

PORTION FOR FINAL ASSESSMENT - MAY 2022

YEAR 9 – CHEMISTRY

SC1-States of matter

SC1a -States of matter

SC2-Methods of separating and purifying substances

SC2a – Mixtures

SC2b – Filtration and crystallization

SC2c – Paper chromatography

SC2d – Distillation

SC2e – Drinking water

SC3-Atomic Structure

SC3a – Structure of an atom

SC3b – Atomic number and mass number

SC3c - Isotopes

SC4-The Periodic Table

SC4a –Elements and the periodic table

SC4b- Atomic number and the periodic table

SC4c- Electronic configurations and periodic table

SC5-Ionic Bonding

SC5a – Ionic bonds

SC5b – Ionic lattices

SC5c- Properties of ionic compounds

SC6-Covalent Bonding

SC6a – Covalent bonds

SC7-Types of Substance

SC7a – Molecular compounds

SC7b- Allotropes of carbon

SC7c – Properties of metals

SC7d – Bonding models

SC8-Acids and alkalis

SC8a – Acids, alkalis and indicators

SC8b – Looking at acids

Extra topics included for GL Assessment

Know examples of the production of carbon dioxide by human activity.

Understand the impact of carbon dioxide production on the climate.

Know what is meant by the terms solvent, solute, solution, saturated solution and suspension.

Understand the term biodegradable.

Know names of some composite materials and relate their properties to their uses.

Know about the experiments to find the approximate percentage of oxygen in air using iron and copper.

Know about a test for the presence of water using anhydrous copper(II) sulfate.

Know about exothermic and endothermic chemical reactions.

Know the general equation for neutralization reactions between acids and alkalis.

Select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables, where appropriate

Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety.

Interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions.

PORTION FOR FINAL ASSESSMENT - MAY 2022

YEAR 10 – CHEMISTRY

SC1-States of matter

SC1a -States of matter

SC2-Methods of separating and purifying substances

SC2a – Mixtures

SC2b – Filtration and crystallization

SC2c – Paper chromatography

SC2d – Distillation

SC2e – Drinking water

SC3-Atomic structure

SC3a – Structure of an atom

SC3b – Atomic number and mass number

SC3c - Isotopes

SC4-The periodic table

SC4a –Elements and the periodic table

SC4b- Atomic number and the periodic table

SC4c- Electronic configurations and periodic table

SC5-Ionic Bonding

SC5a – Ionic bonds

SC5b – Ionic lattices

SC5c- Properties of ionic compounds

SC6-Covalent Bonding

SC6a – Covalent bonds

SC7-Types of Substance

SC7a – Molecular compounds

SC7b- Allotropes of carbon

SC7c – Properties of metals

SC7d – Bonding models

SC8-Acids and alkalis

SC8a – Acids ,alkalis and indicators

SC8b – Looking at acids

SC8c – Bases and salts

SC8d – Alkalis and balancing equations

SC8e – Alkalis and neutralization

SC8f – Reactions of acids with metals and carbonates

SC8g - Solubility

SC9 – Calculations involving masses

SC9a-Masses and empirical formulae

SC9b-Conservation of mass

SC9c – Moles

SC10 – Electrolytic Processes

SC10a - Electrolysis

SC10b – Products from electrolysis

SC11 – Obtaining and using metals

SC11a – Reactivity

SC11b – Ores

SC11c – Oxidation and reduction

SC11d – Life cycle Assessment and recycling

SC13 – Transition metals , Alloys and Corrosion

SC13a – Transition metals

SC13b – Corrosion

SC13c – Electroplating

SC13d – Alloying

SC13e – Uses of metals and their alloys

SC25 – Qualitative Analysis: tests for ions

SC25a – Flame tests and photometry

SC25b – Tests for positive ions

SC25c- Tests for negative ions

SC26 – Bulk and surface properties of matter

SC26a – Choosing materials

SC26b- Composite materials

SC26C- Nanoparticules

Extra topics included for GL Assessment

Know about exothermic and endothermic chemical reactions - Bond breaking, bond making, activation energy and reaction profiles (qualitative).

Know the general equation for neutralization reactions between acids and alkalis.

Factors that influence the rate of reaction: varying temperature or concentration, changing the surface area of a solid reactant or by adding a catalyst.

Chemical analysis - pure and impure substances - separation techniques for mixtures of substances.

Earth and atmospheric science - composition and evolution of the Earth's atmosphere - causes of climate change- common atmospheric pollutants - the Earth's water resources and obtaining potable water- the rock cycle and the formation of igneous, sedimentary and metamorphic rocks.

Select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables, where appropriate.

Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety.

Interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions.

PORTION FOR FINAL EXAMINATION - MAY 2022

YEAR 12 – CHEMISTRY

TOPIC 1 - Atomic structure and the Periodic Table

1.1 Atomic structure

1.2 The Periodic Table

TOPIC 2 - Chemical Bonding and structure

2.1 Giant Structures

2.2 Discrete Molecules

2.3 Physical properties related to structure and bonding.

TOPIC 3 - Redox Reactions

3.1 – Oxidation and reduction in terms of electrons

3.2 – oxidizing agents and reducing agents

TOPIC 4- Inorganic chemistry and the periodic table

4.1 – Group 2

4.2 – Group 7

TOPIC 5- Formulae, equation and amount of substance

5.1- Empirical and molecular formulae

5.2- Amount of substance

5.3- Equations and calculations

5.4- Errors and Uncertainties

5.5- Yield and atom economy

5.6- Types of reaction

TOPIC 6-Organic chemistry

6.1 – Introduction to organic chemistry

6.2 – Hydrocarbons

6.3 – Halogenoalkanes

6.4- Alcohols

TOPIC 7 – Modern analytical techniques

7.1 – Mass spectroscopy

7.2 – Infrared spectroscopy

TOPIC 8- Chemical Energetics

8.1- Heat energy and Enthalpy

8.2 Bond Enthalpy

TOPIC 9 – Reactions kinetics

9.1 – Reaction rate

TOPIC 10 – Chemical Equilibrium

10.1 – Reversible reactions and dynamic equilibrium

10.2 –Equilibrium position