Kindness Teamwork Curiosity

At Bushfield Road Infant School, our Science curriculum is designed to ignite curiosity and develop a deep understanding of the natural world. We aim to provide a broad and balanced science education that encourages pupils to explore, question, and investigate, laying strong foundations for future scientific learning.
Our curriculum intent is closely aligned with our core values:

- **Kindness:** Pupils learn to appreciate the living world and the importance of caring for the environment and all living things. Through scientific enquiry and discussions, pupils develop empathy and respect for nature and the impact of human actions on the planet.
- **Teamwork:** Science learning often involves collaboration, where pupils work together to ask questions, conduct experiments, and share findings. These activities promote communication, cooperation, and shared problem-solving, reflecting the value of teamwork in scientific discovery.
- **Curiosity:** We nurture a sense of wonder and inquisitiveness by encouraging pupils to ask questions, make predictions, and explore scientific concepts through hands-on investigations. Pupils develop critical thinking skills and a love of learning as they uncover how the world works.

Our curriculum covers key areas such as biology, chemistry and scientific enquiry skills. We ensure that pupils build knowledge progressively while developing practical skills, enabling them to observe, investigate, and draw conclusions confidently.
Through this curriculum, we aim to cultivate young scientists who are not only knowledgeable and skilled but also embody Kindness, Teamwork, and Curiosity in their approach to learning and understanding the world around them.

Nursery

Statutory Objectives	Substantive Skills (Knowledge & Understanding)	Disciplinary Skills (Working Scientifically)	Key Vocabulary

Explore natural materials and living things in the environment	Recognise and name common plants and animals found in their immediate surroundings	Observe closely using senses; describe what they see, hear, and feel	plant, animal, leaf, flower, soil, seed, worm, bird, tree, water
Understand simple cause and effect through exploration and play	Know that some materials can change (e.g., water freezing, sand wetting)	Make simple predictions; test ideas through hands-on exploration	water, ice, wet, dry, melt, freeze, soft, hard
Begin to understand changes in the natural world through seasonal changes	Recognise different weather types and seasonal changes	Talk about changes they notice over time	sun, rain, snow, wind, cold, hot, season, spring, summer, autumn, winter
Use simple tools and equipment safely to investigate the environment	Understand basic safety rules when exploring outdoors and using tools	Handle tools and materials carefully; follow instructions	tool, safe, careful, explore, investigate, observe
Show curiosity and ask questions about the world around them	Express wonder and ask “why” and “how” questions about plants, animals, and objects	Communicate observations verbally or through drawings	why, how, what, where, when, question, look, listen
Begin to group objects and materials based on simple properties (e.g., texture, colour)	Identify differences and similarities in objects and materials	Sort and classify objects by observable features	rough, smooth, soft, hard, light, heavy, colour, shape

EYFS

Statutory Objectives (EYFS Framework)	Substantive Skills (Knowledge and Understanding)	Disciplinary Skills (Working Scientifically)	Key Vocabulary

Explore the natural world around them, making observations	Recognise and describe features of living things, materials, and objects in the environment	Use senses to observe closely (see, hear, touch, smell)	observe, sense, natural, living, environment
Talk about changes in the environment and seasons	Understand that the natural world changes over time (day/night, weather, seasons)	Notice and describe changes, e.g., weather or plant growth	change, season, weather, grow, day, night
Understand some important processes and changes in the natural world including the seasons and changing states of matter	Identify basic properties of materials (e.g., wet/dry, hard/soft) and changes (melting/freezing)	Explore and describe materials through play and simple experiments	material, wet, dry, hard, soft, melt, freeze
Use simple tools and equipment to perform practical tasks	Handle tools safely and with control (e.g., magnifying glass, tweezers)	Practise using tools to explore and manipulate objects	tool, magnify, explore, handle, control
Ask questions about the world around them	Show curiosity by asking questions and expressing ideas about what they see	Begin to make predictions and ask simple questions	question, why, how, what

EYFS – Early Years Foundation Stage Statutory Framework (2025)

EYFS use the EYFS Statutory Framework 2025 as a guidance for the coverage throughout the year. This ensures that the reception children are being taught the skills and knowledge needed to meet their early learning goals.
These are delivered through a mixture of adult led activities and continuous provision such as: planting beans (adult led), continuous provision (different materials in the water area and sand pit).

