

Our Curriculum for Science

INTENT

School Vision:

At Totley All Saints Church of England Primary School, we aim to be an exceptional school with Christian values at the very heart of the community. We are committed to providing a caring environment where every child can thrive & is supported to achieve their unique & amazing potential as a child of God.

Subject Curriculum Vision:

We aim for all children to understand and apply the fundamental principles and concepts of science, so that they can understand the world through the specific disciplines of biology, chemistry and physics. We will support and nurture all children with their understanding of how science has changed our lives and is vital to the world's future prosperity, giving them the ability to recognise the power of rational explanation. We want our children to be excited and curious about the world around them, so that they are inspired to think about science in a meaningful and responsible way throughout their lives.

Our Curriculum for our Context:

Totley All Saints is situated in a semi-rural setting on the edge of the city of Sheffield and close to the Peak District. Our school is a smaller than average school with 212 pupils on roll aged 4-11 yrs. The ratio of girls to boys is higher than the national average & the proportion of pupils eligible for free school meals is much lower than average. A lower than average number of pupils come from minority ethnic backgrounds & the school is predominantly White British. The school now has a near to average number of children categorised as SEN with Support as well as children with a Statement of SEN or EHCP. Pupils typically enter FS2 either below or at least in line with national in Reading, Writing & Maths.

Our Curriculum reflects the ethos & aims of the school as well as the context from which our children derive. This means that our curriculum provides the necessary building blocks to develop the necessary knowledge & skills, whilst also promoting British Values, healthy lifestyles & mental wellbeing, plus excellent behaviour & attitudes. It is underpinned with a large emphasis on SMSC development, a strong practical outworking for others in line with our Christian ethos, whilst also building character & readiness for the next stages of education & the learning journey beyond.

IMPLEMENTATION

Aims of the National Curriculum:

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
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

| Learning Experience | Resources | Links with other Subject Areas |
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| What is the breadth of experience provided for our children? | What resources are used to support the teaching & learning of this subject? | What links are made between this & other subject areas? |
| • Quality First teaching: variety of teaching styles, varied stimulus | • Varied resources to support all Science themes in a practical and | Links are made with other subject areas wherever possible & science |

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| <ul style="list-style-type: none"> • Quality Resources: a wide range of scientific equipment, computers, iPad's, online resources & programmes, schemes of work to support teaching, books • Visits: e.g. Yorkshire Wildlife Park • Visitors: e.g. Stardome, Mick Rolley (Scientist) • Experiences: Stem club (run by a STEM trained facilitator), Science Week, regular use of our local surroundings and Woodland Workshop | <p>engaging way (e.g. for our Light theme: torches, light boxes, lenses, model of the eye etc.)</p> <ul style="list-style-type: none"> • Resources to support children's measuring and observation (e.g. magnifying glasses, pipettes, measuring cylinders, beakers, funnels etc.) • A range of books to support each learning theme • Online resources & programmes • Published schemes • Self and teacher assessment materials • Scientific vocabulary banks | <p>skills are often enhanced via other subject areas, particularly English, Maths, PSHE, Geography and computing.</p> |
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Planning & Sequencing of Knowledge & Skills

See Appendices.

IMPACT

| Assessment | Monitoring & Evaluation | Long Term Memory |
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| How is this subject assessed? | How do we know we have been successful? | How does this subject impact on long term memory? |
| <ul style="list-style-type: none"> • Teacher assessment • Formal assessment – end of unit and end of year • Observations • Marking | <ul style="list-style-type: none"> • Lesson observations • Work scrutiny • Discussions • Timetables • PDMs | <ul style="list-style-type: none"> • Revision & recapping • Success Criteria • Feedback to children • Repeated recall • Curriculum Displays • Links & connections with other subject areas plus old & new knowledge • Discussion • Concept maps |
| Readiness for Next Stage of Education | Promotion of Social Mobility | Promotion of British Values & SMSC |
| How does this subject prepare our children for the next stage of their educational journey at secondary school & beyond? | How does this subject promote social mobility? | How does this subject promote British Values & SMSC? |
| <p>We endeavour to ensure that the sequence of content enables our children to progress whilst they are with us but also to provide the building blocks necessary to build on at secondary school & their learning journey beyond. Underlying all of this is our emphasis on Learning Culture which provides the underlying principles</p> | <p>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</p> | <p>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. Our Curriculum</p> |

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| of attitude, resilience & character. | engage in practical scientific investigations and exposure and opportunity to use the correct scientific vocabulary to express themselves. | is driven by SMSC Development &, as a result, pupils thrive – enjoying their lives, learning & want to make a difference for others. |
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Appendices

Planning & Sequencing of Knowledge & Skills

How is the subject planned & sequenced in order that our children can progress through the Building Blocks for learning? This may include: Vocabulary, People, Places, Events, Concepts, Skills, Analysis, Evaluation, Problem-solving, Creativity, Independence, etc.