



Bishop Martin CE Primary School- Science Subject Overview

	Autumn One	Autumn Two	Spring One	Spring Two	Summer One	Summer Two
Nursery (2YO)	<u>The Natural World</u> Notices and explore the natural world, such as the weather, animals, and plants in their environment. Starts to develop a simple sense of past by recognising familiar places and things they have seen before (e.g., "I went to the park yesterday"). May show interest in present surroundings, such as interacting with toys, people, and objects currently in their environment.		<u>The Natural World</u> Begins to recognise simple changes in the environment, such as the weather changing from sunny to rainy, linking it to the present . Shows early awareness of the past by talking about activities they have done recently (e.g., "We went to the park" or "I played with my friend yesterday"). Notices and express simple changes over time, such as how things grow (e.g., "The flowers are bigger now").		<u>The Natural World</u> Understands that some things stay the same while others change over time (e.g., "The flowers bloom in the spring" or "The leaves fall in autumn"). Starts to use simple language to describe the difference between past and present (e.g., "We played outside yesterday" or "I'm playing now"). May begin to understand the sequence of events in their day or week (e.g., "First we have breakfast, then we go to the park").	
Nursery	<u>The Natural World</u> Uses all their senses to explore and investigate natural materials such as leaves, rocks, and water, describing what they feel, see, and smell (e.g., "This leaf is crunchy" or "The water feels cold"). Begins to explore collections of materials with different properties, such as comparing smooth stones with rough ones or soft and hard objects. Starts to notice simple changes in the environment, such as leaves falling from trees or noticing when the weather changes.		<u>The Natural World</u> Plants seed and show growing interest in the process of caring for plants, noticing how they grow and change over time. Begins to understand basic life cycles, such as the life cycle of a plant (e.g., "The seed grows into a plant") and an animal (e.g., "A butterfly comes from a caterpillar"). Starts to talk about what they see using a wider vocabulary (e.g., describing flowers, insects, or animals with more detail). Explores and talks about different forces they can feel, such as the wind blowing, pulling or pushing objects, or how objects move when rolled or thrown.		<u>The Natural World</u> Begins to understand the need to care for and respect the natural environment and all living things. Talks about the differences between materials, such as comparing plastic and metal or fabric and paper. Has a greater understanding of life cycles, recognizing the stages of growth and change in plants and animals. Enjoys exploring and making hands-on investigations with natural materials, describing their properties. Begin to notice and comment on environmental changes, like weather or seasonal changes, and may explore the concept of caring for the planet.	
Reception	<u>The Natural World</u> Begin to observe changes in the environment (e.g., seasonal changes, changes in weather, falling leaves). Explore and talk about basic features of the natural world, including plants, animals, and the weather (e.g., talking about how plants grow, or observing animals in their local environment). Show curiosity by asking questions about the world around them (e.g., "Why does it rain?").		<u>The Natural World</u> Begin to identify living things (e.g., animals, plants, and people) and some of their basic needs (e.g., water, food, sunlight). Notice and describe changes in the environment over time (e.g., observing how the weather changes across seasons). Begin to recognise different weather patterns and seasons (e.g., winter, spring, summer, autumn).		<u>The Natural World</u> Understand and talk about life cycles (e.g., how plants and animals grow and change). Show an interest in exploring the natural world (e.g., noticing how flowers bloom, or how trees change through the seasons). Talk about how the environment changes over time depending on the weather or season (e.g., how trees lose their leaves in autumn).	
Year One	<u>Seasonal Changes</u> Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.	<u>Seasonal Changes</u> <u>Everyday Materials/Uses of Everyday Materials</u> Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials.	<u>Seasonal Changes</u> <u>Animals, including Humans</u> Identify and name a variety of common animals including fish, amphibians, reptiles, 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.		<u>Seasonal Changes</u> <u>Plants</u> 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	<u>Seasonal Changes</u> <u>Environmental Science- Climate Change</u>

		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. Carry out a simple test. Use test results to group materials into those which float or sink. Compare materials on the basis of their reflectiveness. Discuss different ways to test reflectiveness.	Name a variety of animals including fish/amphibians / reptiles/ birds/ mammals. Classify animals according to different animal groups and/or what they eat. - Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. - Can explain features of their body part and link to senses, e.g. I can feel things with my legs.	common flowering plants, including trees. Describe and point to the basic structure of a plant and a tree using scientific language. Explain what the parts of the plant are for.	Understand what climate change is and to identify the effects. Understand the difference between renewable and non- renewable energy sources. Understand the effects of global warming.
Year Two	<u>Everyday Materials/Uses of Everyday Materials</u> Identify and compare the suitability of a variety of everyday materials. Find out how the shapes of solid objects made from some materials can be changed. Discuss/use different ways to test how waterproof materials are. Compare materials based on waterproofness. Begin to be systematic in their testing? Use their tests to suggest answers to questions.	<u>Animals, including Humans</u> 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. Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. Compare different hand spans Suggest answers to their questions about hand spans.	<u>Living Things and their Habitats</u> Explain why woodlice are found in a particular habitat. 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 microhabitats. 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.	<u>Plants</u> Observe and describe how seeds and bulbs grow into mature plants. Describe how plants need water, light and a suitable temperature to grow and stay healthy.	<u>Environmental Science- Recycling</u> Understand what recycling is including key vocabulary. Can understand the impact of not recycling. Can identify recyclable and non-recyclable materials.

