



Simple Chemical Reactions

Chemical Reactions

Recap of Y7

Can you recall the difference between elements, compounds and mixtures

Conservation of Mass

How can we prove that mass is always conserved, even when a reaction appears to gain or lose weight?

Types of Reactions

Chemical Reactions

What is the difference between a physical change and a chemical reaction in terms of bonding and reversibility?

Oxidation reactions

What happens when a metal reacts with oxygen, and how do we write an equation for the product?

Fuels and combustion

What are the reactants and products involved in burning a fuel to release energy?

Thermal Decomposition practical

How can we use chemical tests to identify the gases produced when a substance breaks down with heat?

Thermal Decomposition reaction

What happens in thermal decomposition reactions?

Representing Reactions

Symbol equations

How do we use symbols and state markers (s, l, g, aq) to accurately describe a reaction?

Balancing equations

Why do we need to balance symbol equations to show that no atoms are lost during a reaction?

This module continues your learning journey from Y7 and links on work from previous learning on particles to now explain how and why chemical reactions happen.

This module will develop early understanding of specific types of reactions which include combustion and thermal decomposition which you will revisit later in school.

KEY VOCABULARY

Reactant, Product, Conservation, Rate, Catalyst, Metal Oxide, Fuel Combustion, Mean, Thermal Decomposition, Resolution, State symbol



8.2 ACIDS AND ALKALIS

Acids and Alkalis

Hazards

How do we identify hazard symbols and work safely with acids and alkalis?

Acids and alkalis

What makes a substance an acid or an alkali, and what are some common examples?

Indicators

How do we use the pH scale and indicators to measure how acidic or alkaline a solution is?

Neutralisation

What happens to the pH of a solution when an acid and an alkali react together?

Making Salts

How can we plan a safe method to produce a dry, pure salt from a neutralisation reaction?

Metals and Acids

What products are formed when an acid reacts with a metal, and how do we test for the gas produced?

This module continues your learning journey on from your previous Chemistry topic of Chemical Reactions.

