

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

**F**ascinated

**R**ounded

**E**ager to make a difference

**S**piritual

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

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

	1 – Everyday Materials		<p>the idea of a simple food chain, and identify and name different sources of food</p> <p>Curriculum Flashback – EYFS – The Natural World (Nocturnal animals, owls, minibeasts)</p> <p>Curriculum Flashback – Yr 1 - Animals</p>			
Year 3	<p><b><u>Rocks and Soils</u></b></p> <ul style="list-style-type: none"> <li>To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</li> <li>To describe in simple terms how fossils are formed when things that have lived are trapped within rock</li> <li>To recognise that soils are made from rocks and organic matter</li> <li>To group and classify</li> </ul>	<p><b><u>Animals including humans</u></b></p> <ul style="list-style-type: none"> <li>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</li> <li>To identify that humans and some other animals have skeletons and muscles for support, protection and movement</li> </ul>	<p><b><u>Forces and Magnets</u></b></p> <ul style="list-style-type: none"> <li>To compare how things move on different surfaces</li> <li>To notice that some forces need contact between 2 objects, but magnetic forces can act at a distance</li> <li>To observe how magnets attract or repel each other and attract some materials and not others</li> <li>To compare and group together a variety of everyday materials on the basis of whether</li> </ul>	<p><b><u>Famous Scientists</u></b> <u>Marie Curie</u></p> <ul style="list-style-type: none"> <li>To identify changes related to scientific ideas by describing Marie Curie’s research into x-rays.</li> <li>To identify that humans have skeletons for support, protection and movement by identifying and explaining the bones shown in x-rays.</li> <li>Curriculum Flashback – Yr 1 – Animals Including</li> </ul>	<p><b><u>Plants</u></b></p> <ul style="list-style-type: none"> <li>To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</li> <li>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</li> <li>To investigate the</li> </ul>	<p><b><u>Light and shadows</u></b></p> <ul style="list-style-type: none"> <li>To recognise that they need light in order to see things and that dark is the absence of light</li> <li>To notice that light is reflected from surfaces</li> <li>To recognise that light from the sun can be dangerous and that there are ways to protect their eyes</li> <li>To recognise</li> </ul>

	<p>different rocks and soils</p> <ul style="list-style-type: none"> <li>To testing durability, density and permeability of rocks</li> <li>To test the permeability of different soilstesting</li> </ul> <p> <i>F – trip to Tring museum of natural history to be fossil detectives</i></p> <p> <i>F – handling real life fossil collection</i></p>	<p><i>E – link to school meals and menus, bread-making (links to DT)</i></p> <p>Curriculum Flashback – EYFS – The Natural World (Nocturnal animals, owls, minibeasts)</p> <p>Curriculum Flashback – Yr 1 - Animals</p> <p>Curriculum Flashback – Yr 2 – Animals Including Humans</p>	<p>they are attracted to a magnet, and identify some magnetic materials</p> <ul style="list-style-type: none"> <li>To describe magnets as having 2 poles</li> <li>To predict whether 2 magnets will attract or repel each other, depending on which poles are facing</li> </ul>	<p>Humans</p> <p>Curriculum Flashback – Yr 2 – Animals Including Humans</p> <p><u>George Washington Carver</u></p> <ul style="list-style-type: none"> <li>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.</li> <li>To identify changes related to scientific ideas by describing the achievements of George Washington Carver.</li> </ul> <p>Curriculum Flashback – EYFS – The Wombles Of Windmills (Plants)</p> <p>Curriculum Flashback – Yr 1 – Plants</p> <p>Curriculum Flashback – Yr 2 – Plants</p>	<p>way in which water is transported within plants</p> <ul style="list-style-type: none"> <li>To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</li> </ul> <p>Curriculum Flashback – EYFS – The Wombles Of Windmills (Plants)</p> <p>Curriculum Flashback – Yr 1 – Plants</p> <p>Curriculum Flashback – Yr 2 - Plants</p>	<p>that shadows are formed when the light from a light source is blocked by an opaque object</p> <ul style="list-style-type: none"> <li>To find patterns in the way that the size of shadows change</li> </ul>
Year 4	<u>Living things and their</u>	<u>States of Matter</u>	<u>Sound</u>	<u>Animals including humans</u>	<u>Electricity</u>	

