

Weare Science Curriculum Overview			
Year One	Year Two	Year Three	Year Four
Autumn Term 1			
<p>Animals Including Humans (1/2)</p> <ul style="list-style-type: none"> Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense Anatomical Illustrations – Here we are (Literacy) Feely Bag Fruit and Vegetable Tasting <p>Working Scientifically:</p> <ul style="list-style-type: none"> Can you hear the whistle test Asking simple questions and recognising that they can be answered in different ways Performing simple tests Using their observations and ideas to suggest answers to questions <p>Gathering and recording data to help in answering questions</p>	<p>Plants</p> <ul style="list-style-type: none"> explore and compare the differences between things that are living, dead, and things that have never been alive identify and name a variety of plants and animals in their habitats, including microhabitats Watch them grow and journal their growth - <i>cress seeds, tulip bulbs and cuttings</i> Observe and identify microhabitats – <i>make an earthwormery</i> 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 <p>Working Scientifically</p> <ul style="list-style-type: none"> observe and record the growth of plants as they change over time <i>from a seed or bulb</i> observe similar plants at different stages of growth set comparative test to show plants need light and water to stay healthy <p>Scientist Focus – Rachel Carson</p>	<p>Animals including Humans</p> <ul style="list-style-type: none"> 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 Identify that humans and some other animals have skeletons and muscles for support, protection and movement <p>Working Scientifically</p> <ul style="list-style-type: none"> Identify and group animals with and without skeletons and observe and compare their movement. Explore ideas about what would happen if humans did not have skeletons. Research different food groups and how they keep us healthy, and design meals based on what they find out. 	<p>Animals Including Humans</p> <ul style="list-style-type: none"> Identify the different types of teeth in humans and their simple functions –I can explain that humans have two sets of teeth and understand the functions of adult teeth I can compare the teeth of different mammals. (egg experiment, arrange children as teeth, look at real skulls and teeth) Describe the simple functions of the basic parts of the digestive system in humans I can name and describe the simple function of parts of the digestive system (string to show length, digestive system demo, look at torso, journey of food through system) Construct and interpret a variety of food chains, identifying producers, predators and prey I can draw and label a food chain and explain what is happening (food chain information posters including decomposers – range of habitats) <p>Working Scientifically</p> <ul style="list-style-type: none"> Setting up simple practical enquiries Recording findings using simple scientific language (looking after your teeth) Making systematic and careful observations (comparing teeth) Using results to draw simple conclusions (egg experiment)

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Autumn Term 2			
<ul style="list-style-type: none"> • Everyday Materials Distinguish between an object and the material from which it is made. • What Materials can we find? – Name object and its material and record • Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. • What Materials can we find? – Name object and its material and record ,Magnets and Metal • Describe the simple physical properties of a variety of everyday materials Sorting Objects • Compare and group together a variety of everyday materials on the basis of their simple physical properties. • Sorting Objects <p>Working Scientifically:</p> <ul style="list-style-type: none"> • Building strong bridges DT (TAPS) • Performing simple tests • Gathering and recording data to help in answering questions • Magnet/Paperclip rescue • Using their observations and ideas to suggest answers to questions 	<p>Living things and their Habitats</p> <ul style="list-style-type: none"> • Explore and compare the differences between things that are living, dead and things that have never been alive. • 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. • Identify and name a variety of plants and animals in their habitats including micro-habitats. • Describe how animals obtain their food from plants and other animals, <i>using the idea of a simple food chain, and identify and name different sources of food.</i> <p>Working Scientifically Micro habitats</p> <ul style="list-style-type: none"> • Sort and classify things according to whether they are dead, alive, or were never alive • Search micro habitats around school. <i>Compare different conditions under log and in a wall. What creatures do they find in these places?</i> • Observe changes across the four seasons (<i>Winter</i>) 	<p>Forces and Magnets (Link friction to Geography topic)</p> <ul style="list-style-type: none"> • Compare how things move on different surfaces • Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance • Observe how magnets attract or repel each other and attract some materials and not others • 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 • Describe magnets as having 2 poles • Predict whether 2 magnets will attract or repel each other, depending on which poles are facing <p>Working Scientifically</p> <ul style="list-style-type: none"> • Raise questions and carry out tests to find out how far things move on different surfaces. 	