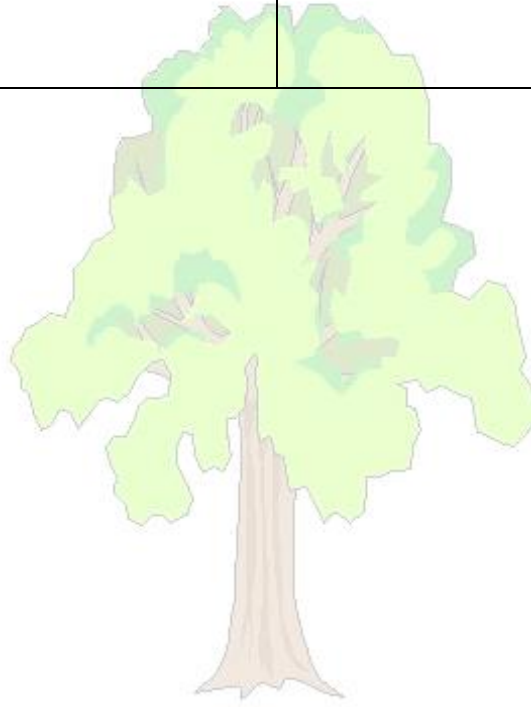


Year 2 Science Long Term Plan

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<p>What is a microhabitat and what can I find there?</p> <p>Living Things and Their Habitats Plants</p>	<p>Why can't animals live everywhere?</p> <p>Living Things and Their Habitats</p> <p>How do I know if something is alive?</p> <p>Living Things and Their Habitats</p>	<p>Which materials make the strongest castles?</p> <p>Uses of Everyday Materials</p>	<p>How do bulbs and seeds grow?</p> <p>Plants</p>	<p>Can I still see the same living things?</p> <p>Living Things and Their Habitats</p>	<p>What do I need to be alive and healthy?</p> <p>Animals including Humans</p> <p>How do offspring grow up?</p> <p>Animals including Humans</p>



Serra Wood Primary School

Year 2 Science Medium Term Plan

Term 1 Science – What is a microhabitat and what can I find there? NB this will be revisited in Term 5		
National Curriculum Links	Key Vocabulary	Pupil Offer
Living Things and their Habitats <ul style="list-style-type: none"> Identify and name a variety of plants and animals in their habitats, including microhabitats 	suited, suitable, shelter, move, feed, names of local habitats (e.g. pond, woodland etc.), names of micro-habitats (e.g. under logs, in bushes etc.), conditions, light, dark, shady, sunny, wet, damp, dry, hot, cold, names of living things in the habitats and micro-habitats studied	Outdoor learning

Term 1	Week 1	Week 2
Lesson Overview including Substantive knowledge	<p style="text-align: center;"><i>EYFS Retrieval</i></p> <p>Pupils have previously explored the local environment looking for mini-beasts.</p> <p style="text-align: center;">Observing Over Time</p> <p style="text-align: center;">Microhabitats</p> <p>What can children find outside? Explore what they know about habitats before introducing microhabitats. Discuss what is found in each of the different microhabitats, and which microhabitats we would find in school. Observe these microhabitats to see if we can find the same things.</p>	<p style="text-align: center;"><i>Retrieval- BIG QUESTION</i></p> <p style="text-align: center;">Microhabitats</p> <p>Answering question through activity.</p> <p>Provide pictures of animals and plants commonly found in microhabitats. Children to complete matching activity. Children to add labels to the plants, animals and microhabitats for assessment.</p>
Working Scientifically	Observing closely, using simple equipment	Identifying and classifying
Organisation & Communication	Annotated drawings of microhabitat observed Photographs on Seesaw	Labelled animals and plants to match microhabitat Pink and green slips for verbal naming
Famous People		

Term 2 Science – Why can't animals live everywhere? How do I know if something is alive?

