



*Year 8 Chemistry*  
Curriculum



# *Year 8 Chemistry*

## **Introduction**

This document outlines what students will learn in Chemistry in Year 8.

### *1. Atoms and Elements*

#### **Atomic Structure**

- Subatomic particles (protons, neutrons, electrons)
- Atomic number and mass number
- Isotopes

#### **The Periodic Table**

- Groups and periods
- Trends in atomic radius, ionisation energy, and electronegativity

#### **Elements and Compounds**

- Chemical formulas
- Ionic and covalent bonding
- Balancing chemical equations

### *2. Chemical Reactions*

#### **Types of Chemical Reactions**

- Synthesis, decomposition, combustion, acid-base, redox

#### **Rates of Reaction**

- Factors affecting reaction rate (temperature, concentration, surface area, catalysts)

#### **Energy Changes**

- Exothermic and endothermic reactions
- Energy diagrams



## *3. Acids and Bases*

### **Properties of Acids and Bases**

- pH scale
- Indicators

### **Neutralisation Reactions**

- Salt formation
- Titrations

### **Acids and Bases in Everyday Life**

- Acid Rain
- Antacids

## *4. Organic Chemistry*

### **Introduction to Organic Chemistry**

- Hydrocarbons (alkanes, alkenes, alkynes)
- Functional groups (alcohols, carboxylic acids, esters)

### **Properties and Reactions of Organic Compounds**

- Combustion
- Substitution and addition reactions
- Isomerism

## *5. The Atmosphere*

### **Composition of the Atmosphere**

- Major gases
- Pollutants

### **The Carbon Cycle**

- Carbon dioxide emissions and global warming

### **Air Pollution**

- Sources and effects of air pollutants



## *Practical Activities and Investigations:*

- Conduct experiments to investigate the properties of elements and compounds
- Carry out reactions to observe different types of chemical changes
- Measure the rates of chemical reactions under various conditions
- Explore the properties of acids and bases
- Investigate organic compounds and their reactions

## *Assessment*

- Regular quizzes and tests
- Practical assessments
- Project work (e.g., researching a specific chemical reaction or element)

## *Evaluation and Review*

The curriculum will be reviewed annually to ensure its effectiveness. Feedback from students, teachers, and parents will be considered in the review process.

Updated August 2024

Next review: August 2025