



St. Anne (Stanley) C of E School

Science Policy

A Baseline for Achieving Excellence in Science

June 2023



St. Anne (Stanley) C of E School

Science POLICY

1.) Intent

Curriculum Vision:

St Anne (Stanley) is a school where we believe that Science provides children with the crucial foundations that they need to flourish in life. We want the children to develop intrinsic desire to question the way the world around them works. We want our children to **remember more, understand more** and **do more**.

The implementation of this policy is the responsibility of all teaching staff.

Aims of Subject:

The aims of Science at St. Anne (Stanley) are to:

- 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 enquiries that help to answer scientific questions about the world around them.
- Ensure children are armed with the scientific knowledge required to understand the uses and implications of science, today and for the future.

To achieve these aims we will:

- Provide an exciting and stimulating environment to promote and develop effective learning in Science in which pupils can develop a healthy curiosity about our universe and respect for the living and non-living.
- Ensure continuity and progression in Science through collaboration with colleagues on areas covered.

- Provide a wide range of opportunities to develop and apply investigative skills in a variety of settings.
- Provide excellent and innovative resources for the children to be taught effectively.
- Provide a safe environment in which to explore Science.

School values:

Our school values are: Honesty, Friendship, Understanding, Hope, Confidence and Family. These values underpin our ethos and are embedded across the curriculum. In Science these values are fostered and help to form the foundation of a Science curriculum that enables pupils to flourish in life.

Honesty: Helping pupils to be honest with themselves and others and to appreciate the importance of honesty and integrity in their lives.

Friendship: Helping pupils to understand what healthy relationships are and the importance of friendship in their daily lives and in the world around them.

Understanding: Helping children to get closer to true beliefs about the world.

Hope: Helping children to see how hope can build resilience and enable them to meet their challenges.

Confidence: Helping children to build up their confidence so they are always willing to try and persevere on tasks when they need to. To give children the confidence to ask for help or stand up for what they believe in.

Family: Helping children to identify and respect the many diversities of families in our local community and in the wider world.

Cultural capital:

Children understand that their cultural origins are valued and respected. At St Anne (Stanley) we implement an equal opportunities programme where all backgrounds and lifestyles are celebrated and understood. Inclusion is paramount in everything we do.

Our curriculum is designed to empower our children and to enrich their lives. Our key drivers are to develop aspiration, ambition and resilience. We further enrich their depth of understanding, within science and develop their cultural capital by exposing our children to cultural experiences and knowledge that they may be beyond their reach.

Planning and sequencing:

All planning is derived from objectives and guidance set out in the current National Curriculum 2014.

Planning is a process in which all teachers are involved. Planning should be done with parallel teachers.

Early Years Foundation Stage

For Foundation Stage we encourage the development of skills, knowledge and understanding of Science through exploration and we relate children's development to the Development Matters so that they meet the Early Learning Goals.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	<u>Understanding the World</u> Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about what they see, using a wide vocabulary. <u>Communication and Language</u> Use a wider range of vocabulary.		<u>Understanding The World</u> Explore how things work. Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice. <u>Expressive Arts and Design</u> Listen with increased attention to sounds. Respond to what they have heard, expressing their thoughts and feelings.		<u>Understanding the World</u> Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. <u>Mathematics</u> Make comparisons between objects relating to size, length, weight and capacity. Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' <u>Personal, Social and Emotional Development</u> Make healthy choices about food, drink, activity and tooth brushing.	
Reception	<u>Understanding the World</u> Understand the effect of changing seasons on the natural world around them. <u>Communication and Language</u> Learn new vocabulary.		<u>Understanding the World</u> Explore the natural world around them. Describe what they see, hear and feel whilst outside. <u>Communication and Language</u> Ask questions to find out more and to check they understand what has been said to them. Engage in non-fiction books. Use new vocabulary through the day. Describe events in some detail.		<u>Understanding the World</u> Recognise some environments that are different from the one in which they live. <u>Personal, Social and Emotional Development</u> Show resilience and perseverance in the face of challenge. Know and talk about the different factors that support their overall health and wellbeing: <ul style="list-style-type: none"> - regular physical activity - healthy eating - teeth brushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian <u>Communication and Language</u> Use new vocabulary in different contexts. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Articulate their ideas and thoughts in well-formed sentences. Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary.	

