

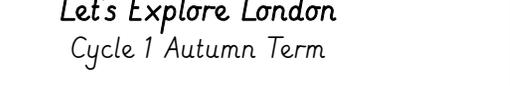
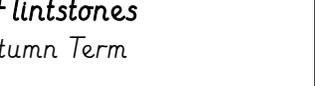
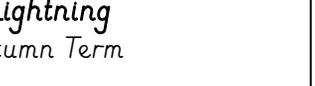


# Happisburgh CE VA Primary & Early Years School

## Knowledge-rich Curriculum



### Science

Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
 <p><b>Let's Explore London</b> Cycle 1 Autumn Term</p>	 <p><b>Meet the Flintstones</b> Cycle 1 Autumn Term</p>	 <p><b>Greece Lightning</b> Cycle 1 Autumn Term</p>			
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Look at a variety of coats for Paddington and describe the properties of the materials they are made of.</li> <li>Explore which materials might be waterproof and test.</li> <li>Explore the different materials that are found within the building of a house. Explain why these materials have been chosen to build houses.</li> <li>Consider why London burnt so easily in 1666 what were houses build of then – what are the properties of these materials?</li> </ul>	<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Look at a variety of rocks and compare and sort according to their appearance and physical properties</li> <li>Explore how stone-age people moved the stones for Stonehenge</li> <li>Understanding that late Stone-Age peoples started to farm. Investigate soil and know that it is formed from organic matter.</li> <li>Explore and understand how fossils were formed.</li> </ul> <p><b>Forces</b></p> <ul style="list-style-type: none"> <li>Using the Flintstones cartoon – make and test wheeled vehicles – investigate the effect of friction on the movement of the vehicles.</li> </ul>	<p><b>Animals, including humans</b></p> <ul style="list-style-type: none"> <li>Understand that the Ancient Greeks were one of the earliest civilisations and that humans were living in societies and within families</li> <li>Understand how humans change and develop from birth to old-age</li> <li>In relation to the olympic athletes, explore the impact of diet and exercise on the human body</li> <li>How did the Greeks use medicines and drugs and how did this impact on health? – How has this impacted on our lives today?</li> <li>Compare with today's lifestyles.</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Understand why the Greeks built temples from stone – test a number of rocks for erosion, permeability etc</li> </ul>			
 <p><b>Poles Apart</b> Cycle 1 Spring Term</p>	 <p><b>China</b> Cycle 1 Spring Term</p>	 <p><b>Invaders</b> Cycle 1 Spring Term</p>			
<p><b>Animals, including humans</b></p> <ul style="list-style-type: none"> <li>Identify a range of animals that live in the polar regions</li> <li>Know which of these animals are carnivores, herbivores etc.</li> <li>Identify how these animals have offspring and compare e.g. mammals with birds</li> <li>Identify the key anatomical features that support the animals in its environment – explore how animals that also spend time in the water are disadvantaged by some characteristics on land ( seals, penguins etc).</li> </ul>	<p><b>Light</b></p> <ul style="list-style-type: none"> <li>Investigate the Shang Dynasty's worship of the Sun, the Wind and the Rain – relating to nature and their need to ask Gods for a good harvest.</li> <li>Know that darkness is the absence of light</li> <li>Know how to protect our eyes from dangerous sunlight</li> <li>Notice that light is reflected from surfaces</li> <li>Understand how the moon reflects the sun – investigate other materials that also reflect light.</li> <li>Explore Chinese shadow puppets and find patterns that determine the shape and size of shadows.</li> </ul>	<p><b>Plants</b></p> <ul style="list-style-type: none"> <li>Understand how invaders to Britain were often looking for land to cultivate.</li> <li>Explore the kinds of crops the Anglo-Saxons first produced and identify how their understanding of plant reproduction supported them in farming.</li> <li>Compare how different plants reproduce in different ways.</li> <li>How has the understanding of seed dispersal supported farming?</li> <li>Explore how different plants reproduce through pollination and seed dispersal.</li> </ul>			



