Science Long term Curriculum Map Knowledge

	Advent 1	Advent 2	Lent 1	Lent 2	Pentecost 1	Pentecost 2
EYFS Science Taken from ELG	**Me and my small world** 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. **What's in my basket?** Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and	**Let's go outside** Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter **What's changed?** Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter	**Changes in Winter** 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. **Let it flow** Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter	**Watch it grow** Explore the natural world around them, making observations and drawing pictures of animals and plants. **Animal detectives** Know some similarities and differences between the natural world around them and contrasting environments, drawing on their	**From city to sea** 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. **Look all around** Explore the natural world around them, making observations and drawing pictures of animals and plants.	**Happy and healthy** Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. **Our wonderful world** Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions

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	small group interactions **Senses** Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter	 **Night and day** Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter	 **From desert to jungle** Explore the natural world around them, making observations and drawing pictures of animals and plants.	experiences and what has been read in class. **Pushes and pulls** Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter	 **Test it out!** Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter	involving several ideas or actions. **We're going on an animal hunt** Explore the natural world around them, making observations and drawing pictures of animals and plants
Year 1 Science:	**Animals including humans** The Human Body Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	**Seasonal Changes** Observe changes across the four seasons. (Autumn and winter) Observe and describe weather associated with the seasons and how day length varies. **Everyday Materials**	**Animals including humans** 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,	**Seasonal Changes** Observe changes across the four seasons. (Spring) Observe and describe weather associated with the seasons and how day length varies	**Plants** 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	**Seasonal changes** Observe changes across four seasons. (Summer) Observe and describe weather associated with the seasons and how day length varies

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		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 on the basis of their simple physical properties.	herbivores and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets			
Year 2 Science:	**Animals including humans.** Describe the basic needs of animals, including humans, for survival. Describe the importance for humans of exercise, eating	**Animals including humans.** Notice that animals including humans have offspring which grows into adults. **Uses of everyday materials.**	**Uses of everyday materials.** Identify and compare the suitability of everyday materials for particular uses. Find out how the shapes of solid	**Plants.** Observe and describe how seeds and bulbs grow into mature plants.	**Living things and their habitats.** Identify habitats and how they provide the needs for different animals and plants. Name a variety of plants and animals in	**Living things and their habitats.** Exploring the difference between things that are living, dead and have never been alive. Describe food chains.

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	healthily and hygiene.	Identify and compare the suitability of everyday materials for particular uses.	objects can be changed. **Plants.** Investigate what plants need to grow and stay healthy.		their habitats and micro-habitats.	
Year 3 Science:	**Animals including Humans** Identify that humans and some animals have skeletons and muscles for support, movement and protection.	**Animals including humans** Identify that animals, including humans, need the right types and amounts of nutrition, and they cannot make their own food; they get nutrition from what they eat. **Rocks** Compare and group together different kinds of rocks based on their appearance and simple physical properties.	**Rocks** Describe in simple terms how fossils are formed when living things that have lived are trapped within rock. Recognise that soils are made rocks and organic matter.	**Light** 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 the eyes. Recognise that shadows are formed when the	**Plants** Identify and describe the functions of different parts of a flowering plant. 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. Investigate the way water is transported within plants. Explore the part that flowers play in the life cycle of a	**Forces and magnets** Compare how things move on different surfaces. Notice that some forces need contact, but magnetic forces can act at a distance. Observe how magnets attract and repel some materials and not others. Compare and group together a variety of everyday materials on the

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				light from a light source is blocked. Find patterns in the way that the size of shadows can change.	flowering plants, including pollination, seed formation and seed dispersal.	basis of whether they attracted to a magnet, and identify some magnetic materials. Describe magnets as having two poles. Predict whether two magnets will attract or repel depending on which poles are facing.
Year 4 Science:	**Living Things and their habitats** 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.	**States of Matter** 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).	**Sound** 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.	**Electricity** 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,	**Living things and their habitats** 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	**Animals including humans** Describe the functions of the digestive system in humans. Identify the different types of teeth and their functions. Construct and interpret a variety of food chains, identifying producers, predators and prey.

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		Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	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.	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 some common conductors and insulators, and associate metals with being good conductors.	dangers to living things.	
Year 5 Science:	**Forces** Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.	**Earth and Space** Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. Describe the movement of the	**Properties and changes of materials** Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency,		**Living things and their habitats** Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of	**Animals including humans** describe the changes as humans develop to old age. (puberty and the changes that happen to boys and girls)

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	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.	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.	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 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. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.		reproduction in some plants and animals.	

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			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.			
Year 6 Science:	**Light** Recognise that light appears travels in straight lines. Use the idea that light travels in straight lines to explain that objects are seen because they give	**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 impact of diet, exercise,	**Electricity** Associate the brightness of a lamp or the volume of a buzzer with the number voltage of cells used in the circuit. Compare and give reasons for variations in how components	**Evolution and Inheritance** Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.		**Living things and their habitats** Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-

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	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.	drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients are transported within animals, including humans.	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.	Recognise that 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.		organisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.