Communication in language		-Learn new vocabulary. -Ask questions to find out more and to check what has been said to them. -Articulate their ideas and thoughts in well-formed sentences. -Describe events in some detail. -Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. -Use new vocabulary in different contexts.
Personal, Social and Emotional Development		Know and talk about the different factors that support their overall health and wellbeing: -Regular physical activity. -Healthy eating. -Tooth brushing. -Sensible amounts of 'screen time.' -Having a good sleep routine - being a safe pedestrian.
Understanding the World		-Explore the natural world around them. -Describe what they see, hear and feel while they are outside. -Recognise some environments that are different to the one in which they live. -Understand the effect of changing seasons on the natural world around them.
Communication and Language	**Listening, Attention and Understanding**	-Make comments about what they have heard and ask questions to clarify their understanding.
Personal, Social and Emotional Development	**Managing Self**	-Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.
Understanding the World	**The Natural World**	-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.

Year 1 and 2 Working Scientifically Progression

KS1	To ask scientific questions	To carry out an enquiry	To observe closely	To take measurements	To gather/record results	To present results	To interpret results	To draw conclusions	To make a prediction	To evaluate an enquiry

Classifying	Be able to ask a Yes/No questions to aid sorting	Identify the headings for the two groups (it is …., it is not ….)	Be able to compare objects based on obvious, observable features e.g. size, shape, colour, texture etc.			Sort objects and living things into two group using a basic Venn diagram or simple table	Talk about the number of objects in each group i.e. which has more or less	Draw simple conclusions. E.g. Birds can fly because they have wings.	Make a verbal prediction on what they think will happen	
Researching	Ask one or two simple questions linked to a topic	Have a set resource for children to use/research				Present what they have learnt verbally or using pictures	Be able to answer their questions using simple sentences			
Comparative/fair testing	Identify the question to investigate from a scenario or choose a question from a range provided	Choose equipment to use and decide what to do and what to observe or measure in order to answer the question	Make observations linked to answering the question	When appropriate, measure using standard units where all the numbers are marked on the scale	Record data in simple prepared tables, pictorially or by taking photographs	Present what they learnt verbally, using pictures or block diagrams	Answer their question in simple sentences using their observations or measurements	Use a result to give a verbal conclusion of my findings.		
Observing over time	Ask a question about what might happen in the future based on an observation	Ask a question about what might happen in the future based on an observation			Record data in simple prepared tables, pictorially or by taking photographs	Present what they learnt verbally or using pictures		Verbally say if something changes. E.g. Plant in a cupboard – Leaves become yellow		
Pattern seeking	Ask a question that is looking for a pattern based on observations	Ask a question that is looking for a pattern based on observations			Record data in simple, prepared tables and tally charts	Present what they learnt verbally				

Plants – Biology – (Knowledge & Skills):

National Curriculum statements in red are from other linked topics. (These do not need to be covered within the units, but it is good to be aware of the links and prior learning).

