Subject: SCIENCE

Scott Broadwood Learning Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception *Adapted to respond to the needs and interests of our children.*	People, culture and communities: Babies and my Body		The Natural World: Animals and Habitats		The Natural World Plants and Food Minibeasts	
KS1 Cycle A 2024-2025	**How do we live a healthy life?** *Scientist* *Engineer* *Artist*	**How can we help?** *Artist* *Musician*	**How are schools the same?** *Geographer* *Artist* *Scientist*	**What could my classroom be made of?** *Scientist* *Engineer* *Historian* *Artist*	**What did Brunel do for Great Britain?** *Historian* *Engineer* *Scientist*	**How do plants grow near me?** (4 weeks) *Scientist* *Geographer* *Artist* **What is home?** (1 week block with trip) *Scientist* *Geographer* *Artist*
KS1 Cycle B 2025-2026	**What do artists do?** (4 weeks) *Artist* **How does my school change?** (3 weeks – engage, immerse, know how) *Scientist* *Artist* *Geographer*	**What is my hat made of?** *Scientist* *Engineer* *Artist* **What are we?** *Scientist* *Musician* *Artist*	**How does my school change?** (1 week – Winter) *Scientist* **Where is my school?** *Geographer* *Scientist* *Musician*	**Who helps who?** *Historian* **How does my school change?** (1 week – Spring) *Scientist*	**How do we move around?** (4 weeks) *Engineer* *Geographer* *Scientist* **How could we play in different ways?** *Historian*	**How could we play in different ways?** *Historian* **How does my school change?** (1 week – Summer) *Scientist* **What grows near me?** *Scientist* *Geographer* *Engineer* *Artist*

Intent: At Scott Broadwood we understand that curiosity sparks a thirst for knowledge which happens through experience of the real world - this is the foundation of our approach to Science. Sparking curiosity about the awe and wonder of the world around us through our value BELIEVE and encouraging care for the world around us through our value LOVE. Learning is hands-on and practical, often based in the outdoors and guides our children towards self-discovery within science. Scientists at Scott Broadwood use their curiosity to develop the skills to: ask questions, make predictions and investigate in a variety of ways; about the world around them. They develop scientific knowledge about the impact of science on our lives today, and how it shapes our future. At Scott Broadwood Science is meaningful and real, we aim for children to leave Scott Broadwood enthusiastic and curious learners, ready for Key Stage 2 with a secure set of scientific skills and knowledge.

Implementation: Scientific knowledge and skills are developed over time through our enquiry led curriculum. Knowledge is sequenced throughout the enquiries and is organised to build upon prior learning from early years. The curriculum has been developed to support a two-year cycle, where teachers plan in phases to ensure full coverage of the National Curriculum 2014. Teachers will use progression documents, which outline what children have learnt in a previous phase, to ensure learning is progressive and meets the needs of all.

Working scientifically skills are sequenced through our enquiries. Experimental and investigative tasks and challenges have a clear purpose and provide children with the opportunity to become Scientists.

Impact: The impact of being a Scientist within our enquiry curriculum can be seen and heard as well as represented in outcomes. Impact can be seen through the children's books, displays and the challenges that the children produce. In classrooms, working walls demonstrate the learning journey; States of Being characters feature in books, classroom displays and visual timetables as well as our website and newsletters.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	-I know the body parts – shoulders, elbows, knees and ankles -I know that I have changed from a baby to a child. -I know that babies have weaker body parts and need caring for. -I know that the season is Autumn, and the weather has changed from Summer.	- I know what my five senses are. -I know why I need my feet, eyes, ears and teeth. - I know that the season is Winter, and the weather has changed from Autumn.	-I know that when two primary colours are mixed, they make a secondary colour. - I know that ice is formed from frozen water. - I know about Antartica, Penguins and Orcas. - I know what a thermometer is.	- I know that the season is Spring, and the weather has changed from Winter. - I know what hibernation is. - I know what a rainbow is and why it is typically seen in the spring.	-I know vegetables have roots and grow in the ground, fruits have seeds and plants. - I know what a plant needs to grow. -I know where food comes from.	- I know that the season is summer, and the weather has changed from Spring. -I know what a minibeast is and why it is important for our natural world. - I know what conditions a minibeast needs to survive.
	-I can identify shoulders, elbows, knees and ankles on my body -I can explain how my body has changed since being a baby. - I can explain why babies need looking after and how we look after them. - I can identify typical signs of autumn weather outside.	-I can use my five senses outside and explain what I can see, hear, taste, smell and feel. -I can explain how to look after my teeth and my eyes. - I can identify typical signs of winter weather outside.	- I can choose and mix the colours I need to make a secondary colour. - I can explain the process of ice forming and the process of ice melting. - I can identify minus degrees on a thermometer. - I can identify and explain the body parts of a penguin. - I can describe a penguin's habitat and how it survives in extreme weather conditions.	- I can explain how a rainbow is formed. - I can explain why animals hibernate over the winter and where. - I can identify which animals are coming out of hibernation for the spring. - I can identify typical signs of spring weather outside.	-I can identify the seeds in fruits. - I can plant a seed and maintain it to grow a vegetable. - I can explain the life cycle of a plant.	-I can identify typical signs of summer weather outside. - I can identify common minibeasts and explain the role they play in the natural world. - I can explain the lifecycle of a butterfly. - I can contribute to building a class minibeast tank (digging and collecting minibeasts safely/building a minibeast habitat)
	Bend, strong, bone, joints, muscle. Newborn, toddler, child.	Dentist, optician, pupil, hearing aid, glasses. Toothbrush, toothpaste. Bare, bleak, dark, empty.	Habitat, environment, colony, plain, opposites, freeze, melt, temperature, predator,	Hibernation, wildlife, underground. Rainstorm, hail, thunder, rainbow.	Germination, roots, seeds, stem, soil, oxygen.	Pollen, nectar, germination, Queen Bee, metamorphosis,

