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Gas Laws

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| **Across**  **2.** the ability or tendency to float in water or air or some other fluid  **3.** the process in which molecules move from a higher concentration to a lower concentration  **4.** a gas whose pressure P, volume V, and temperature T are related by the ideal gas law PV = nRT,  **9.** an instument used to messure atmospheric pressure  **11.** something is compressed and particles move around bouncing off the sides of the container (trying to escape and expand)  **12.** variable definition - the space not filled by an atom  **14.** the quantity of three-dimensional space occupied by a liquid, solid, or gas  **15.** to be able to be compressed into a solid mass or smaller space  **16.**  an experimental gas law which describes how the pressure of a gas tends to decrease as the volume of a gas increases  **17.**  the hypothetical pressure of that gas if it alone occupied the volume of the mixture at the same temperature  **18.**  related by inverse variation  **19.** the SI derived unit of pressure used to quantify internal pressure, stress, Young's modulus and ultimate tensile strength | **Down**  **1.** the lowest temperature that is theoretically possible, at which the motion of particles that constitutes heat would be minimal  **5.** a law stating that the volume of an ideal gas at constant pressure is directly proportional to the absolute temperature  **6.**  a volume that encloses little or no matter  **7.** a combination of gases that surround a planet, room, etc  **8.** the volume occupied by one mole of a substance at a given temperature and pressure. It is equal to the molar mass (M) divided by the mass density  **10.** used to explain the behavior of gases and is based upon the following postulates: Gases are composed of a many particles that behave like hard spherical objects in a state of constant, random motion  **13.** indicates the direction in which energy flows when two objects are in thermal contact |