

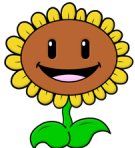












Year 1 Science Curriculum at Upton Heath

	Autumn Term		Spring Term		Summer Term		
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
Overview	Animals, including humans 		Everyday Materials 		Plants (summer 1+2) 		Seasons (taught throughout year *) 
Suggested Content	<p><i>Understand the parts of the body</i></p> <p><i>Associate parts of the body with different senses</i></p> <p><i>Explore the sense of touch using different parts of the body</i></p> <p><i>Make close observations of facial features</i></p> <p><i>Compare different parts of the body both between people and over time</i></p>		<p><i>Identify between an object and how it is made</i></p> <p><i>Name a variety of everyday materials including plastic, wood, metal, glass, water and rock</i></p> <p><i>Understand which materials can be recycled ⁽³⁾</i></p> <p><i>Consider and experiment with materials for creating an umbrella</i></p> <p><i>Identify and name materials based on their properties</i></p> <p><i>Describe how shaving foam changes over time</i></p>		<p><i>Examine seeds in an apple</i></p> <p><i>Visit and examine a variety of local trees over time</i></p> <p><i>Find weeds and examine their roots</i></p> <p><i>Identify and name plants in the school grounds</i></p> <p><i>Note changes in growth of a sunflower</i></p> <p><i>Experiment with different types of compost</i></p> <p><i>Collect and sort leaves</i></p>		<p><i>Compare leaves on the ground and on the trees</i></p> <p><i>Describe leaves and their structure</i></p> <p><i>Use senses to describe a leaf</i></p> <p><i>Compare leaf loss and tree size</i></p> <p><i>Measure rainfall at different points in the year ⁽⁵⁾</i></p> <p><i>Describe weather over a short period of time</i></p> <p><i>Describe weather in different the seasons ⁽⁴⁾</i></p> <p><i>Observe how day length varies</i></p> <p><i>Understand why animals hibernate</i></p> <p><i>*unit runs throughout the year</i></p>
Observing over time	How does my height change over the year? ⁽¹⁾		What happens to shaving foam over time?		How does my sunflower change each week?		
Pattern seeking					Is there a pattern in where we find weeds growing in the school grounds?		
Research			Which materials can be recycled?				
Identifying & classifying	How can we organise all the zoo animals?		Making an umbrella – which materials are waterproof?		How can we sort the leaves that we collected on our walk?		
Comparative tests	Is our sense of smell better when we can't see?		Which materials are the most absorbent?		Which type of compost grows the tallest sunflower?		






Year 2

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview	Animals, including humans 	Living Things and their Habitats 	Uses of Everyday Materials 			Plants 
Suggested Content	<p>Sort and classify different types of food</p> <p>Design a meal based on knowledge of healthy eating</p> <p>Choose a physical activity and evaluate the impact on their bodies</p> <p>Understand the importance of hygiene for humans⁽²⁾</p> <p>Investigate and how germs spread through contact</p> <p>Write a set of instructions for how to wash your hands</p> <p>Match animals to their offspring⁽⁴⁾</p> <p>Human life cycle</p> <p>Observe tadpoles as they grow⁽¹⁾</p>	<p>Explore and compare the difference between living and dead things⁽⁴⁾</p> <p>Identify things that have never lived</p> <p>Take a survey to compare animals in two habitats⁽²⁾</p> <p>Research to compare two different habitats⁽³⁾</p> <p>Describe the features of a habitat that are suitable for woodlouse growth⁽¹⁾</p> <p>Create a simple food chain</p>	<p>Examine and investigate different materials</p> <p>Describe the properties of everyday materials</p> <p>Identify and describe the suitability of everyday materials for particular uses</p> <p>Explore how paper changes when left in water⁽¹⁾</p> <p>Investigate how materials can be shaped</p>	<p>Observe how plants grow from a seed/bulb into a plant⁽¹⁾</p> <p>Know that plants need water to survive</p> <p>Know plants need light to survive⁽⁵⁾</p> <p>Know plants need a suitable temperature to survive⁽⁵⁾</p> <p>Compare the growth of different sized seeds⁽²⁾</p>		
Observing over time	How does a tadpole change over time? ⁽¹⁾		Would a paper boat float forever? ⁽¹⁾		What happens to my bean after I have planted it? ⁽¹⁾	
Pattern seeking	Can people with bigger hands pick up more?	What conditions do woodlice prefer to live in? ⁽¹⁾			Do bigger seeds grow into bigger plants? ⁽²⁾	
Research		How does the habitat of the artic compare to the habitat of the rainforest? ⁽³⁾	How are plastics made? ⁽³⁾		How can we identify the trees that we observed on our tree hunt? ⁽³⁾	
Identifying & classifying	Which offspring belongs to which animal? ⁽⁴⁾	How would you group things to show which are living, dead or have never been alive? ⁽⁴⁾	Which materials are shiny and which are dull?			
Comparative tests			Which materials are waterproof? ⁽⁵⁾		Do cress seeds grow quicker inside or outside? ⁽⁵⁾	