Key Stages 1 and 2

Science is taught discretely each week throughout KS1 and KS2 and organised into half term topics. Links are made to other subjects where appropriate.

The Science curriculum is planned in three phases: long-term, medium-term and short-term. The long-term plan, mapped by the Science Leader in conjunction with year teachers, shows the scientific topics to be studied each half term by each year group. We have adopted the Haringey Education Partnership Science Scheme of learning for all key stage 2 classes. Medium Term Plans identify learning objectives and outcomes for each unit and are monitored by the Science Leader.

We have planned the topics in Science so that they build on prior learning. We ensure that there are numerous opportunities for children of all abilities to develop their skills and knowledge in each unit, and we also build progression into the Science scheme of work, so that the children are increasingly challenged as they move up through the school.

Year 1 and 2

<https://st-anne-stanley-school.co.uk/wp-content/uploads/2020/07/Year-1-and-2-science-skills-1.pdf>

<p>Working Scientifically</p>	<p>During Years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> ▪ asking simple questions and recognising that they can be answered in different ways ▪ observing closely, using simple equipment ▪ performing simple tests ▪ identifying and classifying ▪ using their observations and ideas to suggest answers to questions ▪ gathering and recording data to help in answering questions
<p>Biology Pupils should be taught to:</p>	<p><u>Plants</u></p> <ul style="list-style-type: none"> ▪ (1) identify and name a variety of common wild and garden plants, including deciduous and evergreen trees ▪ (1) identify and describe the basic structure of a variety of common flowering plants, including trees ▪ (2) observe and describe how seeds and bulbs grow into mature plants ▪ (2) find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. <p><u>Animals, including humans</u></p> <ul style="list-style-type: none"> ▪ (1) identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals ▪ (1) identify and name a variety of common animals that are carnivores, herbivores and omnivores ▪ (1) describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) ▪ (1) identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. ▪ (2) notice that animals, including humans, have offspring which grow into adults ▪ (2) find out about and describe the basic needs of animals, including humans, for survival (water, food and air) ▪ (2) describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene <p><u>Living things and their habitats</u></p> <ul style="list-style-type: none"> ▪ (2) explore and compare the differences between things that are living, dead, and things that have never been alive ▪ (2) identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other ▪ (2) identify and name a variety of plants and animals in their habitats, including micro-habitats ▪ (2) describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.
<p>Chemistry Pupils should be taught to:</p>	<p><u>Everyday materials</u></p> <ul style="list-style-type: none"> ▪ (1) distinguish between an object and the material from which it is made ▪ (1) identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock ▪ (1) describe the simple physical properties of a variety of everyday materials ▪ (1) compare and group together a variety of everyday materials on the basis of their simple physical properties <p><u>Uses of everyday materials</u></p> <ul style="list-style-type: none"> ▪ (2) identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard, for particular uses ▪ (2) find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
<p>Physics Pupils should be taught to:</p>	<p><u>Seasonal changes</u></p> <ul style="list-style-type: none"> ▪ (1) observe changes across the four seasons ▪ (1) observe and describe weather associated with the seasons and how day length varies.

