



St Thomas of Canterbury Curriculum Inclusion Strategies



Science

Quality First Teaching – Promoting independence, providing suitable challenge, meeting a variety of learners needs and overcoming barriers.

At St Thomas of Canterbury, wherever possible, all pupils work on the same curriculum in science. If necessary, adaptations are made to meet individual needs, making learning accessible for all pupils. Provision will depend on the particular barrier to learning pupils face.

Examples of inclusive practices at St Thomas of Canterbury (STOC) are below.

Key Stage	Strategies for inclusion
Whole School	<ul style="list-style-type: none">- All adults are aware of individual children's barriers to learning, so they can best meet their needs.- A quiet, calm working environment, to minimise distractions.- Adaptive, responsive teaching e.g. knowing when to revisit concepts, move on, provide brain breaks for pupils.- Deploy all adults strategically, to achieve the best pupil outcomes.- All adults modelling accurate and precise scientific language.- Regular opportunities to revisit prior learning in science.- Adults use Blank Level Questioning, appropriate to each child.- Adults facilitate group work and provide in the moment feedback, to both support and challenge pupils' scientific understanding.- Plenty of speaking and listening opportunities for pupils to articulate their understanding of scientific concepts and listen to their peers.- Provide extra time to allow children to process questions, think about their answers and respond.- Hands-on practical experiences, wherever possible, to observe science in action/real life.
Early Years Foundation Stage Science is linked to the The Natural World area of learning in Development Matters.	<p>Within EYFS;</p> <ul style="list-style-type: none">- Offer opportunities, which provide explicit practical experience, directly linked to the scientific concepts/vocabulary explored. <i>In Reception, children will explore changes of state with ice cubes and chocolate, to provide children with a practical understanding of melting, freezing and heating.</i>- Explore change and observe concepts over a long period of time to ensure children are able to acknowledge observed differences. <i>In Nursery at STOC, children explore the lifecycle of a plant and butterfly over several weeks.</i>- Use visuals to support understanding of abstract concepts they may not have experienced, and support recall of previous experiences e.g seasonal change.- Share stories and re-read to support pupils understanding of scientific concepts. <i>In Reception, they read the story of a little polar bear called 'Lars' who experiences the ice in the North Pole melting.</i>- Games, songs and rhymes to maximise pupil engagement and to aid memory. <i>For example, the song 'Heads, Shoulders, Knees and Toes' and the game 'Simon says...' helps children to remember the name of common body parts.</i>- Offer adult initiated open-ended opportunities, which enable experiential learning and in the moment discovery of planned concepts. <i>In nursery and reception, the children go on nature walks in Autumn, and talk about the leaves falling from the trees, as they see this happening.</i>

	<ul style="list-style-type: none"> - Tailor the EYFS provision to ensure opportunities are available to revisit, over learn and embed learning linked to the 'Natural World'. <i>At STOC, this may include seasons' tables and investigation stations.</i>
Key Stage 1 & 2	<ul style="list-style-type: none"> - Stories, songs and rhymes to help pupils to remember abstract scientific concepts. <i>For example, the water cycle song in Year 4.</i> - Scaffolding learning to support pupils to work with greater independence e.g. word banks, visual prompts, simplifying charts/tables for collecting and recording data. - Adults regularly 'checking in' with pupils to assess depth of understanding and provide instant feedback to get pupils back on track. - Small group work, supported by an adult, to ensure maximum pupil participation. <i>Supporting pupils during the 'Flashback Four' at the beginning of lessons, allows misconceptions to be identified and addressed in the moment.</i> - Allow time for children to share their response to posed questions, with an adult/peer first, to give them the confidence to share with group/whole class. Adult to scaffold verbal responses if needed. - Peers/adults reading questions/information for pupils, if required. <i>In Year 5, this may involve adults supporting pupils to gather information from different sources (e.g. topic books, websites) about Earth and Space.</i> - Adults scribe for pupils, if writing is a barrier to learning, so science can be the focus. - Draw their understanding of a scientific concept, rather than write. <i>For example, in Year 5, pupils may draw the particle arrangement of a solid, liquid and gas, to demonstrate their understanding.</i> - Careful peer pairing- always pair up an empathetic, articulate speaker/confident scientist, who is able to model correct use of vocabulary and explain scientific concepts clearly. - Break down learning into manageable chunks, to make it more accessible. <i>In Year 1, when sorting different animals into animal groups, children may be encouraged to sort the 'birds' first, followed by the 'fish'.</i> - Reduce the amount of criteria when sorting and classifying. <i>In Year 1, children may sort materials according to less criteria e.g. 'hard' or 'soft' materials.</i> - Picture prompts/adult or peer support to warn pupils of the dangers when completing practical work involving potentially harmful apparatus/substances. <i>In Year 2, children explore different seeds, and in Year 4, children build circuits as part of their Electricity unit. Prior to this, extra measures are taken to ensure pupils understand the potential dangers (e.g. not putting seeds in their mouth), to enable them to carry out their work safely.</i> - Role play to demonstrate abstract scientific concepts. <i>In Year 6 at St Thomas of Canterbury, children use movement to represent blood flow around the body and the electrical current in a circuit.</i> - Use objectives from when the topic was previously taught, only if a child is unable to access their year group's objectives. <i>In Year 5, this may involve a child completing the Year 1 or year 2 materials unit, if it is more appropriate.</i> <p><u>Vocabulary</u></p> <ul style="list-style-type: none"> - Reduce the amount of vocabulary within a science unit/lesson to avoid cognitive overload. - Simplify scientific vocabulary to make language more accessible. <i>In a Year 2 materials lesson, when exploring the properties of glass, this may involve the use of 'see through' instead of 'transparent'.</i> - Pre-teach new scientific vocabulary, wherever possible and send new words home to learn.

- Provide picture prompts alongside words to aid understanding of scientific vocabulary and concepts. *In a Year 6 electricity lesson, this may involve images of components alongside their names.*