<p>Electricity</p> <ul style="list-style-type: none"> • Identify common appliances that run on electricity - separate electrical and non- electrical appliances. Separate battery and mains powered appliances (what is electricity, sorting actual appliances) • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers - Understand that an electrical circuit needs to be complete in order for an electric current to flow and components to work (making a circuit to light a bulb and adding in buzzers and bulbs) • 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- Predict if a bulb will light or not – and prove it. (Prediction and testing with a set of problem cards) • Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple circuit - Explain how a switch works (what is a switch, what are the uses, experimenting with switches in circuits)

	<ul style="list-style-type: none"> • Create simple food chains from specific habitats as a whole class; individually and independently <p>Scientist – Rachel Carson</p>	<ul style="list-style-type: none"> • Gather and record data to find answers to their questions. • Explore the strengths of different magnets and find a fair way to compare them. • Sort materials into those that are magnetic and those that are not. • Look for patterns in the way that magnets behave in relation to each other and what might affect this. 	<ul style="list-style-type: none"> • Recognise some common conductors and insulators, and associate metals with being good conductors - Find out what materials are good conductors and which are good insulators (experiment with a range of materials and present in a table – draw conclusions <p>Working Scientifically</p> <ul style="list-style-type: none"> • Asking relevant questions and using different types of scientific enquiries to answer them • Setting up simple practical enquiries, comparative and fair tests • Making systematic and careful observations • Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • Recording findings using simple scientific language, drawings, labelled diagrams, and tables • Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
Spring Term 1			
No Science this term	<p>Uses of Everyday Materials</p> <ul style="list-style-type: none"> • Identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses – <i>go on a 'materials' walk</i> • Find out how the shapes of solid objects made from some materials can 	<p>Rocks</p> <ul style="list-style-type: none"> • 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 	<p>Living Things and their Habitats</p> <ul style="list-style-type: none"> • Recognise that living things can be grouped in a variety of ways Explain what makes something a living thing. Identify similarities and differences (riddles, Mrs Nerg, grouping leaves) Say what a vertebrate and an invertebrate is and group them

	<p>be changed by squashing, bending, twisting and stretching - sort and record materials by grouping them. Ice experiment – <i>temperature changes – liquid, solid, gas – some reverse some don't</i></p> <p>Working Scientifically</p> <ul style="list-style-type: none"> • Comparing the uses of everyday materials in and around the school with materials found in other places (at home, on the journey to school, on visits and in stories, rhymes and songs) - <i>The Three Little Pigs</i> • Observing closely, identifying and classifying the uses of different materials – <i>label and group materials in the classroom – test a range of materials to see if they are waterproof</i> • Recording their observations <p>Scientist: Charles Macintosh (discovers waterproof materials)</p>	<p>that have lived are trapped within rock</p> <ul style="list-style-type: none"> • Recognise that soils are made from rocks and organic matter <p>Working Scientifically</p> <ul style="list-style-type: none"> • Observe rocks and explore how and why they might have changed over time. • Research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed. • Raise and answer questions about the way soils are formed. 	<p>Group vertebrates into 5 main groups (Note taking, Presenting information, full description of a new imaginary rain forest species)</p> <ul style="list-style-type: none"> • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Know what a classification key is Use a classification key Make a simple classification key (Alien game, using keys to identify rainforest plants, drawing a simple key with given animals) • Recognise that environments can change and that this can sometimes pose dangers to living things Understanding the environmental effect of deforestation (geography link to rainforest) and graph work to present results of hyacinth growing/measuring <p>Working Scientifically:</p> <ul style="list-style-type: none"> • Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • Using straightforward scientific evidence to answer questions or to support their findings
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Spring Term 2			