Year 3

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview	Animals, including humans 	Rocks 	Forces and Magnets 		Plants 	Light 
Suggested Content	<p>Examine the structure of a skeleton ⁽²⁾</p> <p>Describe the functions of a skeleton</p> <p>Examine how skeletons vary between animals ⁽⁴⁾</p> <p>Describe how muscles and bones work together</p> <p>Compare strengths of muscles ⁽⁶⁾</p> <p>Investigate voluntary and involuntary muscles</p> <p>Learn how to care for our bones</p>	<p>Understand what rocks are and how they can be classified</p> <p>Examine how rocks change ⁽¹⁾</p> <p>Understand what fossils are and the legacy of Mary Anning ⁽³⁾</p> <p>Classify fossils by type</p> <p>Explain how fossils are formed</p> <p>Examine different types of soils and understand what it is made up of</p> <p>Examine absorption of different types of soil ⁽⁵⁾ ⁽⁶⁾</p>	<p>Examine which types of objects are magnetic ⁽⁴⁾</p> <p>Undertake experiments to measure the strengths of different magnets ⁽²⁾ ⁽⁵⁾</p> <p>Understand how one magnet reacts to another</p> <p>Create a temporary magnet ⁽¹⁾</p> <p>Find out how magnets are used in real-life situations</p>		<p>Understand what a plant needs for growth ⁽⁵⁾</p> <p>Describe the function of roots ⁽¹⁾</p> <p>Describe the function of the stem ⁽⁶⁾</p> <p>Describe the function of leaves</p> <p>Describe the function of flowers</p> <p>Understand the life cycle of a plant</p> <p>Compare how plants disperse their seeds ⁽³⁾</p>	<p>Examine different sources of light ⁽³⁾</p> <p>Examine how light changes in our classroom over time ^(1a) ^(1b)</p> <p>Understand how light allows us to see different objects</p> <p>Experiment with how light travels through different materials</p> <p>Vary the position, shape and size of a shadow ⁽⁶⁾</p> <p>Understand the dangers of light and how you can protect yourself from them</p> <p>Examine different types of mirrors</p>
Observing over time	investigation to effect of sugary drinks on teeth ⁽¹⁾	How does tumbling change a rock over time? ⁽¹⁾			What happens to celery when it is left in a glass of coloured water? ⁽¹⁾	When is our classroom the darkest? ^(1a)
Pattern seeking	Can people with longer femurs jump further?			Does the size and shape of a magnet affect how strong it is? ⁽²⁾		
Research	How much sugar is in my drink?			Who was Mary Anning and what did she discover? ⁽³⁾	What are all the different ways that seeds disperse? ⁽³⁾	How does the Sun make light? ⁽³⁾
Identifying & classifying	How Can we group the food that we eat?	Can you use an identical key to find the name of each rock in your collection?		Which materials are magnetic? ⁽⁴⁾		How would you sort these light sources into natural and artificial?
Comparative tests		Which soil absorbs the most water? ⁽⁵⁾		Which magnet is the strongest? ⁽⁵⁾	Which conditions help seeds germinate faster? ⁽⁵⁾	
Fair Tests		How does adding different amounts of sand to soil affect how quickly water drains through it? ⁽⁶⁾			How does the length of the carnation stem affect how long it takes for the food colouring to dye the petals? ⁽⁶⁾	How does the distance between the shadow puppet and the screen affect the size of the shadow? ⁽⁶⁾




