

# Grade 10 Chemistry Syllabus

2017 - 2018

## Term 1

### States of Matter

- Evidence of particulate nature
- Differences between 3 states of matter
- Physical and chemical changes
- Pure and impure substances

### Mixtures and their Separation

- Solutions, suspensions and colloids
- Different types of solutions
- Solubility of solids in water
- Solubility curves
- Solubility table
- Separation techniques
- Extraction of sucrose from sugar cane

### Atoms and the Periodic Table

- Structure of atoms
- Properties of electrons, protons and neutrons
- Atomic number and mass number
- Relative atomic mass
- Isotopes
- Arrangement of elements in the periodic table

### Structure and Bonding

- Ionic and covalent bonding
- Properties of ionic and covalent compound
- Formula writing
- Ionic crystals, simple molecular crystals, giant molecular crystals
- Allotropes

- Relating properties to uses and structures
- Differences between ionic and molecular solids
- Metallic bonding
- Properties of metals
- Uses of metals including alloys

## **Term 2**

- Writing chemical equations
- Types of chemical equations

## **Periodicity of the Elements**

- Trends in group II
- Trends in group VII
- Trends in period 3
- Prediction of properties of unknown elements in different groups
- Carbon, nitrogen and water cycle

## **Acids, bases and Salts**

- Definition of acid, acid anhydride, base, alkali, salts, acid salts and normal salts, basic, amphoteric, acidic and neutral oxides
- pH scale
- Strong acids and strong bases
- Properties of acids
- Properties of bases
- Review of solubility table
- Preparation of salts
- Neutralization reactions

## **Term 3**

## **Mole Concepts**

- Definition of mole, molar mass, Avogadro's constant
- Avogadro's law
- Calculation involving moles
- Empirical and molecular formulae
- Balancing equations
- Reacting masses
- Reacting volumes
- Standard solutions

## **Summer Project end of Grade 10**

Inorganic Chemistry – Section C of syllabus

Characteristics of metals and non-metals and their compounds

