

Our **Hawridge & Cholesbury** curriculum provides opportunities for our children to be;

Fascinated

Rounded

Eager to make a difference

Spiritual

Hold high aspirations



Learning through nature








Active learning




HAWRIDGE & CHOLESBURY CHURCH OF ENGLAND SCHOOL


Science Long Term Overview

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
W	<p>The Wombles of Windmills E– recycling and litter picking</p> <p>The Natural World 🌳</p> <p>F Exploring bread, fruit and vegetables</p> <p>F Exploring herbs in garden and making mixtures</p>	<p>Make a difference E H– create book of change – what could we improve/change in our school grounds?</p> <p>Weekly Forest School sessions 🌳</p> <p>Name it – 5 trees</p> <p>The Natural World</p> <p>Animals that Hibernate Autumn and Winter changes 🌳 F</p>	<p>The Wombles of Windmills E– litter picking and bug hotel and wormery. Introduce monitors to water vegetables/plants etc</p> <p>The Natural World</p> <p>Space – naming planets and exploring differences between the planets and earth.</p> <p>Crater experiments F</p> <p>Making rockets move – launching our rockets</p> <p>Winter changes/ice and snow</p>	<p>Make a difference E H– Making the change – work on the change in groups as a whole class</p> <p>Weekly Forest School sessions 🌳 Name it – 5 animals</p> <p>The Natural World</p> <p>Spring changes – nature walks and looking at changes in the Windmills garden 🌳 F</p> <p>Owls and garden birds</p> <p>Making bird feeders 🌳 R</p> <p>Exploring colour and features in the environment F</p> <p>‘Wow said the owl’ 🌳</p>	<p>The Wombles of Windmills E– Looking after plants and plant sale.</p> <p>The Natural World</p> <p>Exploring building materials – straw, sticks and bricks F</p> <p>Finding out about animals homes around our school</p>	<p>Make a difference E H – checking the change –</p> <p>Weekly Forest School sessions 🌳</p> <p>Name it – 5 plants</p> <p>The Natural World</p> <p>Exploring Snails Butterflies and mini-beasts 🌳</p> <p>Life cycle of a Butterfly 🌳 S</p>

Year 1	<p>Seasonal Changes</p> <ul style="list-style-type: none"> To observe changes across the 4 seasons To observe and describe weather associated with the seasons and how day length varies <p> R, E – going on an autumn walk around the school grounds and learning how to look after our local environment S – learning to be thankful for the natural world</p>	<p>Everyday Materials</p> <ul style="list-style-type: none"> To distinguish between an object and the material from which it is made To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock To describe the simple physical properties of a variety of everyday materials To compare and group together a variety of everyday materials on the basis of their simple physical properties <p> Performing a simple test to find out what the best material is for an umbrella</p>	<p>Seasonal Changes</p> <ul style="list-style-type: none"> To continue to observe changes across the 4 seasons <p>R, E – going on a spring walk around the school grounds and learning how to look after our local environment S – learning to be thankful for the natural world</p> <p>Animals</p> <ul style="list-style-type: none"> To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals To identify and name a variety of common animals that are carnivores, herbivores and omnivores To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) 	<p>Plants</p> <ul style="list-style-type: none"> To identify and name a variety of common wild and garden plants, including deciduous and evergreen trees To identify and describe the basic structure of a variety of common flowering plants, including trees <p> F, E - use the local environment throughout the year to explore and answer questions about plants growing in their habitat, grow beans (linked to 'Jack and the Beanstalk') and observe the growth of the beans</p>	<p>Seasonal Changes</p> <ul style="list-style-type: none"> To name the four seasons. To name different types of weather. To make observations about the weather. To describe the weather associated with each season. To collect and record simple data. To make simple observations about changes across the seasons. To name an event or occasion which happens in each season. To describe how day length varies between two seasons <p> R, E – going on a spring walk around the school grounds and learning how to look after our local environment S – learning to be thankful for the natural world</p>	<p>Animals, including humans</p> <ul style="list-style-type: none"> To identify, name, draw and label the basic parts of the human body To say which part of the body is associated with each sense <p> F – testing their senses through a range of practical challenges</p>
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Year 2	<u>Uses of everyday materials</u> <ul style="list-style-type: none"> To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 	<u>Scientists and Inventors</u> Learning about different and inventors and the impact on life today. <i>H- Understanding the important role scientists play in our everyday lives and how one aspirational person can make a huge difference.</i>	<u>Living things and their habitats</u> <ul style="list-style-type: none"> To explore and compare the differences between things that are living, dead, and things that have never been alive 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 plants, and how they depend on each other To identify and name a variety of plants and animals in their habitats, including microhabitats 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 	<u>Plants</u> <ul style="list-style-type: none"> To observe and describe how seeds and bulbs grow into mature plants To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy 	<u>Animals, including humans</u> <ul style="list-style-type: none"> To notice that animals, including humans, have offspring which grow into adults To find out about and describe the basic needs of animals, including humans, for survival (water, food and air) To describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene 	