			blubber, colony, webbed feet, perilous, treacherous.	Blossom, buds, shoots, growth.	Chick, calf, gosling, dairy, manure, nutrients, soil, trowel, rake, fork.	antennae, vibration, cast (worm poo)

	KNOW OF – By the end of Year 2	KNOW OF - By the end of Year 4	KNOW OF - By the end of Year 6
Forces and Magnets **(The World)**		How can we feel the force? ➢ To compare how things, move on different surfaces. ➢ To notice that some forces need contact between two objects, but magnetic forces can act at a distance. ➢ To observe how magnets, attract or repel each other and attract some materials and not others. ➢ To 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. ➢ To describe magnets as having two poles. ➢ To predict whether two magnets will attract or repel each other, depending on which poles are facing.	**What do forces actually do?** ➢ To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object ➢ To identify the effects of air resistance, water resistance and friction, that act between moving surfaces ➢ To recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.
Earth and Space **(The World)** **Seasonal Changes**	How does my school change? ➢ Observe changes across the 4 seasons; ➢ Observe and describe weather associated with the seasons and how day length varies.		**What does the Earth look like from the solar system?** ➢ To describe the movement of the Earth, and other planets, relative to the Sun in the solar system ➢ To describe the movement of the Moon relative to the Earth ➢ To describe the Sun, Earth and Moon as approximately spherical bodies ➢ To use the idea of the Earth's rotation to explain day and night, and the apparent movement of the sun across the sky.
Light **(The World)**		Where does the darkness come from? ➢ To recognise that they need light in order to see things and that dark is the absence of light. ➢ To notice that light is reflected from surfaces. ➢ To recognise that light from the sun can be dangerous and that there are ways to protect their eyes.	Why are shadows important? ➢ To recognise that light appears to travel in straight lines ➢ To 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 ➢ To 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

		➢ To recognise that shadows are formed when the light from a light sources blocked by as solid object ➢ To find patterns in a way that the size of shadow change.	➢ To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
Electricity **(The World)**		How can we switch off? ➢ To identify common appliances that run on electricity. ➢ To construct a simple series electrical circuit, identifying and naming its basic parts, including cell, wires, bulbs, switches and buzzers. ➢ To identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamps is part of a complete loop with a battery ➢ To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. ➢ To recognise some common conductors and insulators, and associate metals with being good conductors.	How big is your footprint? ➢ To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. ➢ To 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. ➢ To use recognised symbols when representing a simple circuit in a diagram.
Sound **(The World)**		What is sound? ➢ To identify how sounds are made, associating some of them with something vibrating. ➢ To recognise that vibrations from sound, travel through a medium to the ear. ➢ To find pattern between the volume of a sound and the strength of the vibrations that produced it. ➢ To find patterns between the pitch of a sound and features of the object that produced it. ➢ To recognise that sound get fainter as the distance from the sound increases.	
Rocks **(Materials)**		What's underneath our feet? ➢ Compare and group together different kinds of rocks on basis of appearance and physical properties ➢ Describe in simple terms how fossils are formed when things were trapped ➢ Recognise that soils are made from rocks and organic matter	Linnaeus and Darwin – how are they connected? ➢ To describe how earth and living things changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.
States of matter Properties and changes of materials	What could my classroom be made of? ➢ Identify and compare the suitability for particular uses of a variety of everyday	Where does our water come from? ➢ Compare and group materials together according to whether they are solids liquids or gases	How can Science help the homeless? ➢ To compare and group together everyday materials on the basis of their properties, including their hardness, solubility,