<p><i>Growing a bean plant – drawing observations to show changes through the term and record number of root shoots found each day</i></p> <p>Seasonal changes Observe changes across the four seasons</p> <ul style="list-style-type: none"> Winter to spring – observe the changes around us Signs of spring – spring walk/ in the spring I can see All of the seasons – seasonal pallet using water colours (Resource – Tree, seasons come seasons go by Britta Teckentrup) Observe and describe weather associated with the seasons and how day length varies. Day and night: draw a scientific diagram to show how day and night occurs. Show using torch and globe. <p>Working Scientifically:</p> <ul style="list-style-type: none"> Observing closely, using simple equipment Gathering and recording data to help in answering questions. Collect weather data daily (Rainfall, temperature, wind speed/direction in science week) <p>Science week (Science week – Weather)</p>	<p>(continued from Spring 1)</p> <p>Uses of Everyday Materials</p> <ul style="list-style-type: none"> Identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses – <i>go on a ‘materials’ walk</i> Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching - sort and record materials by grouping them. <i>Ice experiment – temperature changes – liquid, solid, gas – some reverse some don’t</i> <p>Working Scientifically – British Science week: environment scientists</p> <ul style="list-style-type: none"> Comparing the uses of everyday materials in and around the school with materials found in other places (at home, on the journey to school, on visits and in stories, rhymes and songs) - <i>The Three Little Pigs</i> Observing closely, identifying and classifying the uses of different materials – <i>label and group materials in the classroom – test a range of materials to see if they are waterproof</i> Recording their observations 	<p>Plants (1)</p> <ul style="list-style-type: none"> Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers 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 Investigate the way in which water is transported within plants <p>Working Scientifically</p> <ul style="list-style-type: none"> Compare the effect of different factors on plant growth. Observe how water is transported in plants 	<p>States of Matter:</p> <ul style="list-style-type: none"> Compare and group materials together, according to whether they are solids, liquids or gases - say if a material is a solid liquid or gas and describe the properties of a s,l or g (Sorting real examples, leaflet presenting information including arrangement of particles) Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens degrees celcius Understand what is meant by boiling and freezing point Explain what is happening as a material changes state and why (ice cube experiment, chocolate melting, possible crispy cakes, evaporation experiment, condensation with kettle demo) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature - explain and draw the water cycle Understand how temperature effects evaporation (cress evaporation, dome set up in class, drawing and labelling) <p>Working Scientifically</p> <ul style="list-style-type: none"> Asking relevant questions and using different types of scientific enquiries to answer them

<p>Plants(link to Art)</p> <ul style="list-style-type: none"> Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees Tree hunt – what types of trees do we find in our school. Are they deciduous or evergreen? Wax rubbings of tree trunks – use these as a trunk and draw the rest of the tree in book and label the parts. Identify and describe the basic structure of a variety of common flowering plants, including trees. What’s inside a flower – pick a daffodil, take it apart carefully, stick down each part (petal, stem, leaf) and label. Draw roots. <p>Working Scientifically:</p> <ul style="list-style-type: none"> Observing closely, using simple equipment Growing a bean plant – draw observations as the bean plant grows Leaf looking – Being Botanists – draw a leaf as you see it closely, including veins, midrib and stem. Gathering and recording data to help in answering questions 	<p>Scientist: we are environmental scientists – Adult scientists visit or send video clips about their jobs</p>		<ul style="list-style-type: none"> Setting up simple practical enquiries, comparative and fair tests Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Using straightforward scientific evidence to answer questions or to support their findings Identifying differences, similarities or changes related to simple scientific ideas and processes <p>Scientist Focus: Marie Curie</p>
Summer Term 1			
<p>Animals including humans (Animals)</p> <ul style="list-style-type: none"> I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals 	<p>Animals including Humans</p> <ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults - Observing the growth of Tadpoles 	<p>Plants (2)</p> <ul style="list-style-type: none"> Investigate the way in which water is transported within plants 	<p>Sound</p> <ul style="list-style-type: none"> Identify how sounds are made, associating some of them with something vibrating

