

Clifford All Saints Whole School Curriculum Overview- Science

<https://www.marchoy.com/post/a-summary-of-ofsted-s-science-subject-report-finding-the-optimum>

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	<p>Super Me!</p> <p>Developing new vocabulary</p> <p>Developing skills to manage the school day successfully including personal hygiene</p> <p>Describe what they see, hear and feel whilst outside.</p>	<p>Autumn to Winter</p> <p>Explore the natural world around them.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p>	<p>Once Upon a Time</p> <p>Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</p> <p>Describe what they see, hear and feel whilst outside.</p>	<p>Around the World</p> <p>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.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Know & talk about different factors to support overall health & wellbeing: regular physical activity, healthy eating, toothbrushing, sensible amounts of 'screen time',</p>	<p>Ready, Steady, Grow</p> <p>Explore the natural world around them, making observations and drawing pictures of animals and plants.</p> <p>Planting & gardening</p> <p>Spring to Summer</p> <p>Understanding the changing effect of the seasons on the natural world around them.</p> <p>Discussing life cycles - duck/butterfly/plants</p> <p>Describe what they see, hear and feel whilst outside.</p>	<p>Commotion in the Ocean</p> <p>Explore the natural world around them, making observations and drawing pictures of animals and plants.</p> <p>Understand some important processes and changes in the natural world around them, such as changing states of matter.</p> <p>Describe what they see, hear and feel whilst outside.</p> <p>Recognise some environments are different</p>

				having a good sleep routine, being a safe pedestrian		
EYFS Communication & Language	<p>Three & Four Year Olds (Prior Learning) Understand 'why' questions, like: "Why do you think the caterpillar got so fat?"</p> <p>Reception 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 sentence 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.</p> <p>Early Learning Goals Listening, Attention & Understanding - Make comments about what they have heard and ask questions to clarify their understanding</p>					
EYFS Personal, Social and Emotional Development	<p>Three & Four Year Olds (Prior Learning) Make healthy choices about food, drink, activity and toothbrushing</p> <p>Reception Know and talk about the different factors that support their overall health and wellbeing:</p> <ul style="list-style-type: none"> - regular physical activity - healthy eating - Toothbrushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian <p>Early Learning Goals Managing Self - Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices</p>					
EYFS Understanding the World	<p>Three & Four Year Olds (Prior Learning) Use all their senses in hands-on exploration of natural materials Explore collections of materials with similar and/or different properties Talk about what they see, using a wide vocabulary Begin to make sense of their own life-story and family's history Explore how things work Plant seeds and care for growing plants Understand the key features of the life cycle of a plant and an animal Begin to understand the need to respect and care for the natural environment and all living things Explore and talk about different forces they can feel Talk about the differences between materials and changes they notice.</p> <p>Reception Explore the natural world around them Describe what they see, hear and feel while they are outside</p>					

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

Early Learning Goals

The Natural World - Explore the natural world around them, making observations and drawing pictures of animals and plants. - Know some similarities & 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 & changes in the natural world around them including the seasons and changing states of matter

EYFS
Continuous
Provision

Continuous Provision opportunities

Through all areas of continuous provision there should be opportunities for children to develop their sense of awe and wonder in the world around them. Children should be encouraged to develop their own sense of asking questions of the environment & natural world around them; explore and contrast animals and different environments, recognising both similarities & differences and develop their own basic skills in managing basic hygiene and personal needs

Reading- variety of texts linked to curriculum and science learning. Learning new vocabulary, asking questions and finding answers, exploring changes in nature and the environment

Small world- making observations about animals, exploring contrasting environments, articulating their ideas & exploring the natural world through loose parts

Home Corner- opportunities to act out and understand the importance of healthy eating, good sleep routines and taking care of our bodies, articulating ideas and describing events

Creative- experiment with changing states of matter, drawing and labelling pictures of plants and animals

Computers- varied opportunities to experiment with changes in state and matter, drawing pictures of plants & animals

Writing Area- opportunities to use new vocabulary in different contexts

Maths Area - using talk to help work out & explain how things work or why they might happen

Computers - Exploring contrasting environments, making observations of plants & animals

Snack Table - Discussion on healthy eating & personal hygiene

Outside Area - developing scientific vocabulary, exploring the natural world, describing what they see, hear and feel while they are outside, experimenting with changes in state - floating & sinking, making observations of plants & animals, planting & nurturing plants, tasting fruit grown, caring for plants, measuring growth, exploring & discussing seasonal change, using equipment for physical exercise