Year 1	Year 2

-I can name the four seasons (and the months in which each season occurs). -I can describe seasonal change in the natural world, including plants, animals and the local environment. -I can identify and name basic (visible) parts of a variety of contrasting common flowering plants. For example: leaves; flowers; petals; roots; stem; trunk; branches; fruit. -I can describe in simple terms the structure of a variety of common flowering plants from the locality. For example: pansy; dandelion; daffodil; cherry tree; horse chestnut tree. -I can identify and name four to six examples of wild plants from the locality. For example: dandelion; nettle; daisy. -I can identify and name four to six examples of garden plants from the locality. For example: pansy; rose; geranium. -I can identify and name six to eight examples of deciduous and evergreen trees from the locality. For example: holly; pine; horse chestnut; oak.	-I can identify the needs of a plant for healthy survival: water; light; a suitable temperature. -I can describe how to care for a plant, identifying what a plant they have cared for needed to grow and stay / become healthy. -I can recognise the differences, based on their observations, between a healthy and an unhealthy plant. -I can explain, based on previous observations, that different seeds and bulbs grow into different types of plant. For example: beans; peas; quick-growing seeds; a variety of plants that grow from bulbs. -I can describe how seeds and bulbs change as they grow over time to become mature plants. -I can compare the growth of different plants from both seeds and bulbs. -I can recognise the differences, based on their observations, between a healthy and an unhealthy plant. -I know how to identify the needs of a plant for healthy survival: water; light; a suitable temperature. Identify and name a variety of plants and animals in their habitats, including microhabitats. (Y2 - Living things and their habitats).

Living Things & Their Habitats – Biology – (Knowledge & Skills):

National Curriculum statements in red are from other linked topics. (These do not need to be covered within the units, but it is good to be aware of the links and prior learning).

Year 1	Year 2
-Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants) -Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants) -Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans) -Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals including humans) -Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans)	-I can identify and name six to eight examples of plants in a habitat they are familiar with in their locality. -I can identify and name six to eight examples of animals in a habitat they are familiar with in their locality. -I can refer to at least one microhabitat in the examples they give above. For example: under a log or stone. -I can identify at least three examples of living things in a suitable habitat, giving reasons for suitability based on need. -I can say why some habitats are unsuitable for an animal. -I can give at least two examples of plants and animals depending on each other. -I can identify and name the foods of at least three animals they are familiar with. -I can describe how at least three animals they are familiar with obtain food from plants and/or other animals.

-Observe changes across the four seasons. (Y1 - Seasonal change)	-I can use the idea of a simple food chain with three steps to link plants to animals and animals to other animals. -When asked, I can say that humans have young, called babies, which grow into adults. -I can name the young of at least two other animals, and explain that they grow into animals of the same kind. -I can name at least one animal whose offspring may not look like the adult of the species when young. -I can identify at least three examples of living things in a suitable habitat, giving reasons for suitability based on need. -I can name three living things (anything that is currently alive, such as an animal or plant, including seeds, berries or fruits, as these have the capacity to grow and are therefore alive). -I can name three things that have once lived, such as a dead plant or animal, an empty seed case, bark, an empty shell or a feather. -I can name three things that have never lived (these can be naturally occurring, such as rock, air, water or manufactured such as metal or plastic). -I can identify and name the foods of at least three animals they are familiar with. For example: rabbit - grass; fox - rabbit, mouse or squirrel. -I can describe how at least three animals they are familiar with obtain food from plants and/or other animals. -I can use the idea of a simple food chain with three steps to link plants to animals and animals to other animals. For example: berries - mouse - fox.-Notice that animals, including humans, have offspring which grow into adults. (Y2 - Animals including humans)

Animals Including Humans – Biology – (Knowledge & Skills):

National Curriculum statements in red are from other linked topics. (These do not need to be covered within the units, but it is good to be aware of the links and prior learning).

