Science Curriculum Long Term Map

At St Peter's we believe that all children should be enthused by the ever-changing world and be equipped with skills that allow them to flourish.

St. Peter's CE Primary Academy

EYFS

Year A	Term 1	Term 2	Term 3
Unit	**Seasonal Changes –** Why do the leaves change colour?	**Animals Including Humans** – Who would you meet at the zoo?	**Materials** – Where should I keep my chocolate?
Story link	We Are Going on a Leaf Hunt	The Zoo is Not For You	Chocolate – Michael Rosen
EYFS Framework	• ELG UtW: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. • ELG UtW:: 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.	• ELG UtW: 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. • ELG UtW: Explore the natural world around them, making observations and drawing pictures of animals and plants.	• ELG UtW: : Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.
	Term 4	Term 5	Term 6
Unit	**Plants** – How does your garden grow?	**Living Things and Their Habitats** – Whose habitat is that?	**Animals Including Humans** – What food makes us strong?
Story link	Nursery Rhyme	Whose habitat is that	Oliver's Fruit Salad
EYFS Framework	• ELG UtW: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. • ELG UtW: Know some similarities and differences between the natural world around them and contrasting	• ELG UtW:: 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.	• Children in reception PD : Know and talk about different factors that support their overall health and wellbeing: – Regular physical activity – Healthy eating – Toothbrushing – Sensible amounts of 'screen time'

	environments, drawing on their experiences and what has been read in class. • ELG UtW: Explore the natural world around them, making observations and drawing pictures of animals and plants.	• ELG UtW:: Explore the natural world around them, making observations and drawing pictures of animals and plants.	– Having a good sleep routine – Being a safe pedestrian

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Y1/2

Year A	Term 1	Term 2	Term 3
Big Idea	**Animals Including Humans** – What makes humans so amazing?	**Seasonal Changes** – Can we predict the weather?	**Materials** - Were the Three Little Pigs good builders?
Science objectives	**Year 1 -** • Identify, name, draw and label basic parts of the human body and say which part of the body is associated with each sense **Year 2 -** • 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 changes across the four seasons • Observe and describe weather associated with the seasons and how day length varies	**Year 1 -** • Distinguish between an object and the material from which is it 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 on the basis of their simple physical properties **Year 2 -** • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
	Term 4	Term 5	Term 6
Big Idea	**Plants -** Which plant should Jack climb?	**Animals Including Humans** – Should we let a tiger visit our school?	**Living Things and Their Habitats** - How do you keep a squirrel alive?

Science objectives	**Year 1 -** • 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 **Year 2 -** • 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	**Year 1 -** • Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates • 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 **Year 2 -** • Notice that animals, including humans, have offspring which grow into adults	• 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 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

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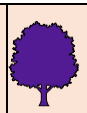
Year B	Term 1	Term 2	Term 3
Big Idea	**Animals Including Humans** – What pet should Mr Martindale get?	**Seasonal Changes** – When is the best season to go to the beach?	**Materials** – What material is best suited to make an umbrella?
Science objectives	• Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates • 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)	• Observe changes across the four seasons • Observe and describe weather associated with the seasons and how day length varies	**Year 1 -** • Describe the simple physical properties of a variety of everyday materials • Compare and group together a variety of everyday materials on the basis of their simple physical properties **Year 2 -** • 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
	Term 4	Term 5	Term 6

Big Idea	 **Plants** – What do plants need to grow?	 **Materials** – Why do puddles appear and disappear?	 **Living Things and Their Habitats** – What kind of hotel would a minibeast stay in?
Science objectives	**Year 1 -** • 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 **Year 2 -** • 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	**Year 1 -** • 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 on the basis of their simple physical properties **Year 2 -** • 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	• 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 animals and plants, and how they depend on each other