<p>Working scientifically</p>	<p>During Years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme-of study content:</p> <ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings.
<p>BIOLOGY</p>	<p>Plants</p> <ul style="list-style-type: none"> (3) identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers (3) explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant (3) investigate the way in which water is transported within plants (3) explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. <p>Animals, including human</p> <ul style="list-style-type: none"> (3) identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat (3) identify that humans and some other animals have skeletons and muscles for support, protection and movement. (4) describe the simple functions of the basic parts of the digestive system in humans (4) identify the different types of teeth in humans and their simple functions. (4) construct and interpret a variety of food chains, identifying producers, predators and prey <p>Living things and their habitats</p> <ul style="list-style-type: none"> (4) recognise that living things can be grouped in a variety of ways (4) explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment (4) recognise that environments can change and that this can sometimes pose dangers to living things
<p>CHEMISTRY</p>	<p>Rocks</p> <ul style="list-style-type: none"> (3) compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. (3) describe in simple terms how fossils are formed when things that have lived are trapped within rock. (3) recognise that soils are made from rocks and organic matter <p>States of matter</p> <ul style="list-style-type: none"> (4) compare and group materials together, according to whether they are solids, liquids or gases (4) observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) (4) identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
<p>PHYSICS</p>	<p>Electricity</p> <ul style="list-style-type: none"> (4) identify common appliances that run on electricity (4) construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers (4) identify whether or not a lamp will light in a simple series circuit based on whether or not the lamp is part of a complete loop with a battery (4) recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit (4) recognise some common conductors and insulators, and associate metals with being good conductors <p>Forces and magnets</p> <ul style="list-style-type: none"> (3) compare how things move on different surfaces (3) notice that some forces need contact between two objects but magnetic forces can act at a distance (3) observe how magnets attract or repel each other and attract some materials and not others (3) compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials (3) describe magnets as having two poles (3) predict whether two magnets will attract or repel each other, depending on which poles are facing <p>Light</p> <ul style="list-style-type: none"> (3) recognise that they need light in order to see things and that dark is the absence of light (3) notice that light is reflected from surfaces (3) recognise that light from the sun can be dangerous and that there are ways to protect their eyes (3) recognise that shadows are formed when the light from a light source is blocked by a solid object (3) find patterns in the way that the size of shadows changes <p>Sound</p> <ul style="list-style-type: none"> (4) identify how sounds are made, associating some of them with vibrating (4) recognise that vibrations from sounds travel through a medium to the ear (4) find patterns between the pitch of a sound and features of the object that produced it (4) find patterns between the volume of a sound and the strength of the vibrations that produced it. (4) recognise that sounds get fainter as the distance from the sound source increases

<p>Working scientifically</p>	<p>During Years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs, using test results to make predictions to set up further comparative and fair tests; reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. identifying scientific evidence that has been used to support or refute ideas or arguments.
<p>BIOLOGY</p>	<p><u>Living things and their habitats</u></p> <ul style="list-style-type: none"> (Y5) describe the differences in the life-cycles of a mammal, an amphibian, an insect and a bird (Y5) describe the life process of reproduction in some plants and animals (Y6) describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals (Y6) give reasons for classifying plants and animals based on specific characteristics. <p><u>Animals, including humans</u></p> <ul style="list-style-type: none"> (Y5) describe the changes as humans develop to old age (Y6) identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood (Y6) recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function (Y6) describe the ways in which nutrients and water are transported within animals, including humans. <p><u>Evolution and inheritance</u></p> <ul style="list-style-type: none"> (Y6) recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago (Y6) recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. (Y6) identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
<p>CHEMISTRY</p>	<p><u>Properties and changes of materials</u></p> <ul style="list-style-type: none"> (Y5) compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets. (Y5) know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution (Y5) use knowledge of solid, liquid and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating (Y5) give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. (Y5) demonstrate that dissolving, mixing and changes of state are reversible changes. (Y6) explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.
<p>PHYSICS</p>	<p><u>Electricity</u></p> <ul style="list-style-type: none"> (Y6) associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit (Y6) compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches (Y6) use recognised symbols when representing a simple circuit in a diagram <p><u>Forces</u></p> <ul style="list-style-type: none"> (Y5) explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object (Y5) identify the effects of air resistance, water resistance and friction, that act between moving surfaces (Y5) recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect <p><u>Light</u></p> <ul style="list-style-type: none"> (Y6) recognise that light appears to travel in straight lines (Y6) use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye (Y6) explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes (Y6) use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. <p><u>Earth and space</u></p> <ul style="list-style-type: none"> (Y5) describe the movement of the Earth, and other planets, relative to the Sun in the solar system (Y5) describe the movement of the Moon relative to the Earth (Y5) describe the Sun, Earth and Moon as approximately spherical bodies (Y5) use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky

