Flashcard Vocabulary Terms

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| Atomic Emission Spectrum | Electromagnetic Radiation |
| Electromagnetic Spectrum | Frequency |
| Photoelectric Effect | Photon |
| Planck’s Constant | Quantum |
| Wavelength | Atomic Orbital |
| deBroglie Equation | Energy Sublevel |

Flashcard Vocabulary Terms

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| Ground State | Heisenberg Uncertainty Principle |
| Principal Energy Level | Principal Quantum Number |
| Quantum Mechanical Model of the Atom | Quantum Number |
| Aufbau Principle | Electron Configuration |
| Electron-dot Structure | Hund’s Rule |
| Pauli Exclusion Principle | Valence Electron |

Flashcard Vocabulary Definitions

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| An atomic model in which electrons are treated as waves; also called the wave mechanical model of the atom. | States that a maximum of two electrons can occupy a single atomic orbital but only if the electrons have opposite spins. |
| A particle of electromagnetic radiation with no mass that carries a quantum of energy. | The number assigned to each orbit of an electron. |
| The minimum amount of energy that can be gained or lost by an atom. | 6.626×10-34 Js, where J is the symbol for the joule. |
| Predicts that all moving particles have wave characteristics and relates each particle’s wavelength to its velocity, its mass, and Planck’s constant. | A phenomenon in which photoelectrons are emitted from a metal’s surface when light of a certain frequency shines on the surface. |
| The major energy levels of an atom. | Assigned by the quantum mechanical model to indicate the relative sizes and energies of atomic orbitals; signified by *n*. |
| A form of energy exhibiting wavelike behavior as it travels through space; can be described by wavelength, frequency, amplitude, and speed. | The arrangement of electrons in an atom, which is prescribed by three rules- aufbau principle, Pauli exclusion principle, and Hund’s rule. |

Flashcard Vocabulary Definitions

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| Consists of an element’s symbol, representing the atomic nucleus and inner-level electrons, that is surrounded by dots, representing the atom’s valence electrons. | Includes all forms of electromagnetic radiation; the types of radiation differ in their frequencies and wavelengths. |
| The electrons in an atom’s outermost orbitals; determine the chemical properties of an element. | States that each electron occupies the lowest energy orbital available. |
| The energy levels contained within a principal energy level. | A set of frequencies of electromagnetic waves given off by atoms of an element; consists of a series of fine line of individual colors. |
| States that it is not possible to know precisely both the velocity and the position of a particle at the same time. | The number of waves that pass a given point per second. |
| The lowest allowable energy state of an atom. | A three-dimensional region around the nucleus of an atom that describes an electron’s probable location. |
| States that single electrons with the same spin must occupy each equal-energy orbital before additional electrons with opposite spins can occupy the same orbitals. | The shortest distance between equivalent points on a continuous wave; is usually expressed in meters, centimeters, or nanometers. |