



	Autumn One Rumble in the Jungle Living things and their Habitats Year 4 planning Plymouth Science	Autumn Two Rock N Roll Rocks Year 3 Plymouth Science	Spring One Come Dine with Me Animals including Humans Year 4 Plymouth Science	Spring Two I Want My Mummy Sound Year 4 Plymouth Science	Summer One Light it Up! Electricity Year 4 Plymouth Science	Summer Two Time Travellers Changing State Year 4 Plymouth Science
Big Concepts	Living Things.	Rocks and Soils	Animals including Humans	Sound	Electricity	States of Matter
Scientific Enquiry ✨	<ul style="list-style-type: none"> Observe characteristics of living things Identify similarities and differences in characteristics. To gather and record data in a table I can record observations from Scientific enquiry. I can ask relevant questions to classify things I can use evidence to answer questions and present findings. Record findings about endangered species 	<ul style="list-style-type: none"> Compare and group materials based on their properties. Classify rocks based on their properties. Carry out comparative tests to rank rock properties. Research and learn about Mary Anning. Use research and models to help demonstrate my learning. I can make careful and systematic observations over time. 	<ul style="list-style-type: none"> Observe the similarities and differences in human/animal teeth. Interpret and present learning of digestive system through models. Set up own test to see the effects of different liquids on tooth decay. Make predictions based on scientific knowledge of liquids to decay teeth. I can record my results in a table and bar graph. I can ask questions to find out what animals eat. Evaluate learning 	<ul style="list-style-type: none"> I can observe vibrations which cause sound. Measure distance to nearest cm. Set up tests to create the best string phone. Record results in a table and spot patterns. Record sound measured in DB in a table. Produce line graph. Evaluate musical instrument based on sound and knowledge of pitch. Observe how sounds are created. Set up own tests and record results. Set up own tests based on animal ear shapes or this could be asking questions. 	<ul style="list-style-type: none"> Record my work using labelled drawings Make predictions using scientific language Interpret my results using my scientific knowledge Identify the properties of different materials. Pose scientific questions Record how electricity can help us 	<ul style="list-style-type: none"> Make careful observations and Identify similarities and differences. Make predictions using straight forward evidence and observations. Use a thermometer to take accurate measurements. Interpret what I have observed using my own scientific knowledge. Set up tests to answer questions. Record using diagrams what I have found out.
Prior Learning and opportunity for recap and recall	Children will be able to: Identify and name a variety of common wild and garden plants Identify and describe the basic structure of a variety of common flowering plants, including trees. Identify and name a variety of common animals Identify and name a variety of common animals that are carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals Understand the differences between living, dead and never been alive	Children will be able to: Identify and name a variety of everyday materials and describe simple properties of these. Compare and group together a variety of everyday materials based on simple physical properties Understand how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	Children will be able to: Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Describe the importance for humans to exercise, eat the right amounts of different types of food and hygiene	Children will be able to: Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Children will be able to: Identify and name a variety of everyday materials and describe simple properties of these. Compare and group together a variety of everyday materials based on simple physical properties Identify and compare the suitability of a variety of everyday materials for particular uses.	Children will be able to: Understand how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
Core Knowledge	Children identify that animals and plants can be classified in a number of possible ways including vertebrates and invertebrates, flowering and non-flowering plants. Children can ask yes/no characteristic questions to classify a small number of living things. Children can name living things in a range of habitats, giving key features that helped identify them. Children can give examples of how an environment may change both naturally and due to human impact. Children can use classification keys to identify unknown plants and animals.	Name some types of rock and give physical features of each. Explain how a fossil is formed. Explain that soils are made from rocks and also contain living/dead matter Classify rocks in a range of ways using scientific vocabulary. Test properties of rocks. Show understanding of how fossils were formed, Identify plant/animal matter in soil, test water retention of soils.	Sequence the main parts of the digestive system. Draw the main parts of the digestive system onto a human outline. Describe what happens in each part of the digestive system. Point to three different types of teeth in their mouth and talk about what each is used for. Demonstrate journey of food through body. Make a dental record, Explain teeth in animals and if they are carnivores, herbivores or omnivores.	Describe different types of objects producing different sounds and that the sound is produced by vibration in the object. Describe sounds travelling through different mediums such as air, water, metal. Find patterns between pitch and volume and the features of the object producing it. Recognise that sounds get fainter as the distance from the sound source increases. Explain what happens when you strike a drum or pluck a string- use diagrams to show. Demonstrates how to increase/decrease pitch and volume.	Name the components in a circuit. Make an electric circuit. Control a circuit using a switch. Name some metals that are conductors. Name materials that are insulators. Communicate structures of circuits using drawings. Incorporate a switch. Add a circuit with a switch to a DT project and demonstrate how it works. Describe how a switch works.	Create a concept map, including arrows linking the key vocabulary. Name properties of solids, liquids and gases. Give everyday examples of melting and freezing. Give everyday examples of evaporation and condensation. Describe the water cycle. Give reasons to justify why something is a solid liquid or gas. Provide examples of things that melt/freeze and how their melting points vary from their observations, can give the melting points of some materials. Using data, explain what affects how quickly a solid melts. Measure temperatures using a thermometer. Explain why there is condensation on the inside the hot water cup but on the outside of the icy water cup from their data, can explain how to speed up or slow down evaporation.