National Curriculum Links	Key Vocabulary	Pupil Offer
<p>Living Things and their Habitat</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 Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food 	<p>living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, water, air, survive, survival, names of local habitats (e.g. pond, woodland etc.), names of micro-habitats (e.g. under logs, in bushes etc.), conditions, light, dark, shady, sunny, wet, damp, dry, hot, cold, names of living things in the habitats and micro-habitats studied</p>	<p>Creating own animals</p>

Term 2	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
<p>Lesson Overview including Substantive knowledge</p>	<p>Classification Living Things</p> <p>Talk about living things and dead things. Children to search outside and complete a class classification activity around the two states. Complete drama activity to learn about MRS GREN and the things living things need to do.</p> <p><i>NB: bulbs need to be planted early in this enquiry, ready for Term 4, and should be included in the classification activities.</i></p>	<p>Classification Never Alive</p> <p>Present children with a rock, which is not alive, but also not dead. This will lead to a conversation about things that have never been alive. Children to create a list of all things they can think of that have never been living.</p> <p>Assessment activity: children to be given 3 photographs and ask for the odd one out. Then give more to be sorted into dead, living or never alive.</p>	<p>Classification Animals in habitats</p> <p>Revise difference between habitats and microhabitats. Complete quick matching of animals to habitats/microhabitats activity. Encourage talk through wrong answers and questions.</p> <p>Observing Over Time</p> <p>Complete data collection (tally chart) of animals in microhabitats, and construct simple graphs to present data.</p>	<p>Choices in microhabitats</p> <p><i>NB: choice chamber to be set up at least 3 days prior to lesson.</i></p> <p>Introduce choice chamber set up and ask children what they would expect to see living in each section, e.g. dark and damp or dark and dry. Children to explain why they think this, linking to their knowledge of microhabitats. Discuss simply how animals live in places suited to them. Take this discussion further into a discussion about animals in a wider variety of microhabitats – ask why that one is suitable</p>	<p>Researching Polar and Desert Habitats</p> <p>Show polar habitat video and ask children to identify plants and animals, discussing names if unknown. What do these have in common? How are they suited to the environment? Complete activity 'How do penguins stay dry?' or 'Why do arctic animals have blubber?', most importantly discussing why this is needed.</p> <p>Repeat similarly for desert. Provide mixed pictures for collage, to encourage discussion around wrong choices for the habitat.</p>	<p>EYFS Retrieval</p> <p>Pupils have learnt about 'under the sea'</p> <p>Researching Ocean and Forest Habitats</p> <p>Show ocean habitat video and ask children to identify plants and animals, discussing names if unknown. Discuss how this list is larger than the previous lesson – why is that? Repeat with forest habitat. Children to choose an animal for each habitat and give three reasons why it is suited to live in that habitat.</p> <p>Assessment task: provide children with odd one out picture activity sheet, with explanations expected.</p>	<p>Year 1 Retrieval</p> <p>Pupils have looked at what different groups of animals eat.</p> <p>Classification Food Chains</p> <p>Read 'The Gruffalo' and talk about what was eaten and the order. Introduce terms predator and prey. Create Gruffalo paper chains, with labels of predator and prey to be added.</p> <p>Expand animals further to be related to local area and complete human food chain activity, before children create own food chains in written form.</p>	<p>Retrieval- BIG QUESTION</p> <p>Children to be provided with a habitat type. Children will create their own animal to live in this habitat, with reasons written about why it has chosen to live there.</p>
<p>Working Scientifically</p>	<p>identifying and classifying</p>	<p>identifying and classifying</p>	<p>asking simple questions and recognising that they can be answered in different ways</p> <p>gathering and recording data to help in answering questions</p>	<p>using their observations and ideas to suggest answers to questions</p>	<p>performing simple tests</p> <p>gathering and recording data to help in answering questions</p>	<p>identifying and classifying</p>	<p>identifying and classifying</p>	<p>using their observations and ideas to suggest answers to questions</p>
<p>Organisation & Communication</p>	<p>Photographs on Seesaw</p>	<p>List in books</p> <p>Written sentences to describe odd one out</p> <p>Photographs of sorting on Seesaw</p>	<p>Tally charts and Block Graphs in books</p> <p>Pictograms for early finishers</p>	<p>Annotated diagram of choice chamber predictions</p> <p>Green and Pink slips for discussion around suitability</p>	<p>Pictures on Seesaw</p> <p>Sentences to explain observations in test</p> <p>Collage or picture of desert habitat</p>	<p>Listed reasons for chosen animal or plant</p> <p>Sentences with odd one out pictures</p>	<p>Pictures of Gruffalo food chain and human food chain</p> <p>Pictures stuck into books for written food chains, with drawings for early finishers</p>	<p>Labelled animal with bullet point reasons</p>
<p>Famous People</p>					<p>Prem Singh Gill - Seals</p>			

Term 3 Science – Which materials build the strongest castles?

