

	Living Things & their Habitat	States of Matter	Electricity	Sound	Animals (including humans)
 Yr 4	<p>Local Habitats Topic Link- The Romans</p> <ul style="list-style-type: none"> Identify and name a variety of living things (plants and animals) in the local and wider environment and group them Recognise that environments can change and can pose dangers <p>Key outcomes for this unit, children to be able to:</p> <ul style="list-style-type: none"> Recognise that living things can be grouped in a variety of ways Biology 4.1.1 Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Biology 4.1.2 Recognise that environments can change and that this can sometimes pose dangers to living things. Biology 4.2.1 <p>WOW: Build a bug hotel in forest school</p> <p>Key Learning Points:</p> <ul style="list-style-type: none"> Which wild flowers will we find within a Km of our school? How would Georgia O’Keefe have painted these flowers? Would dinosaurs have roamed around your locality in the past? Why did dinosaurs die out? Why are there large wild animals like the tiger in danger of extinction today? Which birds can we see out of our classroom window? Reflection: Can you create a documentary about saving a species of your choice and to encourage more birds to visit our school? 	<p>Matter Maters Topic Link- The Thames</p> <ul style="list-style-type: none"> Solids, Liquids and Gases Heating and cooling (no baking, etc.) Evaporation and condensation <p>Key outcomes for this unit, children to be able to:</p> <ul style="list-style-type: none"> Compare and group materials together, according to whether they are solids, liquids or gases Chemistry 4.2.1 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) Chemistry 4.4.2 Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Chemistry 4.4.1 <p>WOW: Create different shapes with clay or plasticine and put water into the mould and freeze it.</p> <p>Key Learning Points:</p> <ul style="list-style-type: none"> How can you classify solids, liquids and gases? How do we measure temperature and how does temperature vary during the day and across the world? How can water be a solid, liquid and gas? Which other materials change when they are heated or cooled? Where do puddles on the playground disappear to? Why do windows sometimes steam up? How can you create a dance that shows the three states of water? 	<p>Electricity Topic Link- London</p> <ul style="list-style-type: none"> Identify common appliances Construct simple circuits including switches Common conductors and insulators Alternative sources of energy <p>Key outcomes for this unit, children to be able to:</p> <ul style="list-style-type: none"> identify common appliances that run on electricity. Physics 4.1 construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers Physics 4.4.2 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 Physics 4.4.4 recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Physics 4.4.5 recognise some common conductors and insulators, and associate metals with being good conductors. Physics 4.4.3 <p>WOW: Children to spend a full day without access to electricity. This to be organised and liaised with home.</p> <p>Key Learning Points:</p> <ul style="list-style-type: none"> Why have we become so dependent on electricity? How can you create an electrical circuit that has a switch or a buzzer? What are conductors and insulators and how are they associated with electricity? 	<p>Sounds Like a Racket! Topic Link- Laws and Lawmakers</p> <ul style="list-style-type: none"> Sources Vibration Loud and faint Pitch Volume Sound travelling <p>Key outcomes for this unit, children to be able to:</p> <ul style="list-style-type: none"> identify how sounds are made, associating some of them with something vibrating. Physics 4.3.1 recognise that vibrations from sounds travel through a medium to the ear. Physics 4.3.2 find patterns between the pitch of a sound and features of the object that produced it. Physics 4.3.4 find patterns between the volume of a sound and the strength of the vibrations that produced it. Physics 4.3.5 recognise that sounds get fainter as the distance from the sound source increases. Physics 4.3.3 <p>WOW: Listen to a range of different music: rock, classical and opera and discuss likes and dislikes</p> <p>Key Learning Points:</p> <ul style="list-style-type: none"> What caused that ‘racket’? How do your ears work? What do we mean by the pitch and volume of the sound? Does sound have the same intensity the further away you go from the source? Could you be the next X Factor star? What do we know about the way telephones work and how have they changed over time? Reflection: A performance in the style of an X Factor talent show 	<p>All Things Food Topic Link- The Normans</p> <ul style="list-style-type: none"> Digestive System Teeth Food chains Predators and prey <p>Key outcomes for this unit, children to be able to:</p> <ul style="list-style-type: none"> describe the simple functions of the basic parts of the digestive system in human.s Biology 4.5.1 identify the different types of teeth in humans and their simple functions. Biology 4.5.2 construct and interpret a variety of food chains, identifying producers, predators and prey. Biology 4.5.3 <p>Wow: Children to eat a piece of fruit at the beginning of the day with a view to tracking its journey through the body. Use disclosing tablets to show how teeth are affected by food and plaque.</p> <p>Key Learning Points:</p> <ul style="list-style-type: none"> What happens to that piece of fruit once you swallow it? Why would it not be sensible to eat a burger every day? What is the digestive system and why is it so important? How can you make a simple model, using junk material, to show how the digestive system works? What are the different functions of human teeth Why is it important to brush your teeth each day? Why are shark’s teeth different to our teeth? What do the natural food chains look like in our locality? Reflection: How can you make a presentation that would help a group of younger understand a simple food chain?

