St Gabriel's CE Primary School

Science Curriculum Overview

	EYFS
	Science Curriculum in EYFS **Animals** Learn that animals are living things. Discover where animals live and what they need to survive. Explore where birds live and what they need to survive. Learn about farm animals. Learn about dinosaurs that lived on Earth. **Food** Learn about your diet and how to stay healthy. Explore different types of vegetables. Discover different types of fruit. Learn about chicken and eggs. Discover that cows produce milk. Examine different ingredients, then weigh them to make a mixture (Easter/Lent). Explore the use of wheat and flour to make a dough (Chinese New Year). **Forces** Understand what happens when you push or pull something. Explore objects that sink and float. **Health and Safety** Explain about the people you can trust. Learn how to stay safe when using electricity. Explore different houses and the things we need in our home. Discover First Aid and what to do in an emergency. **Insects and Invertebrates** Learn about insects and invertebrates. Discover where insects and invertebrates live? Explore more about insects and invertebrates. **Machines** Explore different types of machines and mechanisms. Learn how machines make jobs easier. Discover different types of transport. **Materials** Learn about living and non-living things. Discover that some things can change shape. Explore the process of melting. Learn about different materials. Discover how to make the perfect sandcastle. **Our Body** Learn about your body parts: the arms, legs, and chest. Learn about your body parts: the hands and feet. Learn about your body parts: the eyes and nose. Learn about your body parts: the ears, mouth and hair. Discover how our bodies change. Explore our similarities and differences and how we are all unique. **Plants** Discover that plants are living things. Learn about plants and where they come from. Explore how to look after plants. **Space** Explore outer space. Discover why rockets are important. **The Senses**

	Learn about the senses, sight and touch. Explore ways to make sound. Discover the senses of hearing and sight. Explore the senses of smell and touch. Learn about your sense of taste. **Weather and Seasons** Learn about rain, ice, and water. Describe why the air moves. Explore snow and melting. Discover how rainbows are formed. Learn about the seasonal changes that happen in Spring and Summer. Learn about the seasonal changes that happen in Autumn and Winter.		
Term	**Year 1**	**Year 2**	**Year 3**
Autumn 1	**Everyday materials 1** Children learn how to **distinguish between an object and the material from which it is made**. They also learn how to **identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock**. They **describe the simple physical properties of a variety of everyday materials**. And finally, they **learn how to compare and group together a variety of everyday materials on the basis of their simple physical properties.**	**Animals including Humans: Growth** Children learn how to **notice that animals, including humans, have offspring which grow into adults**. They **find out about and describe the basic needs of animals, including humans, for survival (water, food and air)** and finally they learn how to **describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene**.	**Animals including humans** **Children 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**. They also learn how to **identify that humans and some other animals have skeletons and muscles for support, protection and movement**.
Autumn 2	**Everyday materials 2** Children learn how to **distinguish between an object and the material from which it is made**. They also learn how to **identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock**. They **describe the simple physical properties of a variety of everyday materials**. And finally, they learn how to **compare and group together a variety of everyday materials on the basis of their simple physical properties.**	**Animals including Humans: Life cycles** Children are taught how to **notice that animals, including humans, have offspring which grow into adults**.	**Forces and magnets** **Children compare how things move on different surfaces; notice that some forces need contact between 2 objects, but magnetic forces can act at a distance; and observe how magnets attract or repel each other and attract some materials and not others.** Children learn how 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; describe magnets as having 2 poles** and they learn how to **predict whether 2 magnets will attract or repel each other, depending on which poles are facing.**

Spring 1	**Seasonal changes** Children learn how to **observe changes across the 4 seasons and observe and describe weather associated with the seasons and how day length varies**.	**Plants** **Children observe and describe how seeds and bulbs grow into mature plants;** and **find out and describe how plants need water, light and suitable temperature to grow and stay healthy.**	**Light** **Children recognise that they need light in order to see things and that dark is the absence of light; they notice that light is reflected from surfaces;** and **recognise that light from the sun can be dangerous and that there are ways to protect their eyes.** Children learn how to **recognise that shadows are formed when the light from a light source is blocked by an opaque object;** and **they find patterns in the way that the size of shadows change.**
Spring 2	**Plants** Children learn how to **identify and name a variety of common wild and garden plants, including deciduous and evergreen trees**. They also learn how to **identify and describe the basic structure of a variety of common flowering plants, including trees.**	**Uses of everyday materials** **Children identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses**. They also learn how to **find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.**	**Plants** **Children identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers**. They **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.** They learn how to **investigate the way in which water is transported within plants** and finally they **learn how to explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal**.
Summer 1	**Animals including humans: All about humans.** Children learn how to **identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals**. They learn how to **identify and name a variety of common animals that are carnivores, herbivores and omnivores**. And finally, they learn how to **describe and compare the structure of a variety of**	**Living things and their habitats: Habitats around the world.** Children **explore and compare the differences between things that are living, dead, and things that have never been alive**; they learn how to **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**	Rocks **Children compare and group together different kinds of rocks on the basis of their appearance and simple physical properties**. They learn how to **describe in simple terms how fossils are formed when things that have lived are trapped within rock** and finally they learn how to **recognise that soils are made from rocks and organic matter.**