(Materials)	materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard; ➢ Find out how the shapes of solid objects made from some materials can be change by squashing, bending, twisting and stretching. What is my hat made of? ➢ Distinguish between an object and the material from which it is made; ➢ Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock; ➢ Describe the simple physical properties of a variety of everyday materials; ➢ Compare and group together a variety of everyday materials based on their simple physical properties.	➢ To measure or research the temperature at which this happens in degrees Celsius. ➢ To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation. ➢ Observe that some materials change state when they are heated or cooled	transparency, conductivity (electrical and thermal), and response to magnets ➢ To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution ➢ To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating ➢ To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic ➢ To demonstrate that dissolving, mixing and changes of state are reversible changes ➢ To 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
Plants	What grows near me? ➢ Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees; ➢ Identify and describe the basic structure of a variety of common flowering plants, including trees. How do plants grow near me? ➢ 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.	How do plants die? ➢ To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. ➢ To 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. ➢ To investigate the way in which water is transported with plants. ➢ To explore the part that flowers play in the life cycle of a flowering plants, including pollination, seed formation and seed dispersal. ➢ Function of different parts.	Linnaeus and Darwin – how are they connected? ➢ To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and difference, including micro-organisms, plants and animals. ➢ Give reasons for classifying plants and animals specific characteristics.
Living things and their habitats	How can we lead a healthy life? ➢ 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. What is home?	What should we flush down the loo? ➢ To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. ➢ Recognise that living things can be grouped in a variety of ways.	**How are you helping to save the planet?** ➢ To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird ➢ To describe the life process of reproduction in some plants and animals Linnaeus and Darwin – how are they connected?

	➢ 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.	➢ To recognise that environments can change and that this can sometimes pose dangers to living things.	➢ To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and difference, including micro-organisms, plants and animals. ➢ Give reasons for classifying plants and animals specific characteristics
Animals including humans	What are we? ➢ Identify and name a es, birds and mammals; ➢ Identify and name a variety of common animals that are carnivores, herbivores and omnivores; ➢ Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets); ➢ Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. How can we lead a healthy life? ➢ Find out about & 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. What is home? ➢ Notice that animals, including humans, have offspring which grow into adults.	What is the difference between surviving and being healthy? ➢ 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. ➢ Identify that humans and some other animals have skeletons and muscles to support, protect and movement.	How are lives saved? ➢ To identify and name the main human circulatory system. ➢ To describe the function of heart, blood vessels and blood. ➢ To recognise the impact of diet, exercise and drugs and lifestyles on the way their bodies function. ➢ To describe the ways in which nutrients and water are transported in animals and humans
Evolution and Inheritance **(Animals including humans)**			Linnaeus and Darwin – how are they connected? ➢ To give reasons for classifying plants and animals based on specific characteristics. ➢ To describe how earth and living things changed over time and that fossils provide

			information about living things that inhabited the Earth millions of years ago. ➢ To recognise that living thing produce offspring of the same kind, but normally offspring vary and are not identical to their parents ➢ To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evaluation.

Working Scientifically Progression

Statements taken from:
Science programmes of study: National curriculum in England (2013) DFE, key stages 1 and 2.
Statutory framework for the early years foundation stage (2021) DFE.

skills \ stage	EYFS (3-5 years)	KS1 (5-7 years)	Lower KS2 (7-9 years)	Upper KS2 (9-11 years)
PLAN **Ask questions, make predictions, decide on the method and equipment**	➢ listen attentively and respond to what they hear with relevant questions	➢ ask simple questions and recognise that they can be answered in different ways	➢ ask relevant questions and use different types of scientific enquiries to answer them ➢ set up simple practical enquiries, comparative and fair tests	➢ plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
DO **Carry out an enquiry using equipment**	➢ show an ability to follow instructions involving several ideas or actions ➢ be confident to try new activities… ➢ use a range of small tools… ➢ safely use and explore a variety of materials, tools and techniques	➢ observe closely, using simple equipment ➢ perform simple tests ➢ identify and classify	➢ make systematic and careful observations and, where appropriate, take accurate measurements using standard units, use a range of equipment, including thermometers and data loggers	➢ take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
RECORD **Use drawings, tables or graphs to note observations and measurements**	➢ explore the natural world around them, making observations and drawing pictures of animals and plants	➢ gather and record data to help in answering questions	➢ gather, record, classify and present data in a variety of ways to help in answering questions ➢ record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	➢ record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
REVIEW **Interpret, communicate and evaluate results**	➢ participate in discussions, offering their own ideas, using recently introduced vocabulary ➢ offer explanations for why things might happen… ➢ express their ideas and feelings about their experiences ➢ know some similarities and differences… drawing on their experiences	➢ use their observations and ideas to suggest answers to questions	➢ report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions ➢ use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions ➢ identify differences, similarities or changes related to simple scientific ideas and processes ➢ use straightforward scientific evidence to answer questions or to support their findings	➢ use test results to make predictions to set up further comparative and fair tests ➢ report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations ➢ identify scientific evidence that has been used to support or refute ideas or arguments