Cycle A

Year Three/Four	<u>Electricity</u> Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether a lamp will light in a simple series circuit, based on whether the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes a circuit and associate this with whether a lamp lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors. Explain results and their conclusions. Recognise common conductors and insulators, and associate metals with being good conductors.	<u>Sound</u> Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases. Suggest how to alter the pitch. Carry out simple tests of these ideas.	<u>States of Matter</u> Compare and group materials together, according to whether they are solids, liquids or gases. 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). Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Use a thermometer to measure temperature accurately Identify what is to be changed and what is to be kept the same. Identify what to observe/measure to see if there is a difference.	<u>Animals, including Humans</u> Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions.	<u>Living Things and their Habitats</u> Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things. Construct and interpret a variety of food chains, identifying producers, predators and prey.	<u>Environmental Science- Water Conservation</u> Understand what water usage is and find solutions to reduce water waste.
Year Four/Five	<u>Forces and Magnets</u> Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction that act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. Use test results to make predictions relating water resistance to surface area Identify variables which may affect the results	<u>Earth and Space</u> Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.	<u>Properties and Changes of Materials</u> Compare and group together everyday materials based on their properties. Give reasons, based on evidence from comparative and fair tests, for the uses of everyday materials, including metals, wood and plastic. Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Demonstrate that dissolving, mixing and changes of state are reversible changes. 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.		<u>Living Things and their Habitats/Animals inc. Humans</u> Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. Describe the changes as humans develop to old age.	<u>Environmental Science- Deforestation</u> Describe what deforestation is including the meaning of vocabulary linked to deforestation. Know the impact that deforestation is having on habitats and life cycles and to know solutions. Understand what we can do to reduce deforestation.
Year Five/Six	<u>Evolution and Inheritance</u>	<u>Electricity</u>	<u>Light</u>	<u>Animals, including Humans</u>	<u>Living things and their Habitats</u>	<u>Masters of Science</u>

	Explain how they are testing the strength of the eggs. Consider the trustworthiness of their method/results. Recognise living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. 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. Use recognised symbols when representing a simple circuit in a diagram. Raise a question relating to simple circuits and the brightness of the bulb? Decide what evidence to collect to answer the question?	Recognise that light appears to travel in straight lines. 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. 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. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. Make accurate measurements Choose the appropriate type of graph to present their results	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans. Use their data to make predictions linking how hard the heart must work with the heart rate.	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. Give reasons for classifying plants and animals based on specific characteristics. Use the structure of a classification key to group and record their samples. Produce a list of questions that support their classification.	Understand the use and implications of science, today and for the future. Identify scientific evidence that has been used to support or refute ideas or arguments.
--	--	--	---	---	---	--

Cycle B

Year Three/Four	<u>Light</u> Recognise that they need light to see things and that dark is the absence of light. Notice that light is reflected from surfaces. Recognise light from the sun can be dangerous and that there are ways to protect their eyes. Recognise shadows are formed when the light from a light source is blocked by an opaque object. Find patterns in the way that the size of shadows changes. Make a series of careful observations. Record their observations in a systematic way that relates to the question.	<u>Forces and Magnets</u> Compare how things move on different surfaces. Notice that some forces need contact between two objects. Observe how magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday materials based on whether they are attracted to a magnet and identify some magnetic materials. Describe magnets as having two poles.	<u>Rocks</u> Compare and group together different kinds of rocks based on their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter. Group rocks based on properties.	<u>Animals, including Humans</u> 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 for support, protection and movement.	<u>Plants</u> Describe the functions of different parts of flowering plants. Explore the requirements of plants for life and growth and how they vary from plant to plant. Investigate the way in which water is transported within plants. Explore the part that flowers play in the life cycle of flowering plants. Use simple apparatus to measure water/height. Record their measurements.	<u>Environmental Science- Pollution</u> Understand what air pollution is and understand the effects. Understand what pollution is including the meaning of vocabulary linked to pollution.
------------------------	--	---	---	--	--	--

Year Four/Five	<u>Electricity</u> Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether a lamp will light in a simple series circuit, based on whether the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes a circuit and associate this with whether a lamp lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors. Explain results and their conclusions. Recognise common conductors and insulators, and associate metals with being good conductors.	<u>Sound</u> Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases. Suggest how to alter the pitch. Carry out simple tests of these ideas.	<u>States of Matter</u> Compare and group materials together, according to whether they are solids, liquids or gases. 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). Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Use a thermometer to measure temperature accurately Identify what is to be changed and what is to be kept the same. Identify what to observe/measure to see if there is a difference.	<u>Animals, including Humans</u> Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions.	<u>Living Things and their Habitats</u> Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things. Construct and interpret a variety of food chains, identifying producers, predators and prey.	<u>Environmental Science- Water Conservation</u> Understand what water usage is and find solutions to reduce water waste.
Year Five/Six	<u>Forces and Magnets</u> Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effects of air resistance, water resistance and friction that act between moving surfaces. Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. Use test results to make predictions relating water resistance to surface area Identify variables which may affect the results	<u>Earth and Space</u> Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. Describe the movement of the Moon relative to the Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.	<u>Properties and Changes of Materials</u> Compare and group together everyday materials based on their properties. Give reasons, based on evidence from comparative and fair tests, for the uses of everyday materials, including metals, wood and plastic. Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Demonstrate that dissolving, mixing and changes of state are reversible changes. 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.		<u>Living Things and their Habitats/Animals inc. Humans</u> Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals. Describe the changes as humans develop to old age.	<u>Environmental Science- Deforestation</u> Describe what deforestation is including the meaning of vocabulary linked to deforestation. Know the impact that deforestation is having on habitats and life cycles and to know solutions. Understand what we can do to reduce deforestation.