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Y3/4

Year A	Term 1	Term 2	Term 3
Big Idea	**Forces and Magnets** – Can you design a new magnetic toy?	**Animals Including Humans** – What will help a hockey team to win their league?	**Living Things and Their Habitats** – What makes a fish, a fish?
Science objectives	• Compare how things move on different surfaces • Notice that some forces need contact between two objects, but magnetic forces can act at a distance • Observe how magnets attract or repel each other and attract some materials and not others • 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 two poles • Predict whether 2 magnets will attract or repel each other, depending on which poles are facing	• 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	• 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

	Term 4	Terms 5	Term 6
Big Idea	 **Plants** – Why should we protect bees?	 **Materials** – How can a raindrop travel the world?	 **Sound** - What makes a band sound good together?
Science objectives	• Explore the part that flowers play in the life cycle of flowering plants	• 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 • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	• Identify how sounds are made, associating some of them with something vibrating • Find patterns between the volume of sound and the strength of the vibrations that produced it • Recognise that vibrations from sounds travel through a medium to the ear • Recognise that sounds get fainter as the distance from the sound source increases • Find patterns between the pitch of a sound and features of the object that produced it

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Year B	Term 1	Term 2	Term 3
Big Idea	**Rocks** – What lies beneath our feet?	**Light** – Can I escape my shadow?	**Living Things and Their Habitats** – How can we help to save orangutans?
Science objectives	• Compare and group together different kinds of rocks on the basis of 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	• Recognise that they need light in order to see things and that dark is the absence of light • Notice that light is reflected from surfaces • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes • Recognise that 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 change	• Recognise that environments can change and that this can sometimes pose dangers to living things
	Term 4	Terms 5	Term 6
Big Idea	**Plants** – Do all plants need the same things to grow?	**Animals Including Humans** – Does the circle of life really exist?	**Electricity** – Why do our classroom lights come on when we press a switch?

Science objectives	• 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 • Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers	• 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 • Construct and interpret a variety of food chains, identifying producers, predators and prey	• 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 or not a lamp will light in a simple series circuit, based on whether or not 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 or not a lamp lights in a simple series circuit • Recognise common conductors and insulators and associate metals with being good conductors

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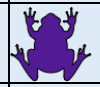
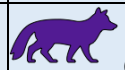
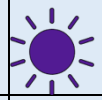
Y5/6

Year A	Term 1	Term 2	Term 3
Big Idea	 **Living Things and Their Habitats** –	 **Materials** – Why can't we make everything out plastic?	 **Animals Including Humans** – Why do we get older?
Science objectives	• Describe the life process of reproduction in some plants and animals • Describe the differences in the life cycles of a mammal, an amphibian, and insect and a bird	• 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 • Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	**Year 5 -** • Describe the changes as humans develop to old age **Year 6 -** • Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • Describe the ways in which nutrients and water are transported within animals, including humans

	Term 4	Terms 5	Term 6
Big Idea	 **Light** – How can we see around corners?	 **Electricity** – Why do we need to be able to control electricity?	**Revision Block A** – How can insects improve people's lives?
Science objectives	• Recognise that light appears to travel in straight lines • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them • 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	• Associate the brightness of a lamp of 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	• A range of objectives from Year 5 and 6 covered throughout this unit.

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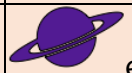
Year B	Term 1	Term 2	Term 3
Big Idea	 **Materials** – Can we unmake a cake?	 **Space** – Could the planets ever collide?	 **Forces** – Do theme parks employ scientists?
Science objectives	• Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets • Know that some materials will dissolve in liquid to form a solution, and describe how to recover 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 changing of states 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	• 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	• 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

	Term 4	Terms 5	Term 6
Big Idea	 **Living Things and Their Habitats** – How can we classify every living thing?	 **Evolution and Inheritance** – Is survival of the fittest really how the world works?	**Revision Block B** – Is science ever wrong?
Science objectives	• 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	• Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • Recognise that living things produce offspring of the same kind, but normal 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	• A range of objectives from Year 5 and 6 covered throughout this unit.