Forest Oak School

Curriculum Intent, Implementation and Impact statement for *Science*

Curriculum Area/Subject Lead(s):

Helen Ellis

Intent

At Forest Oak School it is our intention to develop a lifelong curiosity and interest in the sciences in all young people who attend our school. We intend for learners to have the opportunity, wherever possible, to learn through varied systematic investigations, leading to them being equipped for life to ask and answer scientific questions about the world around them. As learners progress through the year groups, they build knowledge on their skills in working scientifically. They also progressively build their scientific knowledge as they develop greater independence in planning and carrying out fair and comparative tests to answer a range of scientific questions linked to the real world around them and their own lives.

Implementation

When students enter the school in Reception they begin their journey through the Forest Oak EYFS curriculum, which is closely linked to scientific observation, exploration and developing understanding including Physical Development: Gross Motor Skills; Mathematics: Numerical Patterns and Understanding the World: The Natural World.

At this stage, learning can look like simple control of their own bodies, expressing curiosity through touching and looking at objects they find and experience. This naturally develops into exploring the natural world around them: drawing pictures, observing similarities and differences and understanding important processes. Lessons are designed to provide students with experiences which interest and engage them in a learner-centred manner so as not to overwhelm but rather encourage learners to take notice and provide opportunities.

Following this stage, students begin more formal Scientific learning in designated science lessons which begin in Year 2 and continue until Year 9. The acquisition of key scientific knowledge and the development of this knowledge into real-world understanding is an integral part of our science lessons. Skills for working scientifically are developed through the year groups so that they are built upon in a progressive way.

Science lessons are linked to termly topics as well as scientific themes which are either returned to and built upon or linked to other topics to create a bigger picture of how all of nature is fundamentally linked through science. Lessons are arranged in progressive learning sequences, helping to embed scientific knowledge and skills, with each lesson building on previous learning. From Year 2 up to Year 7 these lessons form part of our cross-curricular Cornerstones Scheme of Work. In Years 8 and 9 we use our own bespoke Forest Oak topic-based Scheme of Work, designed to flow seamlessly from Cornerstones, starting to build the skills and knowledge required for Key Stage Four Accreditations.

In Years 10 and 11 students work towards an OCR Entry Level award in Science, which builds upon these themes in short topics, Can Do Tasks and a piece of coursework. Topics are hand-picked to provide learners with a wide range of experiences which follow on from and build upon the learning in the previous key stages.

Once students reach Sixth Form, there is no longer a statutory requirement in the study of science, however our students continue to develop their knowledge in aspects of the PSD Level 2 Award (food safety and healthy eating); Gateway Progression (basic food preparation, checking and maintaining car wheels and tyres); Mental Health Wellbeing Award (understanding what is meant by mental health) and the optional ASDAN Short Courses (Sports and Fitness, Animal Care, Food Wise).

The diagram below is designed to give a simple overview of how learning interlinks and progresses through the key stages in the Forest Oak Science curriculum

Key Stage 1	Key Stage 2	Key Stage 3	Key Stage 4	Sixth Form
Physical Development: Gross Motor Skills Understanding the World: The Natural World Mathematics: Numerical Patterns	Living things and their habitats Animals including humans Plants Everyday materials Use of everyday materials Rocks Forces and magnets Seasonal changes Light Scientists and Inventors	Living things and their habitats Animals including humans Evolution and Inheritance Earth and space States of matter Forces Sound Properties and changes of materials Light Electricity Scientists and Inventors	Dead or Alive Babies Fooling your Senses Gasping for Breath You only have one life Body wars Extinction My genes Full spectrum Hot stuff Alternative energy Our electricity supply Attractive forces Pushes and pulls Fly me to the moon Final frontiers Physical or chemical change Acids and alkalis Novel materials Sorting out Let's get together Heavy metal Fuels Are you overreacting?	Sports and fitness (optional) Mental health wellbeing award Animal care (optional) PSD Level 2 Award Gateway Progression Food Wise (optional)

Impact

As a result of our science curriculum, learners at Forest Oak school develop a love of science and increased understanding of the interconnected nature of life and science. Learners demonstrate confidence through their progression of knowledge and skills which they continuously build on.
Progress is measured through a child's ability to know more, remember more and explain more. Teachers use key questions to ensure opportunities are built into lessons for ongoing assessment. Progress of attainment can be measured across the school using the school science outcomes, which are recorded on SOLAR.

Learners at Forest Oak feel confident in their scientific knowledge and enquiry skills and are excited about science, showing that they are actively curious to learn more. They demonstrate an understanding of the relevance of what they learn in science lessons to real-life situations. They are finally able to reflect upon the bigger picture and the importance of science in the real world.