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<ul style="list-style-type: none"> <li>Identify how these animals survive – what are their basic needs for survival?</li> <li>How are the animals of the North and South Poles suited to their environments? – thick fur, fat, camouflage etc.</li> <li>Explore how animals in the Poles survive and how they depend on each other – create simple food chains.</li> <li>How do humans survive in these conditions?</li> </ul> <p><b>Seasonal changes</b></p> <ul style="list-style-type: none"> <li>Arctic weather – compare with weather around the world.</li> <li>Investigate the length of day and night across the world.</li> <li>Collect climate data using thermometers</li> </ul>	<ul style="list-style-type: none"> <li>Associate the movement and length of shadows as the position of the sun in the sky changes.</li> </ul> <p><b>States of matter</b></p> <ul style="list-style-type: none"> <li>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</li> <li>Identify different states of water and identify whether they are solids, liquids or gases</li> <li>Understand what happens to different materials when they are heated or cooled. Explore substances such as ice that heating changes a material from solid to liquid and that cooling changes liquids to solids.</li> <li>Identify a range of materials and identify whether they are solids, liquids or gases.</li> </ul>	<ul style="list-style-type: none"> <li>Classify the types of plants that medieval peoples grew and compare with today's crops. Explain the classification.</li> </ul>
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 <p><b>Seasides and Shipwrecks</b> Cycle 1 Summer Term</p>	 <p><b>Transport</b> Cycle 1 Summer Term</p>	 <p><b>Wild Water</b> Cycle 1 Summer Term</p>
<p><b>Animals and their habitats</b></p> <ul style="list-style-type: none"> <li>Identify animals and plants that live near and in the sea, including micro-organisms</li> <li>Be able to identify animals that live in and around the sea as birds, fish, amphibians, reptiles, mammals and invertebrates.</li> <li>Compare different varieties of the same species e.g crabs, focussing on how hermit crabs adapt to their environments.</li> <li>Explore deep-sea creatures, identifying which ones are real and fantasy.</li> <li>Complete a study on coral and its likeness to rock</li> </ul> <p><b>Light</b></p> <ul style="list-style-type: none"> <li>Investigate sources of light including the sun and electric lights from lighthouses</li> <li>Understand why being in the shade protects us against the sun's rays - know how shadows are</li> </ul>	<p><b>Forces</b></p> <ul style="list-style-type: none"> <li>Explore how different methods of transport move – what forces are acting on them?</li> <li>Which forms of transport work on pushes and which ones on pulls?</li> <li>Investigate magnets and explore how magnetic levitation trains work.</li> <li>Know that some forces need contact between two objects, but magnetic forces can act at a distance</li> <li>Observe how magnets attract or repel each other and attract some materials and not others</li> <li>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</li> <li>Describe magnets as having two poles</li> <li>Predict whether two magnets will attract or repel</li> </ul>	<p><b>Animals and evolution</b></p> <ul style="list-style-type: none"> <li>Identify the similarities and differences between creatures and plants that live in seas, rivers and lakes.</li> <li>Classify these creatures into mammals, amphibians, fish and micro-organisms and explain their classification.</li> <li>Understand and compare the life cycles of some of these creatures.</li> <li>Identify how some of these creatures may have changed over time e.g the development of flippers from feet and how this is seen as adapting to their environments.</li> <li>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> </ul>



