HONORS CHEMISTRY UNIT 6 NOTES

RUTHERFORD’S ATOM

ENERGY AND LIGHT

Electromagnetic radiation

Wavelength and Frequency

Relationship between wavelength and frequency

Relationship between wavelength and energy

ELECTRON ARRANGEMENT

Principle Energy Levels

Sublevels

Orbitals

SUMMARY OF ELECTRON LOCATION

|  |  |  |
| --- | --- | --- |
| PRINCIPLE ENERGY LEVEL | MAXIMUM NUMBER OF ELECTRONS | SUBLEVELS PRESENT |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |
| 7 |  |  |

USING THE PERIODIC TABLE TO WRITE ELECTRON CONFIGURATIONS

Why are electron configurations important?

Filling of Energy Levels, sublevels, and orbitals: What are the rules?

EXAMPLES

What about the transition elements?

Noble gas Core configurations

Orbital Configurations

Aubau Principle

Pauli Exclusion Principle

Hund’s Rule

Ground State

Excited State

Electron configurations of ions: What do we notice?

Valence Electrons: What are they?

Valence Electrons and Stability

Valence Electrons and the Periodic Table

ATOMIC PROPERTIES AND THE PERIODIC TABLE

Atomic Size

Vertical Trend

Horizontal Trend

Ionization Energy

Vertical Trend

Horizontal Trend

Electron Affinity

Vertical Trend

Horizontal Trend

Shielding Effect

Vertical Trend

Horizontal Trend