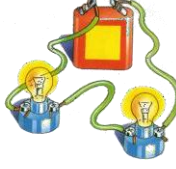

Year 4

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview	Living Things and their Habitats 	Animals, including humans 	States of Matter 		Electricity 	Sound 
Suggested Content	<p>Recognise different ways animals can be grouped</p> <p>Classify animals using classification keys⁽⁴⁾</p> <p>Add animals to a classification key⁽³⁾</p>	<p>Identify types of teeth in humans^(4b)</p> <p>Describe the functions of different teeth types</p> <p>Compare teeth between carnivores and herbivores</p> <p>Examine tooth decay⁽¹⁾</p> <p>Describe how teeth should be cared for⁽³⁾</p> <p>Understand the purpose of the digestive system</p> <p>Describe the functions of the parts of the digestive system^(4a)</p> <p>Examine and describe a food chain Construct a food chain using provided information</p>	<p>Examine features of the three states of matter</p> <p>Classify materials and objects by state of matter</p> <p>Investigate how quickly solids melt⁽²⁾</p> <p>Find out if all liquids freeze at the same temperature⁽⁵⁾</p> <p>Investigate evaporation pace⁽⁶⁾⁽¹⁾</p> <p>Understand condensation</p> <p>Examine how water changes state in nature</p>		<p>Identify and group appliances that run on electricity⁽⁴⁾</p> <p>Construct simple series cells using common electrical parts</p> <p>Identify whether a lamp will light in a circuit</p> <p>Investigate whether materials are conductors or insulators or electricity⁽⁵⁾</p> <p>Examine the thickness of a conductor on the brightness of a bulb⁽⁶⁾</p> <p>Investigate battery life⁽¹⁾</p>	<p>Investigate the volume of sound at different points in the day⁽¹⁾</p> <p>Explore how sounds are made by vibrations</p> <p>Explore how sounds travel through different objects⁽⁵⁾</p> <p>Investigate how sounds change with distance from the source^(6a)</p> <p>Find patterns between the volume of a sound and the strength of the vibrations it produces</p> <p>Explore how the pitch of an object can be changed^(6b)</p>
Observing over time		How does an egg shell change when it is left in cola? ⁽¹⁾	How does the level of water in a glass change when left on the windowsill? ⁽¹⁾		How long does a battery light a torch for? ⁽¹⁾	When is our classroom the quietest? ⁽¹⁾
Pattern seeking			Is there a pattern in how long it takes different sized ice lollies to melt? ⁽²⁾			Is there a link between how loud it is in school and the time of day?
Research	Can we find other animals to add complexity to our classification key? ⁽³⁾	How do dentists fix broken teeth? ⁽³⁾				
Identifying & classifying	identifying native and non-native animals	What are the names for all the organs involved in the digestive system? ^(4a) How can we organise our teeth into groups? ^(4b)			How would you group these electrical devices based on where the electricity comes from? ⁽⁴⁾	
Comparative tests			Do all liquids freeze at the same temperature? ⁽⁵⁾		Which material is the best conductor of electricity? ⁽⁵⁾	Which material is best to use for muffling sound in ear defenders? ⁽⁵⁾
Fair Tests			How does the surface area of a container of water affect how long it takes to evaporate? ⁽⁶⁾		How does the thickness of a conducting material affect how bright the lamp is? ⁽⁶⁾	How does the volume of a drum change as you move further away from it? ^(6a) How does the length of a guitar string/tuning fork affect the pitch of the sound? ^(6b)

Year 5

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview	Animals, including humans 	Forces 	Earth and Space 	Properties and Changes of Materials 	Living Things and their Habitats 	
Suggested Content	<p>Identify all stages in the human life cycle ⁽⁴⁾</p> <p>Understand changes which happen during adolescence</p> <p>Compare growth by both age and gender ⁽²⁾ ⁽⁵⁾</p> <p>Describe changes that happen as humans develop to old age</p> <p>Investigate how age affects a human's reaction time ⁽⁶⁾</p> <p>Examine gestation in a variety of animals</p>	<p>Understand what a force is and how it can affect an object</p> <p>Investigate friction caused by different materials</p> <p>Investigate whether the mass of an object affects how quickly it falls to the ground</p> <p>Explore the effects of air resistance ⁽⁵⁾</p> <p>Understand the effects of water resistance and up-thrust ⁽²⁾⁽⁶⁾</p> <p>Explain how simple levers work</p>	<p>Describe the movements of the planets in the solar system</p> <p>Compare key features of the planets in the solar system ⁽²⁾</p> <p>Describe how our knowledge of the solar system has changed over time ⁽³⁾</p> <p>Explain why day and night occur</p> <p>Investigate how shadows change throughout the day</p> <p>Identify and order the phases in the cycle of the moon ⁽⁴⁾</p>	<p>Consolidate our knowledge of state of matter</p> <p>Classify materials based on their conductivity</p> <p>Understand and explain how simple solutions are made</p> <p>Investigate how the temperature of water affects how much sugar can be dissolved? ⁽⁶⁾</p> <p>Investigate which type of sugar dissolves the fastest ⁽⁵⁾</p> <p>Examine how a container of salt changes over time ^(1a)</p> <p>Utilise evaporation as a method for separation of a solution</p> <p>Make informed decisions about how to separate solutions and mixtures</p> <p>Understand that some changed can be reversed whilst others cannot</p>	<p>Research about a famous naturalist ⁽³⁾</p> <p>Order the life cycle of a house fly</p> <p>Seek patterns in life cycles of different animals ⁽⁴⁾</p> <p>Classify and group animals based on their life cycles</p> <p>Grow plants from parts of a parent plant ⁽¹⁾</p> <p>-Investigate the impact of a habitat on the hatching of brine shrimp ⁽⁶⁾</p>	
Observing over time			How does shadow length change over the day? ⁽¹⁾		How does a container of saltwater change over time? ^(1a)	How does a bean change as it germinates? ⁽¹⁾
Pattern seeking	Is there a pattern between a mammals size and its gestation period?		Is there a pattern between the size of a planet and the time it takes to travel around the sun? ⁽²⁾			
Research			Who were Galileo Galilei and Isaac Newton?			Can you explain the work of David Attenborough? ⁽³⁾
Identifying & classifying	What are the differences between the life cycle of an insect and a mammal? ⁽⁴⁾	Can you label and name all the forces acting on the objects in each of these situations? ⁽⁴⁾	Can you observe and identify all the phases in the cycle of the moon? ⁽⁴⁾			Can you identify all the stages in the human life cycle? ⁽⁴⁾
Comparative tests		Which shape parachute takes the longest to fall? ⁽⁵⁾	How does the length of daylight hours change in each season? ^()		Which type of sugar dissolves the fastest? ⁽⁵⁾	
Fair Tests	How does age affect a human's reaction time?	How does the surface area of a container affect the time it takes to sink? ⁽⁶⁾			How does the temperature of tea affect how long it takes for a sugar cube to dissolve? ⁽⁶⁾	