Thinking like a						
Vocabulary	Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate, fish, amphibian, reptile, bird, mammal, vertebrate, invertebrate, shelter, food, protection.	Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb, water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil.	Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, incisor, canine, herbivore, omnivore.	Sound, source, vibrate, vibration, travel, pitch, volume, faint, loud, insulation.	Electrical, appliance, mains, plug, circuit, component, cell, battery, positive, negative, connect/connectors, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol, voltage, current.	Solid, liquid, gas, state, change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle, matter, air, oxygen, ice, water, water vapour, steam, heated, heat, cooled, cool, temperature, degrees Celsius, melt, melting point, freeze, freezing point, solidify, boil, boiling point, evaporate, evaporation, condense, condensation, precipitation, infiltration.
Lesson 1	I can group living things in a variety of ways. I can observe the features of living things. I can identify different animals and classify them into different groups.	I can compare and group together different kinds of rocks based on their appearance and simple physical properties. I can make careful observations and identify similarities and differences. I can compare and group materials together depending on their properties.	I can describe the simple functions of the digestive system in humans I can interpret my model to demonstrate how the digestive system works. I can identify organs in digestive system	To identify how sounds are made, associating some of them with something vibrating. I can observe vibrations which cause sound. We are identifying how sounds are made	I can identify common appliances that run on electricity. I can record my work using labelled drawings. I can identify electrical components and classify electrical appliances.	I can compare and group materials together according to their properties solid, liquid and gas. I can make careful observations and identify similarities and differences. I can compare and group materials depending on their properties.
Lesson 2	I can explore and use classification keys to help group. I can identify similarities and differences in human characteristics. I can identify and classify based on human characteristics.	I can compare and group together different kinds of rocks based on their appearance and simple physical properties. I can record my classifications in a table, Venn diagram or Carroll diagram. I can classify rocks using their properties	I can identify different teeth in humans and name their functions. I can record my findings using a <u>labelled diagram</u> I can identify the different teeth in the human body and know their function.	Recognise that vibrations from sounds travel through a medium to the ear. - Recognise that sounds get fainter as the distance from the sound source increases. I can set up tests to create the best string phone I can plan a fair test.	I can 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 I can make predictions using scientific language I can identify patterns in my observations.	I can compare and group materials together according to their properties solid, liquid and gas. I can make predictions using straightforward evidence and observations. I can look for patterns in my observations.
Lesson 3	I can identify and name a variety of living things in the environment. I can gather, record and classify data. I can identify patterns by finding and identifying mini beast habitats.	I can compare and group together different kinds of rocks based on their appearance and simple physical properties. I can record my results in a table and rank my rocks to answer enquiries. I can sort and classify materials into magnetic and non-magnetic.	I know how to keep my teeth healthy I can record my results in a table I can set up a fair test.	Find patterns between pitch and volume of a sound and features of the object that produced it. I can record my results in a table to spot patterns. I can spot patterns in my results.	I can recognise some common conductors and insulators, and associate metals with being good conductors I can interpret my results using my scientific knowledge. I can conduct a comparative test.	I know that some materials change shape when they are heated or cooled. I can use a thermometer to take accurate measurements (observe closely to nearest degree) I can construct a fair test to investigate melting points.
Lesson 4	I can identify and name a variety of living things in the environment and I can explore classification keys further. I can ask relevant questions. I can identify and classify living things.	To describe in simple terms how fossils are formed when things that have lived are trapped within rock. I can interpret the process of fossilisation using a model and pictures. I can research and learn about significant scientists in history. (Mary Anning)	I can identify and compare teeth of carnivores, herbivores and omnivores. I can observe the shapes of teeth carefully I can research and compare the teeth of carnivores, herbivores and omnivores.	Recognise that sound gets fainter as the distance from the sound source increases I can record my results in a table and a line graph. I can spot patterns in my results to make conclusions.	I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit I can evaluate my switch design I can identify the properties of different materials.	I know that some materials change shape when they are heated or cooled. I can interpret what I have observed using my own scientific knowledge. I can observe over time what happens when a liquid changes to a solid.
