



## Chemistry

### Curriculum Road Map

#### Intent

- To develop a strong understanding of the world & to acquire scientific KUS
- To gain an understanding of scientific processes & the uses and implications of science, today and for the future
- To develop and use a range of skills including observations, planning and investigating

#### In Year 11...

- I will explore how variables can be manipulated in order to speed up chemical reactions or slow them down
- I will establish how to maximise the yield of a desired product in reactions that are reversible and relate these to the work of chemical engineers
- I will research the properties of organic molecules such as alkanes, alkenes, alcohol and crude oil learn how to classify different types of reactions

#### In Year 10...

- I will learn the theories of structure and bonding to explain the properties of materials and how new materials are created with desirable properties
- I will develop chemical analysis skills that allow us to determine the composition and purity of product chemical reactions
- I will investigate the energy changes in chemical reactions and how they can be used in our everyday lives

#### In Year 9...

- I will experiment with chemical reactions in a systematic way, organising my results logically
- I will know how some elements and compounds react with each other and how easily they can be 'pulled apart'
- I will understand how human activity has caused the atmosphere and Earth to change over time
- I will describe the rock cycles, look at the properties and research how one type of rock converts into another

#### In Year 8...

- I will use particle models to explain the states of matter and explore the difference between physical and chemical changes
- I will investigate simple chemical reactions including acids and alkalis and combustion
- My specialist vocabulary will be extended and I will be expected to use this vocabulary when describing and evaluating processes
- I will carry out chemical reactions, predicting results and represent our findings using chemical equations

#### In Year 7...

- I will study the foundations for understanding the world through the specific discipline of chemistry
- I will carry out investigations using different separation techniques
- I will research the properties of different substances and their state of matter
- I will learn how the periodic table has developed over time and use the modern periodic table as a tool to determine the structure and chemical properties of atoms
- I will be challenged to describe processes using technical terminology accurately and precisely and I will build up a specialist vocabulary

