CHEMISTRY

SPRINGFIELD SCHOOL

SKILLS

KNOWLEDGE

The future
- Study Chemistry at 6th form or colleges
- The study of chemistry will help to develop research, problem solving and analytical skills. Enabling you to challenge ideas and apply logic and reasoning

Year 11
- Select the correct qualitative chemical test to identify unknown substances
- Evaluate the impact of human activities and industrial processes
- Use practical skills to measure the rate of chemical reactions
- Apply mathematical skills to chemical contexts

Year 10
- Extract data from the Periodic table to use in calculations
- Rearrange formula to derive the desired outcome
- Use the reactivity series to predict the outcome of chemical reactions
- Use evidence to evaluate the changes to the atmosphere
- Interpret the graphical data

Year 9
- Retrieval practice of key ideas
- Identifying patterns in data and extrapolating the data to make predictions
- Balancing symbol equations
- Selecting the most appropriate method to solve a problem
- Understand how scientific theories change over time

Year 8
- Correct use of measuring equipment
- Identifying independent, dependent and control variables
- Classification of materials
- Using symbol equations to represent chemical reactions
- Analysing data to draw conclusions

Year 7
- Safe use of common lab equipment
- Writing and following methods
- Identifying and controlling risks
- Using the pH scale and the Periodic table
- Using word equations to show reactions
- The use of scientific models to explain complex ideas

Yr 11

Chemical Analysis
- Experience a range of qualitative tests to detect specific chemicals

Rates of Reaction
- Identify the variables that will affect the rate of chemical reactions and how changing these variables will affect the rate of reaction

Organic Chemistry
- Investigate carbon based compounds and how they can be modified to make many useful materials

Using Resources
- Study the ways in which chemists attempt to reduce the impact of humans on the Earth's resources

Yr 10

Quantitative Chemistry
- Apply maths skills to chemical reactions to calculate appropriate data

Chemistry of the Atmosphere
- Investigate the Earth's dynamic atmosphere and the reasons behind the changes, including the effects of pollution

Chemical Changes
- Study acid reactions, displacement reactions and electrolysis

Energy Changes
- Identify chemical reactions as exothermic or endothermic

Yr 9

Chemical Bonding
- Use the atomic structure to show how atoms interact and form bonds

Chemical Structures
- Learn how bonding affects the properties of chemical structures

Periodic Table
- Identify the patterns in the groups of the Periodic table and how the atomic structure affects these patterns

Atoms
- Learn the structure of the atom and how this model has changed over time

Yr 8

Earth
- Investigate the structure of the Earth and the rock cycle

Atmosphere
- Study the Earth's atmosphere and how it has changed

How Green
- Examine the use of different chemicals in the farming industry and links with Biology

Metals
- Using properties to classify materials as metals or non-metals

Yr 7

Acids and Alkalis
- Carry out chemical reactions between acids and alkalis, use indicators and the pH scale

Elements, Compounds and Mixtures
- Use of the Periodic table and scientific models to explore elements, compounds and mixtures

Simple Chemical Reactions
- The difference between chemical and Physical reactions is explored with the use of examples

Safety
- Lighting a Bunsen burner
- Lab safety
- Hazard symbols