1 The Atom

DEFINITION

Dalton's Atomic Theory.

1. *All matter is made up of very small particles called atoms.*
2. *All atoms are indivisible. They cannot be broken down into simpler particles.*

DEFINITION

Cathode Rays.

Streams of negatively charged particle called electrons. They travel in straight lines from the cathode to the anode, are deflected by electricity and magnetic fields, and have sufficient energy to move a small object such as a paddle wheel.

2 Arrangement of Electrons in the Atom

DEFINITION

Energy Level.

The fixed energy value that an electron in an atom may have.

DEFINITION

Ground State.

The ground state of an atom is one in which the electrons occupy the lowest available energy levels.

DEFINITION

Excited State.

The excited state of an atom is one in which the electrons occupy higher energy levels than those available in the ground state.

DEFINITION

Equation Of The Frequency Of Light.

$$E_2 - E_1 = hf$$

Where h is planks constant and f is the frequency of light.

DEFINITION

Heisenberg's Uncertainty Principle.

Heisenberg's Uncertainty Principle state that it is impossible to measure at the same time both the velocity and the position of an electron.

DEFINITION

Orbital.

An orbital is a region in space where there is a high probability of finding an electron.

DEFINITION

Sublevel.

A sublevel is a subdivision of a main energy level that consists of one or more orbitals of the same energy.

3 The Periodic Table

DEFINITION

Element.

An element is a substance that cannot be split into a simpler substance by chemical means.

DEFINITION

Isotopes.

Isotopes are atoms of the same element which have different mass numbers due to the different number of neutrons in the nucleus.

DEFINITION

Aufbau Principle.

When building up the electron configuration of an atom in it's ground state, the electrons occupy the lowest available energy level.

DEFINITION

Hund's Rule of Maximum Multiplicity.

When two or more orbitals of equal energy are available, the electrons occupy them singly before filling them in pairs.

DEFINITION

Pauli Exclusion Principle.

No more then two electrons may occupy an orbital, and they must have opposite spin.