Lesson 5	I recognise that environments can change, and this can sometimes pose changes to living things.	To recognise that soils are made from rock and organic matter. I can ask questions to deepen my learning about rock formation	I can construct and interpret a variety of food chains identifying producers, predators and prey by examining animal faeces (poo)	I can find patterns between pitch and volume of a sound and the features of the object that produced it.	I can construct a simple series electrical circuit, identifying and naming its basic parts, including	I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.



	I can use evidence to answer questions. I can use research about endangered animals to show how environments can change.	I use research and models to help demonstrate my learning.	I can observe closely the food each animal eats by examining the animal faeces. I can identify the food each animal eats and classify.	We are observing how sounds are created and feeling the vibrations causing the sound. I can carry out a pattern seeking enquiry.	cells, wires, bulbs, switches and buzzers. I can pose scientific questions. I can find out about different scientists and energy sources.	I can set up tests to answer questions. I can carry out a fair test and identify the change and measure factor,
Lesson 6	I recognise that environments can change and this can sometimes pose changes to living things. I can record my findings from investigations using scientific language. I can research the effects of changing environments on animals.	To recognise that soils are made from rock and organic matter. I can set up tests to answer questions. I can make systematic and careful observations over time.	I can construct and interpret a variety of food chains identifying producers, predators and prey. I can ask questions to find out what each animal eats. I can research what animals eat	I can plan a fair test I can evaluate my test	I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. I can record how electricity has help us. I know how electricity has developed over time.	I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. I can record using diagrams what I know about the water cycle I can observe the water cycle over time to describe the process.
Assessment Opportunities	End of Unit Quiz Children's comments and completion of learning tasks Response to developmental marking	Final knowledge assessment/End of unit quiz Completed concept maps Verbal feedback from children during whole class discussions and 1:1 feedback From developmental marking and feedback	End of Unit Quiz Completed concept map Response to verbal and developmental feedback	End of Unit Quiz Children's responses to learning tasks	Completed concept map End of Unit Quiz Response of verbal and developmental feedback	Completed concept map End of Unit Quiz Children's responses to learning tasks Verbal feedback from children during whole class discussions and 1:1 feedback
SEN Provision	Use of Word Banks Template of classification keys Photographs Use of a scribe	Pre-prepared pictures Use of drawings with annotations Use of a scribe	Use of word banks Pre-prepared labels photographs	Word Banks Pre-prepared diagrams and labels Use of diagrams and annotations	Pictures of parts of a circuit Word banks Use of drawings with annotations Use of a scribe	Drawings with annotations Word Banks Use of scribe Pre-prepared labels
Unit Must	To recognise that living things can be grouped in a variety of ways. With support use classification key to help group Identify and name a few living things in the environment. Recognise that environments can change	Compare different kinds of rocks based on appearance and physical properties To describe in simple terms how fossils are formed when things that have lived are trapped within rock With support, understand that soil is made from rock and organic matter	Describe the simple functions of the basic parts of the digestive system in humans. Identify and name the different types of teeth With support, Construct and interpret a variety of food chains, identifying producers, predators and prey.	To identify how sounds are made Recognise that vibrations cause sound With support, find patterns between pitch of sound the object it has come from With support, understand relationship between volume of sound and the strength of vibrations Recognise that sound gets fainter as the distance from the sound source increases	Identify common appliances that run on electricity Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers Recognise that a switch opens and closes a circuit Recognise some common conductors and insulators	Compare and group materials together, according to whether they are solids, liquids or gases Observe that some materials change state when they are heated or cooled Identify the part played by evaporation and condensation in the water cycle
Should	Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group. Identify and name a variety of living things in the environment. Recognise that environments can change and this can sometimes pose dangers to living things.	Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rock and organic matter.	Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions Construct and interpret a variety of food chains, identifying producers, predators and prey.	To identify how sounds are made, associating some of them with something vibrating. (Vibration stations) Recognise that vibrations from sounds travel through a medium to the ear. (String phones) Find patterns between pitch of a sound and features of the object that produced it. Find patterns between the volume of a sound and the strength of the vibrations that produced it.	Identify common appliances that run on electricity Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers 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 Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit	Compare and group materials together, according to whether they are solids, liquids or gases 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 Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.



				Recognise that sound gets fainter as the distance from the sound source increases	Recognise some common conductors and insulators, and associate metals with being good conductors.	
Could		Describe where the different types of rocks can be found To explain how fossils are formed.				