	<p><b>Habitats</b></p> <ul style="list-style-type: none"> <li>Identify different animals habitats <b>F- Walk around the school grounds using an IPAD to take pictures of different habitats.</b></li> <li>Classifying animals using classification systems</li> <li>Classifying plants <b>F, S- Walk to the common and sketch different living plant (Linked to Art)</b></li> </ul> <p>Curriculum Flashback – EYFS – The Natural World (Nocturnal animals, owls, minibeasts)</p> <p>Curriculum Flashback – Yr 1 - Animals</p> <p>Curriculum Flashback – Yr 2 – Animals Including Humans</p>	<ul style="list-style-type: none"> <li>Comparing and grouping different materials together. <b>F, R, H- Identified materials from around the school grounds and take pictures of different states of matter.</b></li> <li>Identify solid, liquid and gases using their properties to group them.</li> <li>Observing material changes state of matter. <b>F, R, H- Observing over time the change of water melting and freezing points.</b></li> <li>Identify the water cycle.</li> </ul> <p>Curriculum Flashback – EYFS – The Natural World (Building materials)</p> <p>Curriculum Flashback – Yr 1 – Everyday Materials</p> <p>Curriculum Flashback –</p>	<ul style="list-style-type: none"> <li>Investigate different types of sound. <b>F- Walk around the school grounds recording the different sounds we heard.</b></li> <li>To explain how sound travels. <b>F, R- Observing and evaluating sound traveling through different materials.</b></li> <li>Measuring sounds using a sound level monitor.</li> </ul>	<ul style="list-style-type: none"> <li>To identify and classify carnivores, herbivores and omnivores.</li> <li>To create a food chain.</li> <li>Investigate the role of human teeth.</li> <li>Explore ways to keep our teeth healthy.</li> <li>Investigate how the digestive system works.</li> </ul> <p>Curriculum Flashback – EYFS – The Natural World (Nocturnal animals, owls, minibeasts)</p> <p>Curriculum Flashback – Yr 1 - Animals</p> <p>Curriculum Flashback – Yr 2 – Animals Including Humans</p> <p>Curriculum Flashback – Yr 3 – Animals Including Humans</p> <p>Curriculum Flashback – Yr</p>	<ul style="list-style-type: none"> <li>Identify appliance that use electricity</li> <li>Exploring conductor and insulators</li> <li>Investigating an electric circuit <b>F- create an electric circuit using a variety of components</b></li> </ul>	
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	Curriculum Flashback – Yr 3 – Animals Including Humans	Yr 2 – Uses Of Everyday Materials		4 – Living Things & Their Habitats		
Year 5	<p><b>Earth and Space</b></p> <ul style="list-style-type: none"> <li>To explain why we know the Sun, Earth and Moon are spherical</li> <li>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></li> <li><i>R – to create pastel representations of the planets</i></li> <li>To explain day and night and the apparent movement of the sun across the sky</li> <li>To investigate night and day in different parts of the Earth.</li> </ul>	<p><b>Forces</b></p> <ul style="list-style-type: none"> <li>To identify forces acting on objects</li> <li>To explore the effect gravity has on objects and how gravity was discovered</li> <li>To investigate the effects of air resistance <i>F – design, build and test parachutes</i></li> <li>To explore the effects of water resistance.</li> <li>To investigate the effects of friction</li> <li>To explore and design mechanisms</li> </ul> <p>Curriculum Flashback - Yr 3 – Forces &amp; Magnets</p> <p>Curriculum Flashback – Yr 5 – Earth &amp; Space</p>	<p><b>Properties and Changes in Materials</b></p> <ul style="list-style-type: none"> <li>To test, describe and explain the properties of different materials <i>F – test different materials</i></li> <li>To investigate materials which insulate and conduct heat</li> <li>To investigate which solids will dissolve in a liquid</li> <li>To investigate which metals are the best conductors</li> <li>To investigate how to separate different materials</li> </ul> <p>Curriculum Flashback – EYFS – The Natural World (Building materials)</p> <p>Curriculum Flashback – Yr 1 – Everyday Materials</p> <p>Curriculum Flashback – Yr 2</p>		<p><b>Living things and their habitats</b></p> <ul style="list-style-type: none"> <li>To understand how plants reproduce <i>F – dissect a flower to discover all the parts that help in reproduction</i></li> <li><i>S – to deadhead flowers in the school grounds</i></li> <li>To create cuttings from a plant to demonstrate asexual reproduction</li> <li>To describe the life cycles of mammals</li> <li>To research Jane Goodall</li> <li>To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</li> </ul>	<p><b>Scientists and Inventors</b></p> <ul style="list-style-type: none"> <li>To research the life of David Attenborough</li> <li>To use chromatography to separate mixtures</li> <li>To research Margaret Hamilton’s life and work</li> <li>To explore the sizes, surfaces and orbits of planets in our solar system</li> <li>To describe Eva Crane and her work with bees</li> <li>To use the work of Leonardo Da Vinci to help carry out an enquiry</li> </ul>

