

# **Science at Elemore Hall School**

## **Intent**

At Elemore Hall School, we intend Science to be a highly inclusive environment where learners enjoy their education and all are supported and encouraged to achieve. All pupils are challenged to expand their skills, knowledge and understanding of the world around them through varied curriculum opportunities. Those who find learning more difficult are given targeted support to embed skills, to develop at their own pace and to learn in a style that best suits their individual needs.

More specifically the Science curriculum at EHS aims to:

- Assist pupils to develop a better understanding of the world in which they live
- Encourage the development of pupil's communication skills
- Enable pupils to improve their personal relationships
- Helping pupils to develop strategies to solve their own problems
- Develop logical, constructive and sustained thought
- Improved self-awareness and the understanding of the environment as a whole
- Increasing confidence, initiative and perseverance when tackling problems
- Increasing independence, self-reliance and self esteem
- Working with other and developing co-operation skills and concern for the views and attitudes of others
- Using cross-curricular skills in reading, listening, recording, classifying, measuring, comparing and the evaluation of findings
- Improving observation and manipulative skills
- Skilful use of equipment in a correct and safe manner
- Confident handling of any hazardous situations
- Improved understanding through practical experience
- Develop an interest in science and skills which could be continued post school life.

## **Implementation**

In Science we acknowledge that people learn in different ways and we recognise the need to develop pedagogies which enable all children to learn in ways which suit them.

We offer ways for children to learn in different ways including:

- Investigation and problem solving;
- Open ended tasks;
- Reasoning;
- Research and finding out, with independent access to a range of resources;
- Group work, paired work and independent work;
- Effective questioning;
- Presentation and drama;
- Use of ICT;
- Visitors and educational visits;
- Creative activities, designing and making;
- Use of multimedia, visual or aural stimulus;
- Extra-curricular clubs and activities.

The Science schemes of work and curriculum overview are designed to allow all individual pupils at Elemore Hall School the opportunity to achieve the curriculum aims. We will encourage our pupils to be curious about natural phenomena and to be excited by the process of understanding the world around them. Key scientific terminology will be introduced each lesson and knowledge will be built upon throughout the school. Pupils will be encouraged to work scientifically and will be able to carry out simple tests and experiments using equipment and to gather and record data.

Implementation will allow each pupil to develop fully in the following areas:

- Handling apparatus
- Making measurements
- Completing experiments and investigations safely
- Following instructions
- Observing, recording and reporting accurately
- Seeking explanations
- Drawing logical conclusions
- Problem solving
- Making decisions
- Working co-operatively
- Assuming different roles within a group

## Impact

All pupils are to have a broad based Science curriculum, which will allow them to access all areas of scientific discovery and investigation. Pupils will be constantly monitored throughout each of the topic areas and it is envisaged that at the end of each unit of work, a small formal test will take place to chart progress made. It will also highlight any areas that may need to be revisited to allow the pupils to make the maximum amount of annotated progress considering their skills and abilities.

Every pupil will leave school with a science accreditation which will help them progress to the next stage of their learning. Additionally, impact will also be measured by how effectively it helps our pupils develop into well rounded individuals who embody our values and carry with them the knowledge, skills and attitudes which will make them lifelong learners and valuable future citizens.

## Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
7	Safety	Safety	Cells	Reproduction	Acids and Alkalis	Particles and Matter
8	Space	Space	Simple Chemical equations	Keeping Healthy	Infection and response	Classification and ecology
9	ELC Biology	ELC Biology	ELC Chemistry	ELC Chemistry	ELC Physics	ELC Physics
10	ELC Coursework	Cell Biology	Cell Biology	Body organisation	Body Organisation	Infection and response
11	Infection and response	Homeostasis	Inheritance	Ecology	Revision	Revision

\*Depending on the length of term / how much progress each class is making there may be some change to the subject overview.

## Accreditation

Science follows the National Curriculum at KS3 through the scheme of work “Exploring Science”. In Year 9 pupils will study for their entry level qualification, the scheme of work closely matches the lower level GCSE content and the assessments are of lower demand than that of GCSE. The reason for pupils studying this qualification is that it consolidates what is taught at KS3 as well as expanding the pupil’s knowledge so that they are GCSE ready. Additionally, it gives pupils a sense of achievement and helps increase pupil’s self-esteem, self-confidence and helps them raise their aspirations to succeed in their future learning(GCSE’s). At Key Stage 4 Science currently splits into two accreditation routes. Pupils will follow GCSE Biology as an academic subject, they will also follow BTec Horticulture as a more practical subject (see separate subject overview).

## Entry Level Qualification

<b>Paper 1: Biology</b>	<b>Paper 2: Chemistry</b>	<b>Paper 3: Physics</b>
<b>What’s assessed</b> <b>Cells</b> <b>Body Organisation</b> <b>Circulatory system</b> <b>Menstrual Cycle</b> <b>Reflexes (Nervous System)</b> <b>Healthy Eating</b> <b>Drugs</b> <b>Infection and response</b>	<b>What’s assessed</b> Periodic Table Atom Chemical equations Reactivity series Metals Chromatography	<b>What’s assessed</b> Speed Forces Energy types Energy transfers Thermal Conductivity Radiation
<b>How it’s assessed</b> Exam Practical skills write up	<b>How it’s assessed</b> Exam Practical skills write up	<b>How it’s assessed</b> Exam Practical skills write up

## Biology GCSE

Paper 1: Biology	Paper 2: Biology
What’s assessed Cell Biology Body Organisation	What’s assessed Homeostasis Inheritance, variation and evolution

Infection and Response Bioenergetics	Ecology
How it's assessed Exam	How it's assessed Exam

### **Additional Support**

Pupils learn how to spell the key scientific words in class and also at literacy withdrawal.

### **Links with evening activities**

Every pupil is given the opportunity to come to after school club to do some revision of the topics they have been learning about or to further deepen their scientific knowledge. Additionally, pupils also have the options of either doing an extra GCSE (e.g. Chemistry) or the combined science if they need it for their further studies.

### **Enrichment**

We are committed to the broadest educational offering, and that means looking beyond the National Curriculum. A very successful enrichment programme that draws upon a wide range of adult skills is offered through school trips, visiting specialists and themed days and weeks.