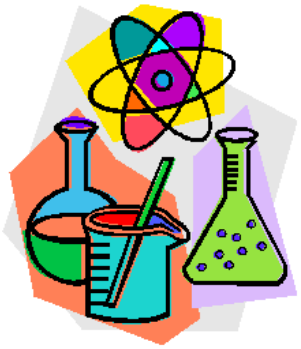

Curriculum Statement for Science

Rationale

At Ingfield Manor School, we recognise the importance of science in helping our students understand the world they live in, as well as to develop an enquiring mind, critical thinking and problem-solving skills. Through science, which is embedded within the Conductive Education framework, we are can encourage our student's natural curiosity and teach the knowledge and enquiry skills necessary for them to develop their understanding of the world, as well as develop holistically.

At Ingfield Manor, in conjunction with the aims of the National Curriculum and accredited courses, our science curriculum provides opportunities for students to:

- Develop an enthusiasm and enjoyment of scientific learning and discovery
- Gain a deeper understanding and appreciation of the natural world, both from our school grounds and their local environment
- Develop scientific knowledge of biology, chemistry and physics through the topics taught.
- Understand the different types of scientific enquiry and develop the skills needed to deepen their scientific knowledge
- Develop a questioning mentality and provide the skills needed to answer questions independently.
- Nurture an understanding of the importance of science to the local community and world, both today and in the future, i.e. environmental issues
- Promote scientific role models, both living and dead, to encourage high aspirations of what can be achieved.
- Develop communication and social skills by encouraging co-operative learning and discussion
- Develop physical skills through active enquiry
- Develop independence and problem-solving skills
- Feel they are valued as holistic, active learners and empowered with the confidence and self-esteem to make choices and be motivated

Curriculum Intent

Our long-term plans are designed to enable students to develop and build on knowledge and skills as they progress through the school, as well as develop a broad scientific understanding.

Units of work are well-sequenced, practical, creative and engaging, incorporating planned opportunities to carry out a range of different types of scientific investigation.

In EYFS, students start to develop their skills and knowledge through the *Understanding the World* area of learning.

In Key Stage 1 and 2, students follow the Cornerstones schemes of work which provide coherently planned lessons, underpinned by a rigorous skills and knowledge framework, which enable students to build on and develop the skills and knowledge introduced during EYFS.

In Key Stage 3, students continue to develop their scientific knowledge and skills, becoming more enquiring, critical and independent learners. Whilst following a rolling programme, learning becomes more individualised as students transition from the Cornerstones schemes of work towards the relevant accredited syllabuses.

In Key Stage 4, students use and develop the knowledge and skills learnt earlier in their school career to develop portfolios and prepare for test/exams for relevant qualifications.

In Key Stage 5, scientific enquiry is embedded within the wider curriculum, with students being encouraged to make choices and use their independence skills, as well as scientific knowledge and understanding in a range of functional contexts, such as fund raising and environmental projects.

A rolling programme ensures that the science topics are taught to all pupils during each key stage, taking into consideration the mixed-age structure of our classes.

Our outdoor environment and rural location play a key role in our science teaching and is used for many of our topics including habitats, classification and forces. Additional opportunities are provided to develop scientific skills and knowledge, such as science days and educational visits linked to the science curriculum, as well as visits from inspirational speakers.

Implementation

EYFS

The EYFS Curriculum for Understanding the World is taught in variety of ways through adult-led and adult-supported tasks and child-initiated learning in well-resourced provision areas, both indoors (including the sensory room) and outdoors. These provide opportunities for students to be challenged and learn through play by fostering active participation. Learning is delivered through termly topics and Cornerstones curriculum materials are used as a resource base to inform planning and delivery.

Key Stage 1 and 2

Science is taught in planned termly/ half-termly topics from the Cornerstones curriculum, with each topic having varying degrees of scientific enquiry content. Learning is active, with students being challenged through more structured scientific investigations, using well-resourced learning environments, both inside (including the sensory room) and outdoors. Students are provided with opportunities to further embed their scientific knowledge through the revisiting of skills and knowledge throughout both key stage 1 and 2.

Key Stage 3

Science is taught in planned, structured distinct weekly science lessons following either biology, chemistry or physics topics each term. Students are provided with opportunities to build upon their previous learning as well as develop new skills, knowledge and vocabulary.

As students move through key stage 3, their learning becomes more individualised and more challenging concepts are introduced as appropriate.

By the end of year 9 a decision is made in respect of the route students will take in key stage 4. They either study science together with humanities subjects under the umbrella 'The World Around Me', working towards WJEC Entry Pathways qualifications or as part of the Personal Progress qualification.

Our whole school approach encourages all students to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers, at a level appropriate to them. As students move through the school, they build upon the learning and skill development of the previous years. As their knowledge and understanding increases and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.

Impact of the Science Curriculum

The impact of the curriculum will be reviewed on an ongoing basis to ensure a fun, engaging, high-quality science education, that provides students with the foundations for understanding the world around them. Ongoing observations will ensure students are engaged with the subject and their local environment, as well as ensuring they have a good understanding of wider issues affecting them and the planet. Students should have the knowledge and skills to investigate their own questions, carry out investigations, record results and draw conclusions from their results. In addition, they should have the resilience to understand that sometimes results aren't what they expected and are able to suggest improvements or alternatives to their investigations.

In addition to the informal, formative evaluation, the impact of our science teaching will be monitored termly through lesson observations, feedback from individual lesson targets (including student's self-assessment), scrutiny of student's workbooks/folders and progression in skills for learning.

In addition, in EYFS regular observations and assessments of learning are recorded using the Interactive Learning Diary and contribute to summative assessment at the end of EYFS using the early years outcomes for Understanding the World.

In key stage 4, internal moderation of portfolios and test/exam results will also be used to assess the impact of the curriculum and teaching and learning.

See also:
Assessment and Marking Policy