Curriculum map:

The Science Curriculum Map details how skills are developed and teaching is sequenced throughout each KEY STAGE. Every teacher has access to this within their Science file. Parents are able to view and download a copy through the school website.

<p>Early Learning Goals</p>	<p>The Natural World- children at the expected level of development will:</p> <ul style="list-style-type: none"> - Explore the natural world around them, making observations and drawing pictures of animals and plants. - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 					
<p>Year 1</p>	<p><u>Animals Including Humans</u> (Parts of Animals/ Identifying, Naming and Classifying Animals)</p>	<p><u>Plants</u> (Parts of Plants)</p>	<p><u>Everyday Materials</u> (Properties of Materials)</p>	<p><u>Everyday Materials</u> (Properties of Materials)</p>	<p><u>Seasonal Changes</u> (Changed Across the Seasons)</p>	<p><u>Seasonal Changes</u> (Weather & Day Length)</p>
<p>Year 2</p>	<p><u>Animals Including Humans</u> (Feeding & Exercise)</p>	<p><u>Plants</u> (Growing Plants)</p>	<p><u>Everyday Materials</u> (Materials)</p>	<p><u>Everyday Materials</u> (Changing Shape)</p>	<p><u>Living Things and Their Habitats</u> (Living Things)</p>	<p><u>Living Things and Their Habitats</u> (Habitats)</p>
<p>Year 3</p>	<p><u>Plants</u> (Parts of plants, needs of plants, plant life cycle)</p>	<p><u>Rocks</u> (Comparing rocks, fossils, rock formation)</p>	<p><u>Light</u> (Sources, reflection, shadows)</p>	<p><u>Animals Including Humans</u> (Nutrition, muscular skeletal system)</p>	<p><u>Forces & Magnets</u> (Non-contact forces, attraction & repulsion)</p>	<p><u>Be Project</u> (Relationship between bees and their environment)</p>
<p>Year 4</p>	<p><u>States of Matter</u> (Changes of state, heating and cooling, the water cycle)</p>	<p><u>Animals Inc Humans</u> (Digestive system, food chains)</p>	<p><u>Sound</u> (Making sounds, vibrations, the ear, pitch and volume)</p>	<p><u>Living Things and Their Habitats</u> (Classification, characteristics, environmental changes)</p>	<p><u>Electricity</u> (Appliances, circuits, conductors)</p>	<p><u>Famous Scientists</u></p>
<p>Year 5</p>	<p><u>Properties & Changes of Materials</u> (Classifying materials, dissolving, separating & changes of state)</p>	<p><u>Animals Including Humans</u> (Life cycles, reproduction, human life cycle)</p>	<p><u>Forces</u> (gravity air & water resistance, friction)</p>	<p><u>Living Things and Their Habitats</u> (classification, life cycles: amphibians, insects and birds)</p>	<p><u>Earth & Space</u> (Earth's movement, planets & the moon in relation to the Sun)</p>	<p><u>Famous Scientists</u></p>
<p>Year 6</p>	<p><u>Animals Including Humans</u> (Circulatory system)</p>	<p><u>Light</u> (how light travels, sight, shadows)</p>	<p><u>Electricity</u> (effect of voltage of cells, varying function of components)</p>	<p><u>Evolution & Inheritance</u> (Fossils, variation, reproduction & adaptation, evolution)</p>	<p><u>Living Things and Their Habitats</u> (Classifying microorganism, plants & animals)</p>	<p><u>Famous Scientists</u></p>

Schematic links:

Science contributes to many areas of the curriculum at St. Anne (Stanley) but links particularly well in:

English

Science contributes significantly to the teaching of English by actively promoting the skills of reading, writing, speaking and listening. Speaking and listening activities are essential in science in supporting the development of children's scientific vocabulary and in articulation of scientific concepts with clarity and precision. Writing skills are developed through writing reports and projects and by recording information.