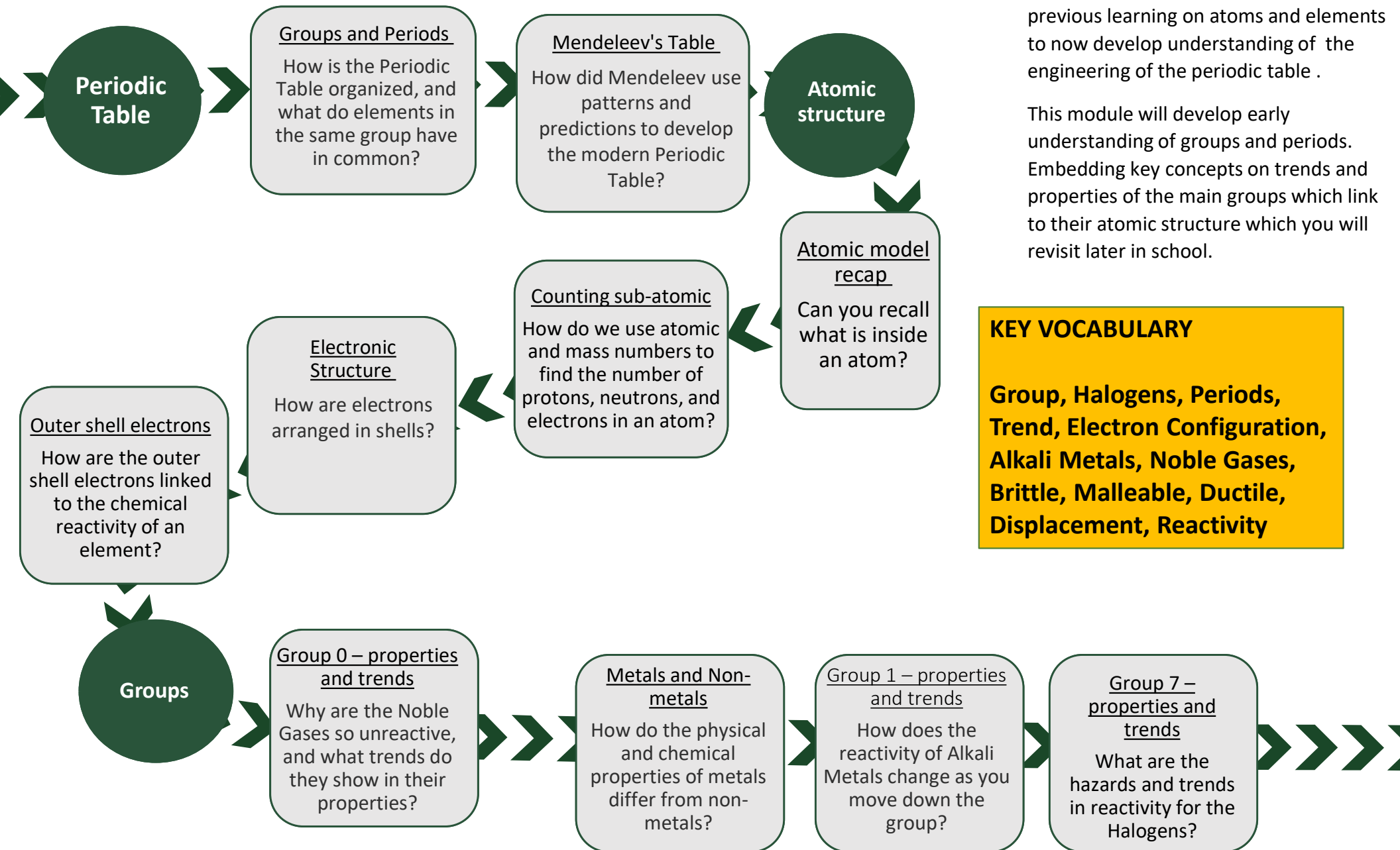
You will learn about how different compounds can be acids, alkalis and bases and what this means about the compounds. You will develop your practical skills by learning how to identify acids and alkalis using indicators. You will apply your knowledge of chemical reactions by looking at various reactions of acids and alkalis such as neutralisation and with metals.

KEY VOCABULARY

Acids, Alkalis, Neutral, Hazard, Risk, Corrosive, Base, pH, indicators, Salt, Strong, Weak, Neutralisation, Litmus paper, Observation, Flammable, Irritant, Oxidising, Toxic



8.3 The Periodic Table



This module continues your learning journey from Y7 and links on work from previous learning on atoms and elements to now develop understanding of the engineering of the periodic table .

This module will develop early understanding of groups and periods. Embedding key concepts on trends and properties of the main groups which link to their atomic structure which you will revisit later in school.

KEY VOCABULARY

Group, Halogens, Periods, Trend, Electron Configuration, Alkali Metals, Noble Gases, Brittle, Malleable, Ductile, Displacement, Reactivity



8.4 - Rocks

This module continues your learning journey from previous learning in the KS2 at primary school where you met examples of different rocks.

You will learn to apply your Scientific knowledge to consider how different scientific theories have developed and apply this to our knowledge of the earth's structure. You will learn how the different rock types are formed and they change into one another in the rock cycle.

KEY VOCABULARY

Mantle, Sediments, Plankton, Deposition, Transportation, Igneous, Metamorphic, Crystal, Fossil, Theory, Categorical, Continuous

Earth

The structure of the Earth

What are the different layers of the Earth, and how has our understanding of its structure developed?

Rocks

Sedimentary rocks and fossil fuels

How do sedimentary rocks form over millions of years, and how are fossil fuels trapped within them?

Igneous Rocks

How does the speed of cooling affect the size of the crystals found in igneous rocks?

Metamorphic Rocks

How can rocks be changed by heat and pressure, and how do they move through the rock cycle?