"Life is not easy for any of us. But what of that? We must have perseverance and above all confidence in ourselves. We must believe that we are gifted for something and that this thing must be attained."
Marie- Curie

Chemistry LEARNING JOURNEY

Evaluating use and disposal of the Earth's resources sustainably.

GCSE Chemistry or GCSE Science (Trilogy)

Revision and mastery: Chemistry exam technique practice and PPE question breakdown

C10: Using Resources

Evaluating human impact on the Earth's natural cycles.

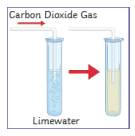
Describing the changes of the Earth's atmosphere. Explaining the causes of these changes.

Water potability

C9: Chemistry of the Atmosphere

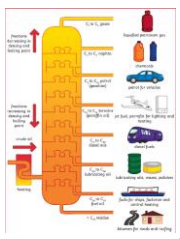
Analysing problems caused by increased levels of air pollutants. Investigating solutions that help to reduce the impact of human activity.

C8: Chemical Analysis



Identifying gases by a colour change or an insoluble solid that appears as a precipitate.

C7: Organic Chemistry



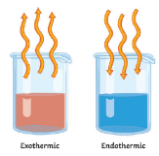
Identifying that sources include fossil fuels which are a major source of feedstock for the petrochemical industry.

YEAR 11

Using C-C bonding to identifying modifications to make other substances, like polymers.

Investigating variables that can be manipulated in order to speed up or slow down reactions.

Explaining exothermic and endothermic reactions with bonds.



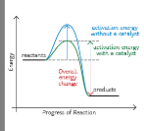
Using patterns in chemical changes to predict exactly what new substances will be formed. Linking to the complex reactions that take place in living organisms.

C6: Rates of Reaction

C5: Energy Changes

C4: Chemical Changes

Describing the use of electrolysis for different means and outcomes.



Analysing graphs to describe rates or reaction.

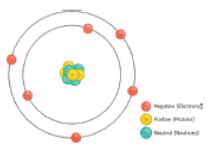
Identifying reversible reactions.

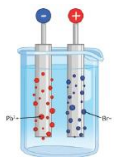
Describing and explaining how interactions between ions in an electrolyte result in the production of electricity.

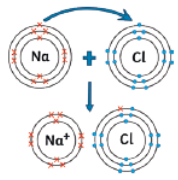
Explaining extraction methods for metals with atomic structure.

YEAR 10

Using simple models of the atom, symbols, relative atomic mass, electronic charge and isotopes.

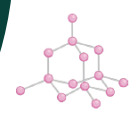






Explaining the physical and chemical properties of materials.

Using quantitative analysis to determine the formulae of compounds and equations for reactions.



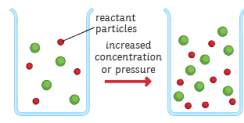
C1: Atomic Structure

C2: Bonding, structure and the properties of matter

C3: Quantitative Chemistry

Using the periodic table and atomic structure to predict explain patterns of behaviour.

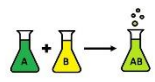
Theories of bonding explain how atoms are held together in these structures.



Determining purity of chemical samples and identifying expected yields.

YEAR 9

Investigating the contribution that natural and human processes make to our carbon. dioxide emissions.



Writing word equations.

Comparing exothermic and endothermic reactions.

Utilising practical skills to determine energy changes

Earth Resources

Climate

Types of Reaction

Chemical Energy

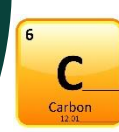
Elements

Applying the reactivity series to describe and explain the best extraction techniques for metals.

Identifying combustion, thermal decomposition and chemical changes.

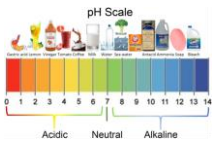
Comparing elements and compounds.

Applying nomenclature to naming compounds.



Understanding the structure of the Earth.

Exploring igneous, sedimentary and metamorphic rocks and their roles in the rock cycle.



YEAR 8

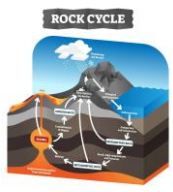
Acids and Alkalis

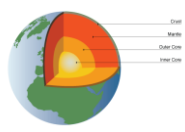
Earth Structure

Periodic Table

Metals and Non Metals

Investigating acids, alkalis, indicators and neutralisation.





Using the Periodic Table to identify patterns of behaviour.

Utilising literacy skills with key terminology the names of types of substances: atoms, elements and compounds.

Using particles to explain matter and state.

Separating mixtures using specific equipment and techniques.

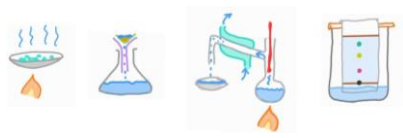
Applying the role of particles in diffusion.

Safety in Science

YEAR 7

Exploring the reactions of acids with metals, comparing reactivity to make predictions about reactions.

Utilising literacy skills with key terminology relating to solutions.



Applying understanding to new situations and making sense of the state changes.