	common animals (fish, amphibians, reptiles, birds and mammals including pets).	**plants, and how they depend on each other**. They learn how to **identify and name a variety of plants and animals in their habitats, including microhabitats** and finally they learn how to **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**.	
Summer 2	**Animals including humans: All about animals.** Children learn how to **identify, name, draw and label the basic parts of the human body** and say which **part of the body is associated with each sense.**	**Living things and their habitats** Children explore and compare the differences between things that are living, dead, and things that have never been alive. They learn how to identify and name a variety of plants and animals in their habitats, including microhabitats; and 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.	**Scientific Enquiry** Ask relevant questions and use different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, and use a range of equipment, including thermometers and data loggers. 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. 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.

Term	Year 4	Year 5	Year 6
Autumn 1	**Sound** Children 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; **and finally,** recognise that sounds get fainter as the distance from the sound source increases.	**Earth and Space** This unit gives children the opportunity to star-gaze by learning more about the Earth and the celestial bodies in our solar system. Starting with an exploration of each planet - from Mercury to Neptune - this unit then explores how scientific ideas surrounding Earth's movement and placement have changed and developed over time. The children will complete an assortment of fascinating Mission Assignments - such as making a papier-mache model of the solar system - to deepen their understanding of the Moon, time zones and the night and day cycle.	**Animals including humans** **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;** and finally, they learn how to **describe the ways in which nutrients and water are transported within animals, including humans.**
Autumn 2	**Animals including humans** Children 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**; and finally,** construct and interpret a variety of food chains, identifying producers, predators and prey**.**	**Forces** Children **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;** and finally, they learn how to **recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.**	**Electricity** Children **associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit;** they learn how 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;** and finally, they use r**ecognised symbols when representing a simple circuit in a diagram.**
Spring 1	**States of Matter** Children **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**	**Animals including humans** **Children describe the changes as humans develop to old age.**	**Living things and their habitats** Building on previous 'Living Things' units, this Year 6 National Curriculum course helps children identify the kingdoms of life and to classify living things within those kingdoms. The children will be introduced to the Linnean system of classification and will be able to

	the temperature at which this happens in degrees Celsius (°C); and finally, **identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.**		develop their practical scientific skills though investigating mould growth on bread and mushroom spore dispersal.
Spring 2	**Living things and their habitats** Children **recognise that living things can be grouped in a variety of ways; and explore** and **use classification keys to help group, identify and name a variety of living things in their local and wider environment.**	**Living things and their habitats.** This unit builds on work from previous years and deepens the children's understanding of life cycles, reproduction and animal characteristics. New concepts such as asexual reproduction and metamorphosis are introduced to help the children understand how life cycles are constantly progressing, whilst pre-existing concepts are continually referenced and built upon to aid recall and scaffold learning. A blend of science and creativity will capture the children's imagination during our Mission Assignments, where they will have the opportunity to dissect an egg, pretend to be David Attenborough or Jane Goodall as they research their favourite creature and even create their own reports on world-renowned scientists.	**Looking after our Environment** To align with the National Curriculum this unit is delivered to further develop children's **working scientific skills**. Children explore: the core concepts – '**so what the climate is, how it changes, the difference between a man-made and natural environment and where different types of animals live**'.
Summer 1	**Living things and their habitats:** Children **recognise that living things can be grouped in a variety of ways; and explore** and **use classification keys to help group, identify and name a variety of living things in their local and wider environment.**	**Properties of materials** **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; know that some materials will dissolve in liquid to form a solution, use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating;** and finally, they learn how to **give reasons, based on evidence from comparative and fair tests, for**	**Evolution and inheritance** This unit introduces the children to the key concepts of evolution and inheritance by building upon previous topics, including animal characteristics and fossils. The children will learn about inherited traits and apply their knowledge to various animals and plants, before being introduced to the work of Mary Anning and Charles Darwin. Through the presentations and tasks, the children will learn about the fascinating history of the human race and discover links between

		the particular uses of everyday materials, including metals, wood and plastic.	extinct animals and those which are still living today.
Summer 2	**Living things and their habitats – Conservation.** Children learn how to **recognise that environments can change and that this can sometimes pose dangers to living things**.	**Changes of materials** **Children describe how to recover a substance from a solution; demonstrate that dissolving, mixing and changes of state are reversible changes;** and finally, they learn how 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.**	**Light** Children r**ecognise 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;** and finally, children learn how to **use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.**