Y7-Y11 Chemistry 2021-2022

Moving on to A level Chemistry - Employable

YEAR 11

- **Chemical analysis**
  - Pure substances & formulations
  - RP: Chromatography
  - Gas tests
  - Test: chemical analysis
  - Testing for ions & understanding emission spectra
- **The atmosphere**
  - What is in the atmosphere?
  - How the atmosphere evolved
  - Pollution, climate change & Carbon footprint (mindful)
  - Test: atmosphere
- **Sustainable development**
  - RP: Testing water purity
  - Purifying water
  - Life cycle assessments
  - Reducing our resource use (mindful)
  - Test: sustainable development
- **Organic chemistry**
  - Test: organic chemistry
  - Polymers, carboxylic acids & alcohols
  - Alkanes and alkenes (structures + reactions)
  - Getting useful products from oil
- **Equilibria & reversible reactions**
  - Test: Equilibria & reversible reactions
  - What is dynamic equilibria?
  - What are reversible reactions?
  - How can we change equilibria?
- **Energy changes**
  - % Yield, atom economy and gas calculations
  - Calculating concentrations
  - Test: chemical quantities
  - Exo and endothermic
  - Energy profiles
- **Reaction rates**
  - RP: Measuring temperature changes in reactions
  - Test: Energy changes
  - RP: Measuring reaction rates
  - Collision theory
  - What changes reaction rates?
  - Measuring & calculating reaction rates
- **Chemical quantities**
  - Uncertainty & mole calculations
  - Conservation of mass
  - Test: Eletrolysis
- **Chemical changes: Electrolysis**
  - Electrolysis – metal extraction
  - Electrolysis of solutions
  - Electrolysis of molten compounds
  - RP: Electrolysis
  - Test: acids & bases
- **Chemical changes: Acids & bases**
  - RP: Making a pure dry salt & titrations
  - Neutralisation
  - Reactions of acids (with metals and alkalis)
  - Test: Redox
  - Oxidation and reduction
- **Chemical changes: Redox**
  - Reactivity series and metal extraction

Applying skills to difficult situations - resilient

YEAR 10

- **Chemical Bonding**
  - Developing the periodic table
  - Test: periodic table
  - Drawing bonds
  - Test: chemical bonding
- **Chemical bonding: Properties**
  - Solids liquids and gases
  - Ionic properties
  - Giant covalent and metal properties
  - Test: bonding properties
- **The periodic table**
  - Group 1, 7 & 0
  - Understanding Ionic covalent & metallic bonds
  - Properties of small molecules

Thinking like a chemical engineer- innovative

YEAR 9

- **Atomic structure**
  - Test: atomic structure
  - Electron structures
  - Filtering, chromatography, distillation
  - Subatomic particles
- **Earth: climate**
  - Climate change (mindful)
  - Earth's atmosphere
  - Recycling (Mindful)
  - Test: climate & resources
  - Reactivity series
- **Earth: natural resources**
  - Understanding decomposition
  - Understanding combustion
  - Test: energy and reactions
- **Reactions: types of reaction**
  - Exothermic and endothermic
- **Reactions: Energy changes**
  - Test: periodic table & elements

YEAR 8

- **Reactions: Metals and non metals**
  - Reactions of metals
  - Reactivity series
  - Filtering, chromatography, distillation
  - Test: mixtures and particle model
- **Reactions: acids and alkalis**
  - Test: metals, acids and alkalis
- **Matter: separating mixtures**
  - dissolving
  - Changes between states
  - Solids liquids and gases
- **Matter: Particle model**
  - Test: Earth & Universe
- **Matter: the periodic table**
  - Understanding the periodic table
  - Groups
- **Matter: the elements**
  - Using chemical formulas
  - Chemical reactions
- **Earth: Structure and Universe**
  - Types of rocks
  - Our solar system

Baseline Assessment

YEAR 7

Developing independent learning skills - Resilient