



Our Science curriculum supports and supplements the delivery of the national curriculum, by providing a bespoke children's enquiry-led context for learning, which provides:

- Meaningful links in learning following a theme based approach
- Broad and balance coverage across a range of subjects
- Purposeful experiences that bring learning alive through visits and visitors
- Opportunities to respond to the needs and interests of our pupils
- A local, national or international dimension
- A response to the continually evolving educational perspective

We intend our Science curriculum to develop the whole child by encouraging the attitudes for learning that are displayed through:

- A resilience and resourcefulness in learning, where all children are confident to make mistakes and try new approaches
- An active contribution in lessons, by posing questions, evaluating their findings and



Subject Philosophy: Science



sharing resources, ideas and thoughts - Respect and consideration towards others and the learning environment - Working happily and productively on their own, or with a wider group of pupils

We intend to teach science with passion and strong subject knowledge.

- To inspire awe and wonder about the natural world and instil curiosity - To build up a body of key knowledge and concepts for all children - To understand how Science can be used to explain what is occurring, predict how things will behave and analyse causes. - Encourage children to initiate their own learning and research - Create investigative activities for children of all abilities - Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units. Also using a range of equipment - Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions - To underpin by appropriate use of technology and computing resources.

Through our science curriculum we:

Teach the skills of:

- **Modelling** - Demonstrating an abstract process or concept: *Can you model the movement of the earth and moon around the sun?*
- **Classifying** - Sorting objects or living things by different criteria: *Can you sort these materials into opaque and translucent groups?*
- **Recording** - Using a range of media and formats: *Can you choose the appropriate recording method for changes over time?*
- **Research** - Using a range of information sources to find something out: *What is it like to live in Antarctica?*
- **Problem solving** - Being given a scenario with a problem to solve: *Can you make a circuit with a flashing light for a lighthouse?*
- **Surveying** - Collecting data to see if there are patterns. *Do more flowers grow in the sunny part of the playground?*
- **Observing** - Finding out what happens over time *What happens to this apple core if we leave it on this plate over the weekend?*
- **Fair testing** - Changing one variable or factor and keeping all the others the same. *Does the temperature of water affect the time it takes sugar to dissolve? What stays the same? What changes? What do we measure?*



Subject Philosophy: Science



Units we cover in science

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<i>Seasonal Changes</i>	<i>Living things and their habitats</i>	<i>Forces and Magnets</i>	<i>Electricity</i>	<i>Forces</i>	<i>Electricity</i>
<i>Plants</i>	<i>Plants</i>	<i>Plants</i>	<i>Sound</i>	<i>Earth and space</i>	<i>Evolution and inheritance</i>
<i>Everyday materials</i>		<i>Light</i>	<i>States of Matter</i>	<i>Properties and changes of materials</i>	<i>Light</i>
	<i>Uses of everyday materials</i>	<i>Rocks</i>	<i>Living things and their habitats</i>	<i>Living things and their habitats</i>	<i>Living things and their habitats</i>
<i>Animals, including humans</i>	<i>Animals, including humans</i>	<i>Animals, including humans</i>	<i>Animals, including humans</i>	<i>Animals, including humans</i>	<i>Animals, including humans</i>

Our expectation in science

We are committed to the belief that the provision of open-ended tasks, which allow pupils to be driven by their own curiosity, deepens their understanding and enables all children to fulfil their potential leading to greater performance.

At Essendine, our expectation is that all pupils will at least meet age related expectations as prescribed in the new national curriculum September 2014, but will be challenged to achieve greater than this.

Where pupils are falling behind, work will be undertaken to close the gap including differentiation in planning, use of key/target questioning, small group work and teacher intervention. These strategies encourage all pupils to have access to Science, learning, gain in confidence and sharing ideas with each other.

Assessing subject knowledge is achieved through:

- entry and exit concept cartoon discussions for each unit;*
- ongoing teacher assessment based on discussions and work produced;*
- floor books, photos and consultations;*
- formative assessments derived from Rosenshine's assessment models.*



Subject Philosophy: Science



The Subject leader will:

- Monitor books, provide feedback and support - Provide training sessions to ensure subject knowledge is accurate - Attend CPD courses - Monitor the budget and order resources where required
- liaise with Governors to support improvement planning processes and be aware of standards.
- Maintain the standards required which gained Essendine the accreditation for the PSQM Award in 2019.

Parents

Essendine positively promotes and encourages parents to support the work of the school in developing a love of Science. Every year parents are invited in to learn alongside their children during science week. Work done at home is also celebrated on display in school.

Pupils from years 5 and 6 attend science enrichment classes at Westminster Academy and Paddington Academy during the school year.