Concepts Covered in Grade 9 Science

Chemistry

* PISAM (particle theory)
* Matter – pure substances and mixtures
* Physical and chemical properties
* Changes in State
* Density problems (Determination of volume – use of formulas and can)
* Physical and chemical changes
* Bohr Rutherford diagrams
* Periodic table and families, periods and trends
* Metal and non-metals
* Counting atoms

Electricity

* Insulators and conductors
* Law of Electric Charges
* Static electricity and the electrostatic series
* Charging by friction (one material becomes positive and one negative)
* Charging by contact (diagrams)
* Charging by induction (diagrams)
* Current electricity
* Parts of a circuit and schematic diagrams
* Simple circuit, series circuit (one path for electron flow) and parallel circuit (more than one path for electron flow)
* Series circuit (IT = I1 = I 2 = I3 ) and (VT = V1 + V2 + V3)
* Parallel circuit (IT = I1 + I 2 + I3 ) and VT = V1 = V2 = V3)
* Resistance
* Energy and Power using equations given (P = V x I, E = P x t, Cost = E x Price)

Ecology

* Food chains and food webs
* Trophic levels
* Energy flow and the 10% rule
* Predator prey relationships
* Exotic species and food web disruptions
* Pesticides and bioaccumulation
* Nutrient cycling and human disruption
* Water pollution and species tolerance

Space

* The Universe
* Big Bang Theory
* Seasons
* Stars
* Solar and Lunar Eclipses
* Constellations
* Planets
* Revolution vs. Rotation