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	<p>Key Skills Children to:</p> <ul style="list-style-type: none"> Take measurements using different equipment and units of measure and record what they have found in a range of ways. Make accurate measurements using standard units. Explain their findings in different ways (display, presentation, and writing). Find any patterns in their evidence or measurements. Make a prediction based on something they have found out. Record and present what they have found using scientific language, drawings, labeled diagrams, bar charts and tables. Use a classification key to group a variety of living things (plants, vertebrates, invertebrates) Compare the classification of common plants and animals to living things found in other places.(under the sea, prehistoric) Name and group a variety of living things based on feeding patterns. (producer, consumer, predator, prey, herbivore, carnivore, omnivore) <p>Challenge</p> <ul style="list-style-type: none"> Use a graph or diagram to answer scientific questions. 	<ul style="list-style-type: none"> Reflection: Can you put together a presentation to show how water is our life line? <p>Key Skills Children to:</p> <ul style="list-style-type: none"> Set up a simple fair test to make comparisons. Plan a fair test and isolate variables and explain why it was fair and explain which variables have been isolated. Suggest improvements and predictions. Decide which information needs to be collected and decide which is the best way for collecting it. Use their findings to draw a simple conclusion. Compare and group materials based on their states of matter, ie, liquid, solid or gas. Explain what happens to materials when they are heated or cooled. Measure the temperature at which different materials change state. Use measurements to explain changes to the state of water. Link changes of state to the water cycle. <p>Challenge</p> <ul style="list-style-type: none"> Explain what happens over time to materials such as puddles on the playground or washing hanging on a line. 	<ul style="list-style-type: none"> What! no TV or play-station!: what shall we do? Could you create a meal that has not required electricity to prepare it? How is electricity generated and what do we mean by alternative sources? Reflection: Working as a team, can you put together a presentation which tells us about electricity? <p>Key Skills Children to:</p> <ul style="list-style-type: none"> Set up a simple fair test to make comparisons. Plan a fair test and isolate variables and explain why it was fair and explain which variables have been isolated. Suggest improvements and predictions. Decide which information needs to be collected and decide which is the best way for collecting it. Use their findings to draw a simple conclusion. Explain how electricity is useful to us. Construct a simple circuit. Explain what a conductor is and test materials for conductivity. Explain closed and open circuits. Construct a circuit with a switch. Recognise some common conductors and insulators. <p>Challenge</p> <ul style="list-style-type: none"> Work out which metals can be used to connect across a gap in a circuit. 	<p>but with a strong emphasis on why some may prefer one source of music as opposed to another.</p> <p>Key Skills Children to:</p> <ul style="list-style-type: none"> Take measurements using different equipment and units of measure and record what they have found in a range of ways. Make accurate measurements using standard units. Explain their findings in different ways (display, presentation, writing). Find any patterns in their evidence or measurements. Make a prediction based on something they have found out. Record and present what they have found using scientific language, drawings, labeled diagrams, bar charts, keys and tables. Describe a range of sounds and explain how they are made. Compare sources of sound and explain how the sounds differ. Explain how to change a sound (louder/softer). Describe and explain how a sound travels from a source to our ears. Explain what happens to sound as it travels away from its source. Explain how you could change the pitch of a sound. Investigate how different materials can affect the pitch and volume of sounds. <p>Challenge</p> <ul style="list-style-type: none"> Explain how pitch and volume can be changed in a variety of ways. 	<p>Key Skills Children to:</p> <ul style="list-style-type: none"> Explain their findings in different ways (display, presentation, writing) Make a prediction based on something they have found out. Identify the teeth of herbivores and carnivores. Identify the simple function of different types of human teeth. Record and present what they have found using scientific language, drawings, labeled diagrams, bar charts and tables. <p>Challenge</p> <ul style="list-style-type: none"> Report findings from investigations through written explanations and conclusions.
	Trips and Experiences	Trips and Experiences	Trips and Experiences	Trips and Experiences	Trips and Experiences
	Visit to natural history museum in Oxford	Visit to Cadbury World- journey of Chocolate Think Tank	Science Museum Camping on school Field- no use of electricity (sleep under the stars)	Visit to a radio station or recording studio Visiting musician Trip to Symphony Hall-	Life caravan

RHJS – Y4 Science Curriculum Overview

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	Other ideas for trips and experiences	Other ideas for trips and experiences	Other ideas for trips and experiences	Other ideas for trips and experiences	Other ideas for trips and experiences
	Children to create an animal suited to an environment – Tinga Tinga tales				Villa Vitality, Visit from local dentist Look at x-rays of teeth Camera to show journey of food