National Curriculum Links	Key Vocabulary	Pupil Offer
<p>Use of everyday materials</p> <ul style="list-style-type: none"> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 	<p>Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard</p> <p>Properties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid</p> <p>Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching</p>	<p>Creating castle (in DT, using this knowledge)</p>

Term 3	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Lesson Overview including Substantive knowledge	<p>Year 1 Retrieval Material properties</p> <p>Use the materials bag and allow children time to observe the objects. Ensure that they can distinguish between object and the material. Use sorting hoops for children to show which materials have which properties. Extend this to be Venn Diagrams. Mainly focus on year 1 vocabulary, but introduce new with clear examples.</p>	<p>Comparative/Fair Testing Absorbent and Rigid</p> <p>Talk about the meanings of absorbent and waterproof. Can children think of objects that are absorbent, and then link this to materials? Complete test to find out which materials are most absorbent, using a class table to collect data due to wet tables.</p> <p>Talk about the meanings of rigid and flexible. Complete tests to rank material flexibility between 1 and 5.</p>	<p>Comparative/Fair Testing Transparent and Reflective</p> <p>Talk about the meanings of opaque, transparent and translucent. Provide children with torches and materials and ask them to test the materials and sort them into the correct sorting hoop.</p> <p>Talk about the meanings of reflective and non-reflective. Complete similar activity as above.</p> <p>Ask children questions about whether a material can be both transparent and absorbent or similar.</p>	<p>Why has this material been chosen? Is it useful?</p> <p>Show examples of objects, such as a spoon, and discuss its material. Why is that material a useful choice? Why bad? Repeat with other materials spoons are made from. Children to complete a sheet prepopulated with objects to discuss why the material is useful.</p> <p>Children then to be provided with a blank grid, and choose object and material at random. Explain if this is a useful choice or not.</p>	<p>Retrieval- BIG QUESTION Which material should we choose?</p> <p>Provide children with an object, such as a swimming costume, and ask them which properties are needed. Can they choose a material which is all of these things? Challenge children to think through all materials, to ensure they are not using knowledge of what they know it to be made from.</p>	<p>Y1 Retrieval</p> <p>Pupils have considered which material to make a house for the 3 little pigs.</p> <p>Retrieval- BIG QUESTION Castles</p> <p>Link to enquiry learning, and discuss different parts of the castle. Draw out the materials of some of these. Tell the children that we are going to be thinking about the materials which will be the most useful, if we can buy them, and those which will be least useful, so we can avoid them. Children to work with one part of the castle at a time.</p>
Working Scientifically	Identifying and classifying	Performing simple tests	Performing simple tests	Using their observations and ideas to suggest answers to questions	Using their observations and ideas to suggest answers to questions	Using their observations and ideas to suggest answers to questions
Organisation & Communication	Photos of sorting physically Small sorting written in books	Photos of experiment and class recording Individual tables for scoring flexibility	Photos of testing Sentences to define key words Green and pink slips for challenge questions	Sentences to explain why materials are useful	Tick/Cross grid	Sentences to explain why useful and not useful choices
Famous People		Charles Macintosh				

Term 4 Science – How do bulbs and seeds grow?

National Curriculum Links	Key Vocabulary	Pupil Offer
Plants <ul style="list-style-type: none"> Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy Revision Y1: identify and name a variety of common wild and garden plants, including deciduous and evergreen trees 	light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling	Exploring vegetables and herbs – possible eating task

