is the balloon's volume at 45°C?</p> | <p>C. If 3.0 L of a gas at 20.0 °C is heated to 30.0 °C, what is the new volume of the gas?</p> |
| <p>D. A sample of argon has a volume of 0.43 mL at 24 °C. At what temperature in degrees Celsius will it have a volume of 0.57 mL?</p> | <p>E. To what pressure would you have to compress 48.0 L of oxygen gas at 99.3 kPa in order to reduce its volume to 16.0 L?</p> | <p>F. If a barometer at your home reads 768.2 mm of Hg, what is the atmospheric pressure in kPa?</p> |
| <p>G. What is the starting volume of a 24.7L gas sample that exerts a pressure of 0.999 atm. It's original pressure being 1.011 atm.</p> | <p>H. What is the starting temperature of 150mL of gas when cooled to 33°C and a volume of 120mL</p> | <p>I. What is the volume occupied by 20.4 liters of CO₂ at 1200 Torr when it is at STP?</p> |

- | | | |
|-----------|--------------|---------------|
| 1. 394 K | 5. 24.4 L | 9. 4.2 L |
| 2. 3.01 L | 6. 298 kPa | 10. 382.5 K |
| 3. 32.2 L | 7. 3.1 L | 11. 847 mm Hg |
| 4. 121 °C | 8. 102.4 kPa | 12. 24 °C |