Maths

Science contributes to the teaching of mathematics in a number of ways. When the children use weights and measures, they are learning to use and apply number. Through working on investigations they learn to estimate and predict. They develop accuracy in their observation and recording of events. Many of their answers and conclusions include number work and the analysis and presentation of data.

Computing

Computing significantly enhances the teaching of science in our school: software is used to animate and model scientific concepts, and to allow children to investigate processes which would be impracticable to do directly in the classroom; children use ICT to record, present and interpret data, to review, modify and evaluate their work, and to improve its presentation; and children learn how to find, select, and analyse information on the internet and other media. It also allows children to study the impact of science both economically and environmentally in other parts of the world.

2. IMPLEMENTATION

High quality teaching and learning:

We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the Working Scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of

science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings.

The staff at St Anne (Stanley) ensure that all children are exposed to high quality teaching and learning experiences, including opportunities for children to explore their outdoor environment and locality, thus developing their scientific enquiry and investigative skills. They are immersed in scientific vocabulary, which aids children's knowledge and understanding not only of the topic they are studying, but of the world around them.

Opportunities to develop subject specific literacy – oracy and vocabulary:

In St Anne (Stanley) pupils are immersed in scientific vocabulary, which aids children's knowledge and understanding not only of the topic they are studying, but of the world around them. Key vocabulary is identified and included in each topic's knowledge organiser and displayed in the learning environments. New vocabulary is defined at the beginning of topics and revisited and built on through this spiraling curriculum. Opportunities to develop subject specific literacy – oracy and vocabulary are built into the curriculum whenever possible.

Progress – knowing more and remembering more:

To ensure progress children will be given pre-learning tasks and at a later date after a topic has been taught a post learning task, this will show what the children have learned/ remembered. Progress will be evident in children's talk, work and understanding of science topics. Assessment for learning will be used to gain an understanding of children's' knowledge and understanding. Knowledge organisers are used for all topics from years 1 to 6 to help pupils remember and recall information. Progress will also be evident in pupil voice and book monitoring.

Assessment:

Assessment is an intrinsic part of teaching and learning in our school. Children are supported in recording their work employing a variety of methods and communicating their findings/data with their peers which may incorporate written or verbal presentations. The class teacher will retain examples of children's work to provide evidence of adherence to programme of study, progression over time and meeting of appropriate learning objectives.

- Teachers will assess children's work in science by making informal judgements during lessons against the learning objectives for the series of lessons.

- Written or verbal feedback is given to the child to help guide his/her progress and the children are given opportunities to respond to this feedback. Older children are encouraged to make judgements about how they can improve their own work.
- The children are assessed at the end of each topic as **working towards** the objectives set, **meeting** expectations or **exceeding** to inform an annual assessment of progress for each child, as part of the annual report to parents. Each teacher passes this information on to the next teacher at the end of each year and to the science lead. It is also stored digitally for all staff to access. During the Foundation Stage children will be assessed as part of Understanding the World against the development matters statements and early learning goals.
- An end of unit assessment will be conducted at a distance from the topic being taught to assess children's knowledge and understanding.
- Children's work will be recorded in their books and photographs will also be taken as evidence of practical work. Pupils may also record their work digitally i.e. power point presentations/creating QR codes/creating videos and recordings.
- Reporting to parents takes place through parent/teacher meetings twice a year and through annual written reports.

Learning environment:

Links to science may be evident in class displays and learning areas throughout the school. The school values, website and main entrance, school hall, corridors areas may have displays linked to science. There is a section of the whole school library dedicated to science and an interactive display on the corridor.