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<p>formed when the sun light is blocked by solid objects</p> <p><b>Seasonal Changes</b></p> <ul style="list-style-type: none"> <li>Investigate why people go on beach holidays in the summer.</li> <li>Explore seasonal changes and why they happen.</li> </ul>	<p>each other, depending on which poles are facing.</p> <ul style="list-style-type: none"> <li>Look at wind force – hot air balloons</li> </ul>	<ul style="list-style-type: none"> <li>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</li> <li>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution</li> </ul> <p><b>States of matter</b></p> <ul style="list-style-type: none"> <li>Understand that water from the sea, rivers and lakes often contain minerals.</li> <li>Understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</li> <li>Understand that salt dissolves in water and find out how to recover dissolved salt through evaporation – know that this is a reversible change.</li> <li>Explore how gold prospectors would pan gold in rivers, using sieving / filtration.</li> </ul>
 <p><b>Memory Box</b> Cycle 2 Autumn Term</p>	 <p><b>Crime and Punishment</b> Cycle 2 Autumn Term</p>	 <p><b>The Mayans</b> Cycle 2 Autumn Term</p>
<p><b>Plants</b></p> <ul style="list-style-type: none"> <li>Identify common plants that can be found around the school grounds and in the village</li> <li>Compare the plants that grow in the different areas.</li> <li>Communicate with schools from different environments and compare plant life.</li> <li>Know which trees are deciduous and which are evergreen.</li> <li>Label the different parts of the tree.</li> <li>Collect seeds from e.g chestnut trees, oak trees and explore what they are and how they produce new trees if planted.</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>Explore the materials different toys are made of</li> <li>Understand how the materials toys are made of</li> </ul>	<p><b>Sound</b></p> <ul style="list-style-type: none"> <li>Identify how sounds are made, associating some of them with something vibrating</li> <li>Explore how sirens and alarms are used against crime</li> <li>Investigate how sounds are made, identifying how vibrations are made.</li> <li>Understand how the pitch of a sound is related to the features of the object that made it</li> <li>Explore how the strength of vibrations impact on the volume of the sound</li> </ul> <p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>Understand how electricity is used in crime prevention (alarms etc)</li> <li>Identify common appliances that run on electricity</li> <li>Construct a simple series electrical circuit,</li> </ul>	<p><b>The Earth in Space</b></p> <ul style="list-style-type: none"> <li>What beliefs did the Mayans regarding astronomy?</li> <li>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system</li> <li>Describe the Sun, Earth and Moon as approximately spherical bodies</li> <li>Use the idea of the Earth's rotation to explain day and night.</li> </ul> <p><b>Light</b></p> <ul style="list-style-type: none"> <li>Explore the Mayans' relationship with the sun and how they built their ziggurats as a result.</li> <li>Understand that light travels in straight lines and how shadows are shaped like the object blocking the light.</li> <li>Experiment with reflecting and re-directing light</li> </ul>



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<p>have changed over time and why – which materials are man-made and which are natural.</p> <ul style="list-style-type: none"> <li>• Describe the properties of materials, exploring why certain materials are chosen to make certain toys.</li> <li>• Identify which materials can be changed by stretching, bending etc</li> </ul>	<p>identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</li> <li>• Recognise some common conductors and insulators, and associate metals with being good conductors.</li> </ul> <p>Construct a burglar alarm using lights and/or buzzers.</p>	<ul style="list-style-type: none"> <li>• Investigate how objects reflect light which is captured by the eye.</li> </ul> <p><b>Animals, including humans</b></p> <ul style="list-style-type: none"> <li>• Explore Mayan sacrificial rite and how part of this was to remove the heart.</li> <li>• Explore the importance of the heart and the circulatory system in humans and explain how it works.</li> <li>• Know the main elements of the circulatory system and how it transports food and water around the body.</li> </ul>
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 <p><b>Pioneers</b> Cycle 2 Spring Term</p>	 <p><b>What a Wonderful World</b> Cycle 2 Spring Term</p> 	 <p><b>Rule Britannia</b> Cycle 2 Spring Term</p>
<p><b>Plants</b></p> <ul style="list-style-type: none"> <li>• Ask the question 'How could astronauts grow plants in space?'</li> <li>• Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> <li>• Observe and describe how seeds and bulbs grow into mature plants</li> <li>• Plant seeds (runner beans) to watch how they grow in different conditions</li> <li>• Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.</li> <li>• Look at flowering plants and draw and label them, identifying the main parts of the plant.</li> </ul>	<p><b>Animals and their habitats</b></p> <ul style="list-style-type: none"> <li>• Identify plants and animals that live in the contrasting environments of the Arctic regions and deserts.</li> <li>• Compare these living things in terms of identifiable features, habitats, food sources etc.</li> <li>• Use classification keys to identify where they live</li> <li>• Identify the dangers some of these living things face due to changes in their environments.</li> <li>• Explore how animals from polar regions and deserts survive, identifying their food sources</li> <li>• Construct and interpret a variety of food chains, identifying producers, predators and prey.</li> </ul> <p><b>Plants</b></p> <ul style="list-style-type: none"> <li>• Explore plants used as foods from around the world and identify the part of the plant that is eaten (root, leaf, stem, seeds, flower etc).</li> <li>• Find out how some of these plants are grown around the world and the conditions they need to grow well – compare rice fields with corn fields</li> </ul>	<p><b>Forces</b></p> <ul style="list-style-type: none"> <li>• Acknowledging that the Vikings travelled to Britain by boat, identify the effects of air resistance, water resistance and friction, that act between moving surfaces (explore the long-boat and keel)</li> <li>• Vikings would use pulleys to move their boats across land - understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.</li> </ul> <p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Explore the materials available to the Vikings and compare and group together based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</li> </ul> <p>Explore electrical charge through the legend of Thor Explore magnetism through the Viking invention of the magnetic compass</p>