	<p><i>R – to use atlas skills to locate countries in different time zones</i></p> <ul style="list-style-type: none"> <li>To describe the movement of the moon</li> </ul> <p>Curriculum Flashback – EYFS – Outer Space</p> <p>Curriculum Flashback – EYFS – The Natural World (Spring Changes)</p> <p>Curriculum Flashback – Yr 1 – Seasonal Changes</p>		<p>– Uses Of Everday Materials</p> <p>Curriculum Flashback – Yr 4 – States Of Matter</p>		<p>Curriculum Flashback – EYFS – The Natural World (Nocturnal animals, owls, minibeasts)</p> <p>Curriculum Flashback – Yr 1 - Animals</p> <p>Curriculum Flashback – Yr 2 – Animals Including Humans</p> <p>Curriculum Flashback – Yr 3 – Animals Including Humans</p> <p>Curriculum Flashback – Yr 4 – Living Things &amp; Their Habitats</p>	
Year 6	<p><b><u>Micro-organisms</u></b></p> <ul style="list-style-type: none"> <li>To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</li> <li>To describe the life process of reproduction in some plants and animals</li> <li>To describe how living things are classified into broad</li> </ul>	<p><b><u>Light</u></b></p> <ul style="list-style-type: none"> <li>To recognise that light appears to travel in straight lines</li> <li>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</li> </ul>	<p><b><u>Animals including humans</u></b></p> <ul style="list-style-type: none"> <li>To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</li> <li>To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</li> </ul>	<p><b><u>Living things and their habitats</u></b></p> <ul style="list-style-type: none"> <li>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</li> </ul>	<p><b><u>Evolution and inheritance</u></b></p> <ul style="list-style-type: none"> <li>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</li> <li>To recognise that</li> </ul>	<p><b><u>Light</u></b></p> <ul style="list-style-type: none"> <li>To recognise that light appears to travel in straight lines</li> <li>To use the idea that light travels in straight lines to explain that objects are seen because they give out or</li> </ul>



	<p>groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals</p> <ul style="list-style-type: none"> <li>To give reasons for classifying plants and animals based on specific characteristics</li> </ul> <p>Curriculum Flashback – EYFS – The Natural World (Nocturnal animals, owls, minibeasts)</p> <p>Curriculum Flashback – Yr 1 - Animals</p> <p>Curriculum Flashback – Yr 2 – Animals Including Humans</p> <p>Curriculum Flashback – Yr 3 – Animals Including Humans</p> <p>Curriculum Flashback – Yr 4 – Living Things &amp; Their</p>	<ul style="list-style-type: none"> <li>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</li> <li>To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</li> </ul> <p><i>F – exploring nature using periscopes</i></p> <p>Curriculum Flashback – Yr 3 - Light</p>	<ul style="list-style-type: none"> <li>To describe the ways in which nutrients and water are transported within animals, including humans</li> </ul> <p>Curriculum Flashback – EYFS – The Natural World (Nocturnal animals, owls, minibeasts)</p> <p>Curriculum Flashback – Yr 1 - Animals</p> <p>Curriculum Flashback – Yr 2 – Animals Including Humans</p> <p>Curriculum Flashback – Yr 3 – Animals Including Humans</p> <p>Curriculum Flashback – Yr 4 – Living Things &amp; Their Habitats</p> <p>Curriculum Flashback – Yr 5 – Living Things &amp; Their Habitats</p>	<p>animals</p> <ul style="list-style-type: none"> <li>To give reasons for classifying plants and animals based on specific characteristics</li> </ul> <p>Curriculum Flashback – EYFS – The Natural World (Nocturnal animals, owls, minibeasts)</p> <p>Curriculum Flashback – Yr 1 - Animals</p> <p>Curriculum Flashback – Yr 2 – Animals Including Humans</p> <p>Curriculum Flashback – Yr 3 – Animals Including Humans</p> <p>Curriculum Flashback – Yr 4 – Living Things &amp; Their Habitats</p> <p>Curriculum Flashback – Yr 5 – Living Things &amp; Their Habitats</p>	<p>living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <ul style="list-style-type: none"> <li>To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</li> </ul> <p>Curriculum Flashback – EYFS – The Natural World (Animals that hibernate)</p> <p>Curriculum Flashback – Yr 2 – Living Things &amp; Their Habitats</p>	<p>reflect light into the eye</p> <ul style="list-style-type: none"> <li>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</li> <li>To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them</li> </ul> <p>Curriculum Flashback – Yr 3 - Light</p>
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	Habitats					
	Curriculum Flashback – Yr 5 – Living Things & Their Habitats					

**CLEAPPS Safety Information:**

How To Do A Risk Assessment <https://primary.cleapss.org.uk/Resource/P137-How-to-do-a-risk-assessment.aspx>

Safe Heating <https://primary.cleapss.org.uk/Resource/P004-Safe-heating-for-practical-science.aspx>

Dealing With Spills & The Disposal Of Materials <https://primary.cleapss.org.uk/Resource/P135-Dealing-with-spills-and-disposal-of-materials-in-primary-activities.aspx>

Working Safely Outdoors <https://primary.cleapss.org.uk/Resource/P094-Working-safely-outdoors.aspx>

Gardening <https://primary.cleapss.org.uk/Resource/P093-Gardening.aspx>

Small Scale Growing <https://primary.cleapss.org.uk/Resource/P121-Small-scale-growing.aspx>

Incubating, Hatching & Rearing Chicks <https://primary.cleapss.org.uk/Resource/P096-Incubating-hatching-and-rearing-chicks.aspx>

The Great Fire Of London <https://primary.cleapss.org.uk/Resource/P088-The-Great-Fire-of-London.aspx>

Pond Safety <https://primary.cleapss.org.uk/Resource/P060-Pond-safety-in-primary-schools.aspx>

Magnets <https://primary.cleapss.org.uk/Resource/P167-Magnets-advice-guidance.aspx>