

Subject Area - Science

Rational Overview –

What does this subject look like at Chancel Primary School?

A quality science curriculum should provide pupils with the foundations for understanding the world around them. All pupils should be taught essential aspects of the knowledge, methods, processes and uses of science, including appropriate terminology and vocabulary. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

At Chancel Primary School, children are given a wealth of opportunities to explore the science objectives outlined in the national curriculum. We currently follow the Science Bug scheme of learning throughout Ks1 and Ks2. Staff have commented that this is very user friendly and the scheme provides sufficient coverage of NC objectives. It provides some opportunities for practical science, has ideas for support and extension of pupils of differing abilities, and covers the vocabulary that should be taught during each unit.

The subject leader is aware of 'cultural capital' and provides opportunities for children to 'broaden their horizons', providing exciting science workshops and encouraging science school trips. There is opportunity to further enrich children's cultural capital at this school.

Children have good attitudes towards science, enjoy what they learn and particularly like practical science and investigations. They are aware of what they are being taught and why, and can remember some prior learning which links to their current topic.

Staff have identified opportunities to strengthen the subject, including:

- Auditing and updating resources to ensure there is appropriate equipment to deliver an inspiring curriculum
- Allowing some flexibility in planning to encourage further practical investigations
- Discussing and rethinking the assessment of the subject to ensure HLP children are identified and appropriately challenged and SEND children are provided scaffolds and appropriately supported
- Providing staff with adequate CPD opportunities to update their subject knowledge, allowing them to confidently address misconceptions and plan further learning opportunities
- Developing a 'directory of investigations' to provide a wealth of practical opportunities in science
- Developing outdoor learning opportunities and link to the curriculum

Chancel's Science Vision:

All children, during their time at Chancel, will become curious, thoughtful, confident scientific thinkers who aspire to discover, question, and change the world around them.

We will equip them with skills which will enable them to have a deeper understanding of the 'hows' and 'whys' of the world we live in through developing a culture of inquiry (well-rooted in scientific theory).

To achieve this, we will enrich their opportunities (science capital) by taking part in exciting, hands on, and practical experiences as well as fostering curiosity through participating in interesting, meaningful, and thought-provoking tasks.

Chancel Primary School's Identified Science Principles:

- 1) Discover
- 2) Enquire
- 3) Enrich
- 4) Think
- 5) Investigate
- 6) Apply
- 7) Aspire

Intent (overarching aims- What skills do we wish our pupils to acquire?)

In EYFS, Science is taught through understanding the world. This involves guiding children to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment. Children are provided with enriching environments and resources and encouraged to observe natural phenomena, explore their physical environment (both indoors and outdoors), and link their observations with simple explanations as to why this is happening through discussion.

Children's understanding of the world is built upon systematically throughout Ks1. The focus of science teaching in KS1 is to further children's experiences and observations of phenomena, using the knowledge taught clearly from the objectives to develop children curiosity about that in the wider world. The school has adopted 6 key principles of science learning and aim to meet these throughout their science teaching. Teachers use their scheme of work provided through ScienceBug to ensure children are sufficiently taught the knowledge required at their level. There should be a focus on practical science and investigations, including observing changes, noticing patterns, grouping and classifying and carrying out simple tests. Teachers provide children with accurate vocabulary and terminology which they can use to explain their understanding and communicate their ideas.

Throughout LKS2, children's scientific view of the world is broadened further. Using ScienceBug planning and further investigative opportunities, teachers encourage children to explore, test, and talk about what they observe. They are encouraged to begin to hypothesise, using 'if' statements to develop ideas about functions, relationships and interactions of scientific ideas. Questioning is a focus; teachers provide BIG questions to be researched and investigated, with children being encouraged to come to conclusions, drawing upon their scientific knowledge. Children also develop a more sophisticated way of recording and measuring data collected.

By the end of UKS2, the aim is for children to be ready for their next stage in science learning. They can talk about their science learning knowledgably and understand the purpose of what they are learning about, understanding how it applies to the wider world around them. They further build upon the skills of exploring, speculating, hypothesising, and testing ideas, developing a real curiosity in the world around them. Teacher provide children with opportunities to apply their taught knowledge. In UKS2, predicting outcomes based on scientific fact becomes a big focus, with children encouraged to build models and draw diagrams to explain their understanding. Pupils can also draw conclusions based on their collected data and observations and use evidence to justify their ideas and explain their findings.

Importantly, across all phases, our science vision is interwoven across all aspects of the curriculum. Children are curious learners and thinkers and enjoy the subject. They have a access to a wide variety of science opportunities to extend their 'cultural capital' and leave school as independent, scientific thinkers equipped with the skills to allow them to succeed in the next stage of their journey.