Subject - Science

INTENT – the knowledge and skills to be gained.

Why do we teach science?

Teaching science offers students to opportunity to increase their overall understanding of how and why things work. Science teaches children about the world around them. ... This knowledge can be used to understand new concepts, make informed decisions and pursue new interests.

Does the curriculum enhance learning across the other subjects?

Science is obviously part of STEM subjects and hence is intrinsically linked with maths, computing and DT. Science is problem-solving: using critical thinking and evidence to create solutions and make decisions. ... In this way, science is one of the most important subjects students study, because it gives them the critical thinking skills they need in every subject.

What difference does it make to the children?

Science IS a life skill, it teaches; safety, planning, questioning, creativity, curiosity, confidence, critical thinking, motivation, communication, analysis, decision making and evaluation.

Does it provide children with the building blocks and knowledge they need to experience?

The aim for Science in the national curriculum is to help children develop a sense of excitement and natural curiosity about natural phenomena, whilst giving them the key foundational knowledge they need to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. The national curriculum for Science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- they are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

IMPLEMENTATION - HOW

How have you designed your curriculum to ensure pupils achieve what you want then to?

The curriculum is spiral with topics revisited from Nursery to year 6. There are some topics, which first appear in year 6 and are taught discreetly.

Is it taught discretely or cross curricular?

Cross curricular in project based activities. For example circuits are taught with 'lightning a performance stage' created through a DT project as part of an over reaching project 'All the Worlds a stage'.

Is the subject timetabled each week?

No, it is taught when relevant, for example 'seasons' in EYFS is taught each year during the change of each season.

Do you have suitable resources?

We have limited resources in certain areas, however we are looking forwards to auditing KS2 science resources this year and setting up a KS1 and EYFS communal resource area.

How do you support staff to gain the right level of subject knowledge to teach confidently?

Staff support through an extensive internal data base of knowledge organisers, retrieval practice, quizzes and plans for focussed assessment in science.

How does it support all pupil groups/ diversity?

Our aim is that no child is disadvantaged by their background situation & that, as a school, we provide everything that a child needs so that there are no gaps in scientific learning. As a result, we ensure that children have a broad range of curriculum experiences, free access to a wide variety of resources, regular opportunities to engage in practical scientific investigations and exposure and opportunity to use the correct scientific vocabulary to express themselves.

Through our rich & varied curriculum, we ensure that our children are well equipped for life in modern Britain &, through subject linkage have an excellent understanding of Democracy, the Rule of Law, Responsibility & Liberty, Mutual Respect plus Tolerance of those of different faiths and beliefs.

IMPACT – PROGRESS

How do you assess and record progress?

In EYFS assessment against the EL Goals and activities recorded in a floor book. In KS1 pupil monitoring and conferencing and work recorded in books, displays and floor-books.

How do you access pupil work?

Teacher assessment: Formal assessment – end of unit and end of year: Observations: and books. End of year data

Why are children doing things not just how?

Science is a life skill, it teaches; safety, planning, questioning, creativity, curiosity, confidence, critical thinking, motivation, communication, analysis, decision making and evaluation.

Do children understand and appreciate the value of learning in you subject?

We are continuing to develop the profile of science. Our mantra 'we are doing science' is shared with the children. This year, we are introducing symbols to represent the seven key skills used within scientific enquiry. This will highlight 'thinking scientifically' both within science and the wider curriculum.

What does your evidence of monitoring show?

We need to identify and highlight the scientific process more to make children aware when they are 'doing science'. Through notice boards, visitors and scientists highlighted on knowledge organisers we are promoting a modern vision of science……not just some 'old white guy in a lab coat with wild hair'!

Can you demonstrate the increased knowledge the children now retain?

Children at the beginning of a topic will complete a mind-map of prior knowledge. They will add to the map at the end of the topic new knowledge acquired.