<p>Y1</p>	<p>Amazing Animals Autumn 1</p> <p>Journey into Space Autumn 2</p> <p>Animals including humans</p> <ul style="list-style-type: none"> ● 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 (fish, amphibians, reptiles, birds and mammals including pets) ● identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. <p>Seasonal Changes</p> <ul style="list-style-type: none"> ● observe changes across the 4 seasons ● observe and describe weather associated with the seasons and how day length varies 	<p>Our School Spring 1</p> <p>Building our City Spring 2</p> <p>Everyday materials</p> <ul style="list-style-type: none"> ● 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 ● <p>Seasonal Changes</p> <ul style="list-style-type: none"> ● observe changes across the 4 seasons ● observe and describe weather associated with the seasons and how day length varies 	<p>Heroes Summer 1</p> <p>The Great Growing Challenge Summer 2</p> <p>Plants</p> <ul style="list-style-type: none"> ● 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 <p>Seasonal Changes</p> <ul style="list-style-type: none"> ● observe changes across the 4 seasons ● observe and describe weather associated with the seasons and how day length varies
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Y2	<p>Living things and their Habitats 1</p> <p>Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>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</p> <p>Identify and name a variety of plants and animals in their habitats, including microhabitats</p>	Living things and their habitats 2	<p>Uses of Everyday Materials</p> <p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses</p> <p>Compare how things move on different surfaces.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p> <p>Living things and their Habitats</p> <p>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.</p>		<p>Plants</p> <p>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</p>	<p>Animals including humans</p> <p>Notice that animals, including humans, have offspring which grow into adults</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>
Y3	Rocks	Forces and Magnets	Animals, including	Working	Light	Plants

	<p>-Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>-Describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>-Recognise that soils are made from rocks and organic matter.</p>	<p>-Compare how things move on different surfaces</p> <p>-Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance</p> <p>-Observe how magnets attract or repel each other and attract some materials and not others</p> <p>-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</p> <p>-Describe magnets as having 2 poles</p> <p>-Predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p>	<p>humans</p> <p>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</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>Scientifically</p> <p>Significant Scientists</p>	<p>-Recognise that they need light in order to see things and that dark is the absence of light</p> <p>-Notice that light is reflected from surfaces</p> <p>-Recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>-Recognise that shadows are formed when the light from a light source is blocked by a solid object</p> <p>-Find patterns in the way that the size of shadows change.</p>	<p>-Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>-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</p> <p>-Investigate the way in which water is transported within plants</p> <p>-Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>
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<p>Y4</p>	<p align="center">Electricity</p> <p>Identify common appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>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.</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p align="center">Sound</p> <p>Identify how sounds are made, associating some of them with something vibrating.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>	<p align="center">Living things and their habitats</p> <p>Recognise that living things can be grouped in a variety of ways.</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p align="center">States of Matter</p> <p>Compare and group materials together, according to whether they are solids, liquids or gases.</p> <p>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)</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature</p>		<p align="center">Animals including humans</p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple functions.</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>
<p>Y5</p>	<p align="center">Properties and Changes of Materials</p> <p>To compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical</p>	<p align="center">Earth and Space</p> <p>To describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>To describe the movement of the Moon</p>	<p align="center">Forces</p> <p>To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling</p>	<p align="center">Living Things and Their Habitats</p> <p>To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p>		<p align="center">Animals including Humans</p> <p>To describe the changes as humans develop to old age.</p>

	<p>and thermal), and response to magnets</p> <p>To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>To demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>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.</p>	<p>relative to the Earth</p> <p>To describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>To use the idea of the Earth's rotation to explain day and night, and the apparent movement of the sun across the sky.</p>	<p>object</p> <p>To identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>To recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</p>	<p>To describe the life process of reproduction in some plants and animals.</p>		
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<p>Y6</p>	<p>Animals including humans</p> <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans</p>	<p>Living things and their habitats</p> <p>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals</p> <p>Give reasons for classifying plants and animals based on specific characteristics</p>	<p>Evolution and Inheritance</p> <p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p>Electricity</p> <p>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</p> <p>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</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>	<p>Light</p> <p>Recognise that light appears to travel in straight lines</p> <p>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</p> <p>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</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</p>	
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