Year 1	Year 2
-I can name: 1. Two to three common species of fish, for example salmon, clown fish and plaice. 2. Two to three common species of amphibians, for example newt, frog and toad. 3. Two to three common species of reptiles, for example snake, lizard and iguana. 4. Four to five common species of birds for example pigeon, eagle. 5. Four to five common mammals. For example, humans, rats and cats. -I can describe the structure of at least five common animals including observable features such as wings, fins, legs, beaks and scales. -I can compare the similarities and differences of the observable features between at least two animals from two different animal groups, for example a peacock (bird) and a clown fish (fish). -I can name common animals that are carnivores. herbivores and omnivores such as: 1 Two to three common animals that are carnivores, for example lions; dogs; owls; dragonflies. 2. Two to three common animals that are herbivores, for example cows; squirrels; elephants; pandas. 3. Two to three common animals that are omnivores, for example humans; badgers; bears' chickens; frogs. -I can identify and name at least ten basic parts of the human body. For example: head; neck; arm; elbow; hands; legs; knees; feet; face; ears; eyes; nose; mouth; teeth. -I can say which part of the body is associated with each of the five senses including: eyes - seeing; ears - hearing; skin - touching; nose - smelling; mouth – tasting.	-I can identify at least three examples of living things in a suitable habitat, giving reasons for suitability based on need. -I can say why some habitats are unsuitable for animals. -I can give at least two examples of plants and animals depending on each other. -I can compare and give reasons to explain the differences between things that are living, once lived and have never lived, with reference to at least three sets of examples: -I can name living things (anything that is currently alive, such as an animal or plant, including seeds, berries or fruits, as these have the capacity to grow and are therefore alive). -I can name three things that have once lived, such as a dead plant or animal, an empty seed case, bark, an empty shell or a feather. -I can name three things that have never lived (these can be naturally occurring, such as rock, air, water or manufactured such as metal or plastic). -I can describe the three basic needs for survival of animals, including humans (water, food and air). -I can describe what would happen without the basic needs (death). -I can identify two or more needs that affect the survival of some animals. -When asked, I can say that humans have young, called babies, which grow into adults. -When asked, I can describe the needs of elderly people. -I understand how to keep the human body healthy such as healthy eating, exercise and taking care of my teeth. -I can name the young of at least two other animals, and explain that they grow into animals of the same kind. -I can name at least one animal whose offspring may not look like the adult of the species when young. -I can name a variety of human exercises and explain the importance of this. -I can describe healthy and unhealthy foods. -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. (Y2 - Living things and their habitats)

Everyday Materials – Chemistry – (Knowledge & Skills):

National Curriculum statements in red are from other linked topics. (These do not need to be covered within the units, but it is good to be aware of the links and prior learning).

Year 1	Year 2
-I can name samples of wood, plastic, glass, metal, rock, brick, paper, fabric and water. -I can recognise which of the materials an object is made from. -I can use the name of the material from which it is made as an adjective to identify a specific object, for example wooden spoon; plastic cup. -I can recognise that the same object can be made from different materials and that a material can be made into many different objects. -I can use senses of sight and touch to explore materials and describe how they look or feel using the words 'hard', 'soft', 'rough', 'smooth', 'shiny', 'dull', 'heavy', 'light', 'transparent (see-through)', 'opaque (not see-through)', 'bendy', 'not bendy', 'stretchy', 'stiff', 'waterproof', 'not waterproof', 'absorbent (soaks up water)', 'not absorbent'. -I can identify more than one property of a given material. -I can compare and group materials that have the same property or properties. -I can recognise properties that are opposite ends of a continuum: hard / soft; rough / smooth; shiny / dull; heavy / light; transparent / opaque; bendy / not bendy; stretchy / stiff; waterproof / not waterproof; absorbent / not absorbent. -Identify materials with contrasting properties.	-I can select materials that are suitable for particular uses such as wood, plastic, glass, metal, rock, brick, paper, fabric, cardboard and water -I can identify properties that make a material suitable for a particular use and any properties that make it unsuitable for that use. -I can name more than one material that may be suitable for a purpose, but say why one or more may be more suitable than others. For example: cotton is good for making clothes because it is soft and it is easy to cut and stitch, but Lycra is better for sports clothes because it stretches. -I can carry out the actions of squashing, bending, twisting and stretching, distinguishing between them. -I can correctly use the terms 'flexible', 'rigid', 'squashy', 'stretchy', 'elastic' and 'stiff' to describe materials that can and cannot be changed by the actions. -I can select materials that are suitable for particular uses. -I know how to identify properties that make a material suitable for a particular use and any properties that make it unsuitable for that use. -I can name more than one material that may be suitable for a purpose, but say why one or more may be more suitable than others. For example: cotton is good for making clothes because it is soft and it is easy to cut and stitch, but Lycra is better for sports clothes because it stretches.