Term 1	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Lesson Overview including Substantive knowledge	<p>Year 1 Retrieval Pupils have previously identified a range of plants and flowers</p> <p><i>NB: bulbs will need to be planted in autumn, and observed regularly before this unit. In addition, plant some other seeds for week 4.</i></p> <p>Classification Bulbs and seeds Plants</p> <p>Give out a selection of seeds and bulbs to small groups. Ask the children to classify them, allowing them to focus on size and colour quickly before moving onto more detailed observations. Investigate the differences between seeds and bulbs, including chopping them open. Also discuss whether all seeds are the same, and all bulbs.</p>	<p>Comparative/Fair Testing Observations over time Planting and needs Plants</p> <p>Children to plant cress seeds. Use concept cartoon to introduce what a plant needs to grow. Set up experiment with spare cress to investigate their questions around light/dark and water/no water. Look at packet to research further information about needs. Compare cress packet with packets from previous lesson.</p>	<p>Observations over time Bulbs growing</p> <p>Look at the bulbs which were planted earlier in the year. Complete final careful observation for what they look like now (may be postponed if flowers are late). Discuss the changes that have occurred over the past months.</p>	<p>Plants growing</p> <p>Look at two plants outside, i.e. two sunflowers. Which one is healthier? How do we know? Has it been eaten? Discuss differences and possible reasons why these have occurred.</p> <p>Observations over time</p> <p>Look at cress grown as a class. Measure the heights and compare the colours. Discuss differences and reasons, linking to what plants need.</p>	<p>Classification Plant uses</p> <p>Ask children why we need plants. Can we eat them? Hopefully children will know that some food is grown, but develop this understanding in the importance of flowers to grow fruits and where common plants grow vegetables. Have some vegetables if possible. Also discuss herbs, with smelling opportunities.</p>	<p>Retrieval- BIG QUESTION</p> <p>Complete a role play to show how plants grow. Repeat role play with no light, and no water. Children to write a short story from the perspective of the plant to document it's growing, showing understanding of its needs.</p>
Working Scientifically	<p>Observing closely, using simple equipment</p> <p>Identifying and classifying</p>	<p>Asking simple questions and recognising that they can be answered in different ways</p> <p>Performing simple tests</p>	<p>Observing closely, using simple equipment</p> <p>Using their observations and ideas to suggest answers to questions</p>	<p>Using their observations and ideas to suggest answers to questions</p> <p>Gathering and recording data to help in answering questions</p>	<p>Identifying and classifying</p> <p>Using their observations and ideas to suggest answers to questions</p>	<p>Using their observations and ideas to suggest answers to questions</p> <p>Gathering and recording data to help in answering questions</p>
Organisation & Communication	<p>Photos of classification</p> <p>Annotated close drawings of seeds and bulbs</p> <p>Comparison sentences of observations</p>	<p>Green and pink slips for concept cartoon.</p> <p>Research sentences</p>	<p>Annotated drawing of bulb</p> <p>Comic strip of bulb growing</p>	<p>Table recording measurements</p> <p>Annotated photographs</p>	<p>Matching activity for plants and their food</p> <p>Photographs of children exploring vegetables and herbs</p>	<p>Short story</p>
Famous People		<p>Angie Burnett</p>			<p>Poppy Okotcha</p>	

Term 5 Science – Can I still see the same living things?

National Curriculum Links	Key Vocabulary	Pupil Offer
Living Things and their Habitats <ul style="list-style-type: none"> Identify and name a variety of plants and animals in their habitats, including microhabitats 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 	suited, suitable, shelter, move, feed, names of local habitats (e.g. pond, woodland etc.), names of micro-habitats (e.g. under logs, in bushes etc.), conditions, light, dark, shady, sunny, wet, damp, dry, hot, cold, names of living things in the habitats and micro-habitats studied	outdoor learning

Term 5	Week 1	Week 2
Lesson Overview including Substantive knowledge	<p>Retrieval from Prior Unit Observations over time Microhabitats</p> <p>Revise knowledge about microhabitats, and being able to name them. Can they remember what we expect to see in them? Observe these microhabitats to see if we can find the same things. Draw graphs similar to earlier in the year. Compare the graphs they have drawn. Also compare the graph they have drawn to a pre-prepared one involving winter microhabitats.</p>	<p>Year 1 Retrieval</p> <p>Pupils have learnt about the seasons and observed seasonal change.</p> <p>Retrieval- BIG QUESTION Seasonal change</p> <p>Revisit findings from microhabitat search in the last lesson. What conclusions can be drawn about microhabitats and living things in the different seasons. Why is there a change? This task will answer the big question.</p>
Working Scientifically	Observing closely, using simple equipment	Using their observations and ideas to suggest answers to questions
Organisation & Communication	Photographs on Seesaw Tally charts and block graphs/pictograms	Pink and green slips for verbal naming Sentences to explain the changes seen/expected
Famous People		

Term 6 Science – What do I need to be alive and healthy? How do offspring grow up?