<p>Year 3</p>	<p><u>Rocks and Soils</u></p> <ul style="list-style-type: none"> • To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • To describe in simple terms how fossils are formed when things that have lived are trapped within rock • To recognise that soils are made from rocks and organic matter • To group and classify different rocks and soils • To testing durability, density and permeability of rocks • To test the permeability of different soilstesting <p> F – trip to Tring museum of natural history to be fossil detectives</p>	<p><u>Animals including humans</u></p> <ul style="list-style-type: none"> • To 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 • To identify that humans and some other animals have skeletons and muscles for support, protection and movement <p>E – link to school meals and menus, bread-making (links to DT)</p>	<p><u>Forces and Magnets</u></p> <ul style="list-style-type: none"> • To compare how things move on different surfaces • To notice that some forces need contact between 2 objects, but magnetic forces can act at a distance • To observe how magnets attract or repel each other and attract some materials and not others • 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 • To describe magnets as having 2 poles • To predict whether 2 magnets will attract or repel each other, depending on which poles are facing 	<p><u>Famous Scientists</u></p> <p><u>Marie Curie</u></p> <ul style="list-style-type: none"> • To identify changes related to scientific ideas by describing Marie Curie’s research into x-rays. • To identify that humans have skeletons for support, protection and movement by identifying and explaining the bones shown in x-rays. <p><u>George Washington Carver</u></p> <ul style="list-style-type: none"> • To 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. • To identify changes related to scientific ideas by describing the achievements of George Washington Carver. 	<p><u>Plants</u></p> <ul style="list-style-type: none"> • To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • To 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 • To investigate the way in which water is transported within plants • To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal 	<p><u>Light and shadows</u></p> <ul style="list-style-type: none"> • To recognise that they need light in order to see things and that dark is the absence of light • To notice that light is reflected from surfaces • To recognise that light from the sun can be dangerous and that there are ways to protect their eyes • To recognise that shadows are formed when the light from a light source is blocked by an opaque object • To find patterns in the way that the size of shadows change
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	 <i>F – handling real life fossil collection</i>					
Year 4	<u>Living things and their Habitats</u> <ul style="list-style-type: none"> Identify different animals habitats F- Walk around the school grounds using an IPAD to take pictures of different habitats. Classifying animals using classification systems Classifying plants F, S- Walk to the common and sketch different living plant (Linked to Art) 	<u>States of Matter</u> <ul style="list-style-type: none"> Comparing and grouping different materials together. F, R, H- Identified materials from around the school grounds and take pictures of different states of matter. Identify solid, liquid and gases using their properties to group them. Observing material changes state of matter. F, R, H- Observing over time the change of water melting and freezing points. Identify the water cycle. 	<u>Sound</u> <ul style="list-style-type: none"> Investigate different types of sound. F- Walk around the school grounds recording the different sounds we heard. To explain how sound travels. F, R- Observing and evaluating sound traveling through different materials. Measuring sounds using a sound level monitor. 	<u>Animals including humans</u> <ul style="list-style-type: none"> To identify and classify carnivores, herbivores and omnivores. To create a food chain. Investigate the role of human teeth. Explore ways to keep our teeth healthy. Investigate how the digestive system works. 	<u>Electricity</u> <ul style="list-style-type: none"> Identify appliance that use electricity Exploring conductor and insulators Investigating an electric circuit F- create an electric circuit using a variety of components 	

Year 5	<u>Earth and Space</u> <ul style="list-style-type: none"> To explain why we know the Sun, Earth and Moon are spherical To name and describe features of the planets in our solar system and order the planets in our solar system. <i>R – act out the position of the planets in the solar system and how they move around the sun</i> <i>R – to create pastel representations of the planets</i> To explain day and night and the apparent movement of the sun across the sky To investigate night and day in different parts of the Earth. <i>R – to use atlas</i> 	<u>Forces</u> <ul style="list-style-type: none"> To identify forces acting on objects To explore the effect gravity has on objects and how gravity was discovered To investigate the effects of air resistance <i>F – design, build and test parachutes</i> To explore the effects of water resistance. To investigate the effects of friction To explore and design mechanisms 	<u>Properties and Changes in Materials</u> <ul style="list-style-type: none"> To test, describe and explain the properties of different materials <i>F – test different materials</i> To investigate materials which insulate and conduct heat To investigate which solids will dissolve in a liquid To investigate which metals are the best conductors To investigate how to separate different materials 		<u>Living things and their habitats</u> <ul style="list-style-type: none"> To understand how plants reproduce <i>F – dissect a flower to discover all the parts that help in reproduction</i> <i>S – to deadhead flowers in the school grounds</i> To create cuttings from a plant to demonstrate asexual reproduction To describe the life cycles of mammals To research Jane Goodall To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird 	<u>Scientists and Inventors</u> <ul style="list-style-type: none"> To research the life of David Attenborough To use chromatography to separate mixtures To research Margaret Hamilton's life and work To explore the sizes, surfaces and orbits of planets in our solar system To describe Eva Crane and her work with bees To use the work of Leonardo Da Vinci to help carry out an enquiry

	<i>skills to locate countries in different time zones</i> <ul style="list-style-type: none"> To describe the movement of the moon 					
Year 6	<u>Micro-organisms</u> <ul style="list-style-type: none"> To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird To describe the life process of reproduction in some plants and animals To 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 To give reasons for classifying plants and animals based on specific characteristics 	<u>Light</u> <ul style="list-style-type: none"> To recognise that light appears to travel in straight lines To 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 To 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 To use the idea that light travels in straight lines to explain why shadows have the 	<u>Animals including humans</u> <ul style="list-style-type: none"> To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function To describe the ways in which nutrients and water are transported within animals, including humans 	<u>Living things and their habitats</u> <ul style="list-style-type: none"> To 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 To give reasons for classifying plants and animals based on specific characteristics 	<u>Evolution and inheritance</u> <ul style="list-style-type: none"> To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution 	<u>Light</u> <ul style="list-style-type: none"> To recognise that light appears to travel in straight lines To 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 To 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 To use the idea that light travels

		<p>same shape as the objects that cast them.</p> <p>F – <i>exploring nature using periscopes</i></p>				<p>in straight lines to explain why shadows have the same shape as the objects that cast them</p>
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