Year 6

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Overview	Light 	Animals, including humans 	Living things and their habitats 		Electricity 	Evolution and Inheritance 
Suggested Content	<p>Examine brightness over the day in different locations ⁽²⁾</p> <p>Explore the reflectiveness of materials ⁽⁴⁾</p> <p>Understand that light travels in straight lines Predict light direction using mirrors ⁽⁶⁾</p> <p>Investigate shadow length and understand how shadow size can be altered</p> <p>Explore the shapes of shadows of different objects</p> <p>Experiment with light refraction ⁽⁴⁾</p>	<p>Describe the respiratory system ⁽⁶⁾</p> <p>Understand the impact of smoking on the lungs</p> <p>Describe the circulatory system ⁽⁴⁾</p> <p>Describe how the heart pumps blood around the body ⁽¹⁾</p> <p>Examine the effects of exercise on the pulse ⁽⁵⁾</p> <p>Explain the impact of a poor diet on the circulatory system</p>			<p>Understand how static electricity is created</p> <p>Investigate the creation of static electricity</p> <p>Understand how the understanding of electricity developed ⁽³⁾</p> <p>Investigate resistance in bulbs ^{(5a) (6)}</p> <p>Measure amplitude from different energy sources ^(5b)</p>	<p>Understand how animals are adapted to their environment ^(4b)</p> <p>Explain the discoveries of Charles Darwin ^{(3) (4a)}</p> <p>Describe how variations become adaptations ⁽²⁾</p> <p>Describe types of fossils</p> <p>Understand the evidence for evolution</p> <p>Detail the process of fossilisation</p> <p>Explain how selective breeding in animals is utilised</p>
Observing over time		How does my heart rate change over the day? ⁽¹⁾	What happens to a piece of bread if you leave it on the windowsill for two weeks? ⁽¹⁾			
Pattern seeking	Is there a pattern to how bright it is in school over the day? Is it the same in every classroom? ⁽²⁾					Is there a pattern between the size and shape of a bird's beak and the food it will eat? ⁽²⁾
Research			Who was Carl Linnaeus?		How has our understanding of electricity changed over time? ⁽³⁾	What happened when Charles Darwin visited the Galapagos islands? ⁽³⁾
Identifying & classifying	Can you identify all the colours of light that make white light when mixed together? What colours do you get if you mix different colours of light together? ⁽⁴⁾	Which organs of the body make up the circulatory system and where are they found? ⁽⁴⁾				Compare the skeletons of apes, humans and Neanderthals ^(4a)
Comparative tests	Which material is most reflective? ⁽⁵⁾	Which types of exercise has the greatest effect on our heart rate? ⁽⁵⁾			Which make of battery lasts the longest? ^(5a)	
Fair Tests	Can shadows change shape?	How does the length of time we exercise effect our heart rate?			How does the voltage of the batteries in a circuit affect the brightness of the lamp? ⁽⁶⁾	