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Chapter 11 Summary

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| **Across**  **5.** law of gas behavior stating that the volume of gas, maintained at a constant temp and pressure, is directly proportional to the number of moles of the gas (6.022x10^23)  **6.** gas law that relates pressure, volume, and temp and amount for an ideal gas (PV=nRT)  **8.** pressure exerted by a vapor in equilibrium with its solid or liquid state at a specified temp  **12.** gas law stating that when the pressure on a sample of dry gas is held constant, the K temp and the volume are directly proportional (V/T=k)  **14.** an apparatus that measures atmospheric pressure by allowing it to support a column of liquid  **17.** gas law stating that the pressure of a confined gas is directly proportional to temp in K, provided that its volume is held constant (P/T=k)  **20.** spontaneous, uniform spreading and mixing of particles caused by particle motion  **21.** gas law stating that the volume of a fixed quantity of a confined gas is inversely proportional to its pressure when its temperature is held constant. (PV=k)  **22.** measure of how easily a fluid can move through the spaces between particles in a substance  **23.** when gas moves through tiny opening  **24.** P1V1/T1=P2V2/T2  **25.** limitless ability of a gas to expand in an environment of lower pressure  **26.** (R=PV/nT) constant that relates the units of pressure, volumes, temp, and quantity. | **Down**  **1.** hypothetical gas whose behavior follows the kinetic-molecular theory exactly  **2.** unit of pressure derived from normal atmospheric pressure at sea level that can support a 760 mm high column of Hg  **3.** value used when measuring gases. (273 K, 1 atm, or 760 torr)  **4.** P=P1+P2+P3...+PN  **7.** law stating that a chemical system may reach a point at which the ratio of the concentration of the proud==ducts to that of the reactants is constant at a fixed temp  **9.** ability of a substance (usually a gas) to decrease its volume under pressure  **10.** gas law that states that the rate of effusion is inversely proportional to the square root of its molar mass  **11.** unit of pressure that equals to 6.895x10^3  **13.** volume that a mole of gas occupies if it is at standard temp and pressure  **15.** force exerted per unit of area. (units= pascal, torr...)  **16.** substance that can flow to take the shape of its container; a liquid or a gas  **18.** unit of pressure equal to the normal atmospheric pressure at sea level  **19.** the SI unit of pressure, defined as a force of one newton exerted on an area of one square meter |

   effusion       diffusion       Graham's law of effusion       permeability       fluid       compressibility       expansibility       pressure       psi       barometer       millimeters of mercury       atm       pascal       standard temperature and pressure       Boyle's Law       Charles's Law       Gay-Lussac's law       combined gas law       Dalton's law of partial pressures       vapor pressure       law of combining volumes       Avogadro's law       molar volume       ideal gas       ideal gas law       universal gas constant