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IMPORTANT CHEMICAL LAWS

Laws	Explanation
Avogadro's Law	"Equal volumes of all gases, at the same temperature and pressure, have the same number of molecules"
Beer–Lambert law, (or simply Beer's law or Lambert–Beer law)	"Explains the attenuation of light to the properties of the material through which it (light) passes"
Boyle's Law	"The absolute pressure exerted by a given mass of an ideal gas is inversely proportional to the volume it occupies if the temperature and amount of gas remain unchanged within a closed system"
Charles' Law (also known as Law of Volume)	"When the pressure on a sample of a dry gas is held constant, the Kelvin temperature and the volume will be directly related"
Fick's Laws of Diffusion	Describes "diffusion" (of flux)
Gay-Lussac's Law	"All gases have the same mean thermal expansivity at constant pressure over the same range of temperature"
Le Chatelier's Principle ("The Equilibrium Law")	"When any system at equilibrium is subjected to change in concentration, temperature, volume, or pressure, then the system readjusts itself to counteract (partially) the effect of the applied change and a new equilibrium is established"
Henry's Law	"The law calculates the concentration of gas in the solution under pressure"
Hess's Law	"The change of enthalpy in a chemical reaction (it means, the heat of reaction at constant pressure) is independent of the pathway between the initial and final states"
Law of conservation of energy	"Energy can neither be created nor be destroyed"
Raoult's Law	"The partial vapor pressure of each component of an ideal mixture of liquids is equal to the vapor pressure of the pure component multiplied by its mole fraction in the mixture"
Faraday's Law Electrolysis	"The amount of substance produced at an electrode is directly proportional to the quantity of electricity passed"
Atomic Theory	"Matter is composed of distinct units known as atoms"
Köhler Theory	"Explains the process in which water vapor condenses and forms the liquid cloud drops"
Van 't Hoff Equation	"Describes change in the equilibrium constant of a chemical reaction"
Transition State Theory	"The reaction rates of elementary chemical reactions"
Grotthuss–Draper Law	"It describes that the light which is absorbed by a system/surface can bring a photochemical change"

Kinetic Theory of Gases	“Describes the behavior of a hypothetical ideal gas”
Aufbau Principle	“Explains that the electrons orbiting the atoms first fill the lowest energy levels and then second higher levels and so on and so forth”
Hund's Rule	“ Explains that every orbital in a sublevel is singly occupied before any orbital is doubly occupied”
Collision Theory	“Based on the kinetic theory of gases, collision theory describes that the gas-phase chemical reactions occur when molecules collide with sufficient kinetic energy”

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