National Curriculum Links	Key Vocabulary	Pupil Offer
Animals including Humans <ul style="list-style-type: none"> Notice that animals, including humans, have offspring which grow into adults Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance of exercise, eating the right amounts of different types of food, and hygiene 	offspring, reproduction, growth, baby, toddler, child, teenager, adult, old person, names of animals and their babies (e.g. chick/hen, kitten/cat, caterpillar/butterfly), survive, survival, water food, air, exercise, heartbeat, breathing, hygiene, germs, disease, food types (e.g. meat, fish, vegetables, bread, rice, pasta, dairy)	animal experiments

Term 6	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	
Lesson Overview including Substantive knowledge	Survival and happiness Read 'The Way Back Home' by Oliver Jeffers. Propose the problem of living on the moon. What would the children take with them? Make baskets with their objects inside and then start removing things that they do not need to survive. Use this to make a list of things needed for survival and things that make us happier and healthier.	Year 1 Retrieval Pupils have learnt about different groups of animals Researching Animal survival Learn about birds, fish and amphibians through research. What do they need to survive? Find out about the things that make them happy or healthy. Repeat with reptiles, mammals and humans. Use written activity to create group information posters about how to care for different animals.	Classification Healthy Eating <i>NB: PSHE Term 4 also covers healthy eating</i> Explore the difference between healthy and unhealthy, using pictures to support. Discuss ideas around making healthy choices, e.g. have vegetables with x. Children to create a healthy meal. Show children the proportion of fruit/vegetables and carbohydrates to aim for. Show the EatWell Plate and explore food that fits into the different categories. Play games to categorise these. Children should be able to name some foods in the different parts by the end of the lesson.	Comparative/Fair Testing Exercise Children to start by naming things they know to be exercise. Learn about heart rates, feeling them and using a pulse metre. Complete activity around 'what makes my heart beat faster?' to decide on more simple exercises. Complete experiment to see which exercise is best, using a table to collect results and using a pulse metre to measure for accuracy. Discuss differences in different people's heart rate despite same activity.	Y1 History Retrieval Mary Seacole & Florence Nightingale Hygiene Discuss other means of staying healthy. Talk about germs and illnesses. Children learn about medicine safety in Term 4 PSHE, so only briefly discuss this. How can we reduce the chances of getting ill? Complete 'glitter handshake' role play to show how easily germs mix and spread. Complete experiment to decide on the best way to remove germs.	Pattern Seeking Growing up Children to start by thinking about how they have changed since nursery or reception. Is there a way of knowing how old someone is just by looking at them? Collect data involving shoe sizes in the class, and also from another class. Repeat with hand measurements. Discuss patterns and how different people grow at different rates. Explain that sometimes, baby animals have different names to adult animals – not the case for humans. Complete matching activities to learn names of offspring.	Life cycles Read 'The Hungry Caterpillar' by Eric Carle. Use role play to learn the life cycle of a butterfly. Children to turn this into a short story in first person. Show life cycles of humans, other mammals and amphibians. Compare these life cycles to the butterfly and discuss any patterns seen.	Retrieval- BIG QUESTION Children to create a 'survival' information sheet. It should contain a section on human needs and an animal covered in depth over the topic. It should also contain information on all areas covered in this topic as relevant to the human or animal being covered.	
	Disciplinary Knowledge	Asking simple questions and recognising that they can be answered in different ways	Identifying and classifying Gathering and recording data to help in answering questions	Identifying and classifying	Performing simple tests Gathering and recording data to help in answering questions	Asking simple questions and recognising that they can be answered in different ways Using their observations and ideas to suggest answers to questions	Performing simple tests Identifying and classifying Gathering and recording data to help in answering questions	Asking simple questions and recognising that they can be answered in different ways Using their observations and ideas to suggest answers to questions	Using their observations and ideas to suggest answers to questions Gathering and recording data to help in answering questions
	Organisation and Communication	Listed items under 'survival' and 'happy/healthy'	Group information posters	Green and pink slips for healthy eating Healthy meal plan Eat Well Plate with named foods	Photographs on Seesaw Table for measured heart rate	Photographs on Seesaw Written experiment findings	Photographs of measuring on Seesaw, and of class patterns Green and pink slips Matching activity	Photographs on Seesaw Short story Pink and Green slips	Information sentences
	Famous People		Dr Kelly Blacklock			Florence Nightingale Elizabeth Garrett Anderson			