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	<p>etc.</p> <ul style="list-style-type: none"> <li>Understand the plants' need for water and find out how the plant transports water within it.</li> </ul>	
 <p><b>Dragons, Castles and Kings</b> Cycle 2 Summer Term</p>	 <p><b>Romans</b> Cycle 2 Summer Term</p>	 <p><b>Disaster</b> Cycle 2 Summer Term</p>
<p><b>Animals, including humans</b></p> <ul style="list-style-type: none"> <li>Explore whether dragons have ever lived</li> <li>Find out where dragons are supposed to have lived and explain why – how does their environment meet their needs – shelter, safety, isolation, food?</li> <li>Find out how a knight would have stayed healthy – look at diet, exercise etc.</li> <li>Understand the importance of a balanced diet, exercise and hygiene.</li> <li>What do all humans need in order to grow healthily?</li> <li>Look at how a knight would be protected – what parts of the body has particular armour – label the parts of the body.</li> <li>Compare the anatomy of a human with that of a dragon</li> </ul> <p><b>Sound</b></p> <ul style="list-style-type: none"> <li>Explore how dragons would communicate and how their sound would travel.</li> <li>Know that animals hear with their ears and compare those of a dragon with those of a human.</li> <li>Investigate sounds to discover that they get fainter as the distance from the source of sound increases</li> <li>Explore how echoes are made in caves and mountains.</li> </ul>	<p><b>Animals, including humans</b></p> <ul style="list-style-type: none"> <li>Through the study of the Roman way of life, identify that humans need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat – find out what the Romans ate and how they sourced their food.</li> <li>Understanding that humans need food to survive, find out about the simple functions of the basic parts of the digestive system.</li> <li>Identify the different types of teeth in humans and their simple function - how they relate to the food we eat.</li> <li>Find out about Gladiators / Centurions and how they protected their bodies from harm in battle.</li> <li>Identify that humans have skeletons and muscles for support, protection and movement.</li> <li>Look at some of the animals the Romans kept for sport and compare the anatomy of some of these animals, looking particularly at bone structure and muscle development – compare with those of a human.</li> </ul>	<p><b>Forces</b></p> <ul style="list-style-type: none"> <li>Understand gravity by looking at natural disasters (e.g meteorites hitting the Earth).</li> <li>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</li> <li>Explore the forces that are acted upon the Earth during Volcanic eruption, earthquakes, Tsunamis etc.</li> </ul> <p><b>States of Matter</b></p> <ul style="list-style-type: none"> <li>Explain how volcanic eruption can result in the formation of new materials, and that this kind of change is not usually reversible</li> <li>Make erupting volcanoes and explain what happens when acid and bicarbonate of soda mix.</li> <li>Explore violent storms and electrical charge.</li> <li>Discover which materials conduct electricity and which do not</li> </ul> <p><b>Electricity</b></p> <ul style="list-style-type: none"> <li>Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit</li> <li>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</li> <li>Use recognised symbols when representing a simple circuit in a diagram.</li> </ul>