<ul style="list-style-type: none"> Organise different animals into the correct headings – Mammals, fish, amphibians, reptiles, birds I can identify and name a variety of common animals that are carnivores, herbivores and omnivores I can describe and compare the structure of a variety of common animals Grouping polar animals - Blubber Experiment (Finding out how extra fat keeps animals in the polar regions warm) Comparing polar animals <p>Working Scientifically</p> <ul style="list-style-type: none"> Observing closely, using simple equipment Using their observations and ideas to suggest answers to questions Gathering and recording data to help in answering questions. Poo Observations performing simple tests Identifying and classifying Blubber Experiment 	<ul style="list-style-type: none"> find out about and describe the basic needs of animals, including humans, for survival (water, food and air)- (link to Geography and Literacy) - We are marine biologists finding information about coral reefs and what endangers them. Visit to Bristol Aquarium <p>Working Scientifically</p> <ul style="list-style-type: none"> observing through video or first hand, observations and measure how different animals, including humans, grow Observing the growth of Tadpoles ask questions about what things animals need for survival and what humans need to stay healthy suggest ways to find answer to their questions <p>Scientist: Marine Biologists – What do they do? https://www.youtube.com/watch?v=FxNO6ZUNLLk</p> <p>Scientist Focus: Louis Pasteur</p>	<ul style="list-style-type: none"> Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal <p>Working Scientifically</p> <ul style="list-style-type: none"> Discover how seeds are formed by observing the different stages of plant life cycles over a period of time. Look for patterns in the structure of fruits that relate to how the seeds are dispersed. 	<ul style="list-style-type: none"> Begin to understand how sounds are made (sound walk, drum/rice, mind map) Recognise that vibrations from sounds travel through a medium to the ear - Understand sound needs a medium to travel through (vibrations through table, pebble in water, tuning fork, string telephone) Find patterns between the 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 I can suggest ways to alter pitch ask questions related to pitch and find ways to answer them (altering instruments and ways they make sound, making instruments) Recognise that sounds get fainter as the distance from the sound source increases Investigate different ways sound travels and investigate ways to absorb sound (sound-proofing investigation, drum) <p>Working Scientifically</p> <ul style="list-style-type: none"> Asking relevant questions and using different types of scientific enquiries to answer them Using straightforward scientific evidence to answer questions or to support their findings Setting up simple practical enquiries, comparative and fair tests Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of
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			Equipment, including thermometers and data loggers
Summer Term 2			
<p>Materials</p> <ul style="list-style-type: none"> Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. Ice Observation – particle role play (water to ice, ice to water) Describe the simple physical properties of a variety of everyday materials. Ice Observation - Draw and describe an ice blocks using adjectives <p>Working scientifically:</p> <ul style="list-style-type: none"> I can perform simple tests and use my observations to suggest answers to questions. <p>Frozen – Which team can rescue the figure out of the ice first. Find a way to melt the ice faster.</p>	<p>Animals including humans (cont'd)</p> <ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults – <i>sequence growth from baby to an adult, life cycle of a butterfly</i> find out about and describe the basic needs of animals, including humans, for survival (water, food and air)- (link to Geography and Literacy) describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. – <i>link to PSHE</i> <p>Working Scientifically</p> <ul style="list-style-type: none"> observing through video or first hand, observations and measure how different animals, including humans, grow ask questions about what things animals need for survival and what humans need to stay healthy <i>life cycle of a butterfly</i> <p>suggest ways to answer to their questions <i>experiment, observe changes through exercise</i></p>	<p>Light</p> <ul style="list-style-type: none"> Recognise that they need light in order to see things and that dark is the absence of light Notice that light is reflected from surfaces Recognise that light from the sun can be dangerous and that there are ways to protect their eyes Recognise that shadows are formed when the light from a light source is blocked by an opaque object Find patterns in the way that the size of shadows change <p>Working Scientifically</p> <ul style="list-style-type: none"> Look for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes. 	<p>Living Things and their habitats</p> <ul style="list-style-type: none"> Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment Recognise that environments can change and that this can sometimes pose dangers to living things Identify trees in my local environment using identification charts Identify invertebrates in my local environment using classification keys Identify micro habitats within my local environment (explore the dangers posed to our local environment (litter, population development) and what we can do about it (parks, nature reserves ponds), make simple guides with keys to identify and explore local living things) <p>Working Scientifically:</p> <ul style="list-style-type: none"> Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions