

Intent 'Science is the pursuit and application of knowledge and understanding of the natural and social world following a systematic methodology based on evidence.' The Science Council Science is a body of knowledge, encompassing the specific disciplines of biology, physics and chemistry, which is built up through experimental testing of ideas. Science is also a methodology, a practical way of finding reliable answers to questions we may ask about the world around us. We believe that science is inclusive and fosters curiosity in all children. In order to achieve this at Bramley C of E Infant and Nursery we intend to: • encourage and develop a positive attitude to science • develop social skills to enable children to work cooperatively with others • develop knowledge and understanding whilst encouraging the development of key scientific skills. • deliver curriculum objectives through hands on, practical lessons with 'working scientifically' at its core • develop a natural curiosity through opportunities to observe the world around us as well as through the use of quality footage for things we cannot observe first hand • offer meaningful opportunities to develop understanding of different scientific ideas by using different types of scientific enquiry to answer their own questions. • introduce high level vocabulary that is suitable yet challenging for our children and expect all of our children to be able to use the correct vocabulary for each topic, remembering it long after the topic is over. • encourage the children to develop their curiosity by encouraging them to ask questions about what they notice, express their opinions and make links with other areas of learning such as Geography and Maths. • build happy scientists who leave our school ready to take on their next challenge in year 3.						
Implementation Staff subject knowledge allows the intentions of our science curriculum to be delivered successfully. We continually strive to build upon the excellent understanding of the expectations of the curriculum that our staff have. We achieve this through regular quality CPD which is provided through the subject leader, external courses and collaborative lesson study. All staff are encouraged to raise questions, seek support and request further training if needed in order to ensure everyone is confident in what they teach. Good practice is always shared between staff and all CPD is used to inform teaching and learning across the school. Resources and equipment are audited regularly so that children have materials of high quality and accuracy to support their learning. Each class has access to science resources which are familiar to the children and they can access them independently when needed. Curriculum maps are based on topics using Birth to 5 matters, the Early Learning Framework and the National Curriculum Programmes of Study. To ensure that our offer is rich and varied, resources are hand-picked from other sources. These include concept cartoons, Twinkl, Hamilton, Animal Kind, Explorify and are used across EYFS and KS1 allowing children to be exposed to a variety of different types of learning and to ensure coverage in different formats. Formative pre and post unit assessments are used where appropriate which help teachers to gather an understanding of their pupil's existing and developing knowledge and skills. Correct scientific vocabulary is used by all staff and this is discussed with and explained to children who are then encouraged to use it independently when talking about science. Vocabulary is taught directly and is referred to in every lesson. Learning will be adapted for children with SEND. Deep learning is developed through repeating, reinforcing and revising key skills and vocabulary. Feedback is given in a variety of ways to ensure pupils are well informed and making visible progress. Discussion is essential to learning and children are encouraged to discuss their thoughts, ideas and methods with a partner, group or the teaching staff. Task types are varied to suit different pupils and their learning preferences. Tasks are designed to allow pupils to follow lines of enquiry and develop concepts, making predictions and discussing outcomes. Children have opportunities to work both collaboratively and independently. Where appropriate longer studies will be used to support understanding of the world around us, for example looking at seasonal changes. In EYFS science is planned for each half term and occurs throughout the week by nurturing the children's wonder and curiosity about the world around us. In KS1 science is taught weekly allowing children to develop their knowledge and skills effectively whilst also maintaining knowledge from previous learning. At the beginning of each KS1 science lesson, previous knowledge and vocabulary is rehearsed through games and quick activities. This is also displayed on working walls for the children to access at all times. Children record their learning in their personal science books as well as class books which show aspects of science lessons or units that are not required to be recorded individually such as; pictures of enquiries, thought showers, comments from discussions, etc.						
Impact As a result of our teaching at Bramley Infant and Nursery school you will see: Children who are curious and able to explore their environment Children who are able to 'have a go' and apply their learning in different contexts Children who can reason about their understanding making links to prior knowledge Children who have a richer vocabulary which will enable them to articulate their understanding of taught concepts Children who have gained a wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry skills Children who have made outstanding progress over time and reached at least age-related expectations. Children who understand that science has changed our lives. Children who enjoy being 'scientists' Children who are prepared for life in an increasingly scientific and technical world Children who foster a concern about, and active care for, our environment Children who are developing an understanding of the international and collaborative nature of science						

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
--	----------	----------	----------	----------	----------	----------

