

Science at Thomas Reade School

Through a positive and caring environment, it is our intention at Thomas Reade to develop in all young people a lifelong curiosity and interest in the sciences.

National Curriculum 2013:

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.

Intent:

- To provide a curriculum that caters for the needs of all individuals.
- To develop children's scientific skills and understanding of the world around them.
- To ensure that they become confident scientists who are not afraid to take risks.
- To develop independent, inquisitive learners who have secure scientific knowledge and an interest in self-improvement.
- To build upon children's prior knowledge from previous topics taught.
- To ensure coverage of the specific disciplines of biology, physics and chemistry.
- To provide challenge for children through high quality activities which include practical elements.
- To give children opportunities to embed scientific enquiry skills within each topic.
- To encourage children to develop and use a range of skills including: planning investigations, making predictions, making observations, analysing results and drawing conclusions.
- To give children a range of scientific vocabulary with which they can embed within their scientific studies.

Implementation:

- High quality first teaching delivers appropriately challenging work for all individuals.
- Teachers follow The National Curriculum, Thomas Reade Calculation Policy and use Hamilton Trust as a basis for their lessons.
- Teachers are given opportunities to extend their scientific knowledge and delivery of the curriculum through CPD and Staff Meetings.
- The progression of skills for working scientifically are developed through the year groups and scientific enquiry skills are of key importance during lessons.
- Through revisiting topics, children are given opportunities to ensure learning is "baked" into long term memory.
- The use of a range of scientific resources including "OGDEN Trust boxes".
- Rich questioning using accurate scientific vocabulary.
- Support for children who need to close the gaps and for children that need challenging.
- Effective deployment of support staff during science lessons.

- Cross Curricular Opportunities – when relevant, science will be linked to other areas of the curriculum.
- Continuous monitoring of pupils' progress against expected attainment for their age.
- Assessment – ongoing formative assessment (KPIs) and end of term/year summative assessment tests (Based upon Rising Stars Assessment).
- Science Fayres in school and “Young Inventors Competition”
- Opportunity to attend Abingdon Atom Festival
- Visits from local science specialists to enhance the curriculum
- Links with local Secondary school (Abingdon Boys) – opportunities for children to attend workshops and science shows
- Opportunities for children to attend science clubs at the local secondary school
- Trips to local scientific centres
- Secondary school teachers to come in and deliver CREST Star and CREST Superstar Science Awards to year 1 or year 2 and year 3 children.

Impact:

Attainment and progress is measured across the school using our ongoing tracking KPI spreadsheets and summative assessment sheets.

- EYFS: GLD Expected Standard 83% (11% above National)
- KS1: Expected Standard or Greater Depth 86.7% (4.4 above National – 82.3%)
- KS2: Expected Standard or Greater Depth 83.3% (0.3% above National – 83%)

Staff –

- More confident when teaching lessons – thanks to CPD and Staff Meetings (OGDEN boxes)
- More confident doing practical investigations – Staff Meetings (OGDEN boxes) & CREST teachers
- More ideas thanks to Science Fayres & Year 5/6 investigations day
- Better understanding of where their topics fit into the bigger curriculum picture
- Ability to assess both summatively (Adapted Rising Starts) and formatively (KPIs)
- Can better identify pupils which are falling behind or have gaps
- Can now ensure that they have no overlap with other year groups when teaching certain topics

Pupils –

- More enjoyment from practical lessons – CREST & teachers more confident doing investigations
- Gained different experiences – trips to Abingdon School/visitors to school
- Find vibrant science displays, including key vocabulary, helpful in science lessons
- Children have enjoyed going to the ATOM festival and seeing the investigations
- Children loved having opportunity to bring in demonstrations/investigations for Science Fayres
- Certain pupils benefitted from going to Science Club at Abingdon School – greater opportunity to do investigations using equipment not usually able to use
- Clean Air Project in Abingdon - Year 6s – monitoring the quality of air in Abingdon
- Children amazed by what they saw using microscopes in Year 6 and on trips to Abingdon School