Reading:

Reading is promoted through all subjects at St. Anne (Stanley). Opportunities to develop subject specific literacy – reading and writing are built into the curriculum whenever possible. Our curriculum has a rich and diverse resource base. Its science sessions contain high quality materials, with sequences building on prior knowledge and skills to create and develop a rich and connected schema. Within this curriculum design, the selected reading enhances the pupils' scientific knowledge, demonstrating the use of terminology in context, whilst the science content enhances the curriculum.

Inclusion:

During the planning and implementation of science in St Anne (Stanley), we are fully aware that every child, whatever their diverse learning needs, must be given the opportunity to achieve their full potential.

St Anne (Stanley) is an inclusive school and differentiation is incorporated into planning so that the children build upon prior learning – giving children of all abilities the opportunity to develop their skills, knowledge and understanding.

Our science units also build progression into the schemes of work set out in the whole school knowledge and vocabulary document, so there is an increasing challenge for the children as they progress through school.

We will respond to the needs of children whatever their ability. We will ensure that we provide learning opportunities that enable all children to make progress by setting suitable learning challenges and responding to each child's different needs through differentiation of task, resources and outcome. For example:

- Using appropriate vocabulary at varying levels of difficulty during lessons
- Modifying resources as expected in other curriculum areas
- Differentiating levels of written or oral questions for pupils
- Careful use of support for pupils with English as an additional language

We have high expectations of all children but we also ensure that able, gifted and talented children have opportunities provided that develop and apply their particular capabilities. We provide teaching and learning experiences that encourage all pupils to think creatively, explore and develop ideas, and try different approaches. For example:

- They are encouraged to set their own questions, offer ideas, suggest solutions or explanations and reflect on what they have heard, seen or done in order to clarify their thoughts.
- Children are encouraged to work independently.
- Children are encouraged to communicate their understanding in a variety of ways.
- Children are provided with opportunities within science to develop their skills in other areas such as (for example, opportunities to use initiative).

For further details, see individual whole-school policies: SEND Policy, Equality Policy, Accessibility policy, Supporting Children with Medical Conditions in School Policy, EAL Policy and Curriculum Policy.

EAL:

At St Anne (Stanley) School we ensure that the teaching and learning of science is accessible to all pupils including those with EAL. This is done through whole class teaching, small group

interventions or 1-1 interventions. We provide a supportive, inclusive learning environment that includes structured lessons to engage the children; active and engaging tasks which encourage all pupils to participate; teaching and learning strategies that are oral and interactive; support from other adults in the classroom to ensure the learning opportunities are maximised; subject specific language skills are made explicit and demonstrated by the teacher and opportunities for oral rehearsal in pairs and in small groups are planned for.

SMSC/British Values:

In St Anne (Stanley) we ensure that we promote the spiritual, moral, social and cultural (SMSC) development of every child. As part of this, we actively promote the fundamental British values of:

- Democracy
- The rule of law
- Individual liberty
- Mutual respect and tolerance of those with different faiths and beliefs.

Enrichment:

Here at St Anne (Stanley) we ensure that our science curriculum is full of enrichment. We work alongside agencies and organisations such as; The Power club, Barnados, Diversity Role Models, LFC Foundation, Professor Fluffy, The Mad Scientist, The Dental House, The Brook, Everton in the Community and various authors/ visitors to ensure a curriculum that is full of enhancements.

Wherever possible opportunities to enhance learning in Science should be planned including visits to workshops and in-house visitors. Links to other schools are fostered and developed including local secondary schools with adequate risk assessments provided.

Homework:

Homework is not set specifically for Science every week. It is given to children where and when necessary and always relates to the topic that the children have been learning.

3. Impact: what will our children look like?

In St Anne (Stanley) Science is an integral part of the whole school curriculum and will give all children the opportunity to develop skills, knowledge and understanding.

Suzie Bennett (Science Lead Coordinator)

Date of Review June 2023

Date of next review June 2025