Nursery	Autumn Beginning to observe objects such as plants, animals, natural and found objects	Light and Dark Has a sense of own immediate family and relations and pets Beginning to use everyday materials to explore, understand and represent their world- their ideas, interests and fascinations	Nursery Rhymes Beginning to learn they have similarities and differences that connect them to, and distinguish them from, others	New Life Observes objects such as plants, animals, natural and found objects Operates mechanical toys, e.g. turns the knob on a windup toy or pulls back friction car Uses everyday materials to explore, understand and represent their world- their ideas, interests and fascinations	Friends and Family Enjoys playing with small world reconstructions, building on first-hand experience, e.g. visiting farms, garages, train tracks, walking by river or lake	Courage Learns that they have similarities and differences that connect them to, and distinguishes them from others Uses everyday materials to explore, understand and represent their world- their ideas, interests and fascinations
Working Scientifically linked to Birth to 5 Matters - The World Range 4	Notices detailed features of objects in their environment (UTW-TW) Can talk about some of the things they have observed such as plants, animals, natural and found objects (UTW-TW) Understands who, what, where in simple questions (e.g. Who's that? Who can? What's that? Where is?) C&L-U) Uses a variety of questions (e.g. what, where, who) (C&L-S) Learns that they have similarities and differences that connect them to, and distinguish them from, others (UTW-P&C)					
Pre-School	All About Me Talking about their family, friends and where they live. Observing what makes them unique. Creating a self-portrait, to look closely at themselves using mirrors. Talking about eye, skin and hair colour and selecting appropriate colours. Beginning to understand growth and changes over time. Looking at photographs of themselves as a younger child and observing how they have changed.	Autumn Commenting and asking questions about aspects of their familiar world. Beginning to understand growth and changes over time. Observing things in the natural world. Exploring the school outside area and noticing what is happening to the plants and trees. Using stories and non-fiction books to explore changes in the natural world during Autumn and in to Winter.	Traditional Tales / Winter / Superheroes Developing an understanding of growth, decay and changes over time. Observing our school outside area and commenting on how aspects of our natural world have changed since last term. Talks about why things happen and how things work. Plays with a range of materials that Superheroes may use to learn cause and effect. Creating their own Superhero objects using a range of different materials.	Under the Sea / Spring Developing an understanding of growth, decay and changes over time. Exploring our outside area to look for examples of new life. Using stories and non-fiction books to explore what happens to our local natural world in the Spring. Talks about why things happen and how things work. Using stories and non-fiction books to explore sea creatures and the environment that they live in.	The Great Outdoors / Farms and Farm Animals Shows care and concern for living things and the environment. Beginning to understand the effect their behaviour can have on the environment. Using stories and non-fiction books to explore living things and the environment that they live in. Developing an understanding of growth, decay and changes over time.	Minibeasts Shows care and concern for living things and the environment. Investigating our environment to explore minibeasts and their natural habitat. Using child appropriate magnifying glasses to observe closely and talk about what they have seen.
Working Scientifically linked to Birth to 5 Matters - The World Range 5	Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world (UTW-TW) Talks about why things happen and how things work (UTW-TW) Beginning to understand why and how questions (C&L-U) Uses talk to explain what is happening and anticipate what might happen next • Questions why things happen and gives explanations. Asks e.g. who, what, when, how (C&L-S) Knows some of the things that make them unique, and can talk about some of the similarities and differences in relation to friends or family(UTWOP&C)					
Reception	To investigate the environment around me and compare it to others that I have experienced. Autumn- noticing changes.	Autumn into Winter- noticing changes. Light and dark	To know about similarities and differences in relation to places, objects, materials and living things. To describe your immediate environment using knowledge from observations, stories and maps.	To make observations of animals and plants and explain why some things occur and talk about changes. Look closely at similarities, differences, patterns and change in nature. To be able to take a photograph to record.	Use the story 'Here We Are' by Oliver Jeffers to help us to understand our place and role in the world.	

Working Scientifically linked to Birth to 5 Matters - The World Range 6 and ELG	Looks closely at similarities, differences, patterns and change in nature (UTW-TW) Knows about similarities and differences in relation to places, objects, materials and living things (UTW-TW) Makes observations of animals and plants and explains why some things occur, and talks about changes (UTW-TW) Understands questions such as who; why; when; where and how (C&L-U) Knows about similarities and differences between themselves and others (UTW-P&C) ELG Explore the natural world around them, making observations and drawing pictures of animals and plants (TNW) 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 (TNW) ELG Make comments about what they have heard and ask questions to clarify their understanding (L, A &U)					
Year One	Seasonal Change – ongoing					
Working Scientifically	➤ asking simple questions and recognising that they can be answered in different ways ➤ observing closely, using simple equipment ➤ identifying and classifying ➤ using their observations and ideas to suggest answers to questions	➤ 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.	➤ asking simple questions and recognising that they can be answered in different ways ➤ observing closely, using simple equipment ➤ identifying and classifying ➤ using their observations and ideas to suggest answers to questions ➤ gathering and recording data to help in answering questions.	➤ 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.	➤ 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.	➤ asking simple questions and recognising that they can be answered in different ways ➤ observing closely, using simple equipment ➤ identifying and classifying ➤ using their observations and ideas to suggest answers to questions ➤ gathering and recording data to help in answering questions.

Year Two	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	Explore and compare the differences between things that are living, dead, and things that have never been alive. 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. Identify and name a variety of plants and animals in their habitats, including micro – habitats. 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.	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. 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.
Working Scientifically	➤ 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.	➤ 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.	➤ 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.	➤ 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.	➤ 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.	➤ 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.

For key vocabulary and resources see individual Learning Journey documents.