Science – Year 2

Honesty	Love	Forgiveness	Respect	Cultural Capital Opportunities
Giving opinions	Caring for the environment Caring for living creatures Looking after yourself		Understanding difference of opinions Understanding that we share this planet with other creatures and that we have a duty to care for them	Earth Week

A Love Of Language	Aspirations	Bringing Learning To Life	Emotional Well-Being	Resilience	Valuing our Diversity	Respect and Responsibility
see key skills below Reading: Listening: Speaking: Writing:	Love of different Sciences, Job potentials (botanist, nutritionist etc.)	Hands on learning – Art/Design and Technology Creative writing Independent Enquires Relevant contexts for learning	How nutrition can have a positive effect on mood	Applying phonics Applying vocabulary in different contexts		How to clean up after ourselves Caring for living creatures Understand which foods provide us with the fuel we need to live a healthy lifestyle Looking after plants to ensure they have what they need to grow

What will they learn?		In what order?			
Key Concepts	Key Skills	Autumn	Spring	Summer	End points

Sc2/1.1 asking simple questions and recognising that they can be answered in different ways Sc2/1.2 observing closely, using simple equipment Sc2/1.3 performing simple tests Sc2/1.4 identifying and classifying Sc2/1.5 using their observations and ideas to suggest answers to questions Sc2/1.6 gathering and recording data to help in answering questions. Sc2/2.1a explore and compare the differences between things that are living, dead, and things that have never been alive Sc2/2.1b 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	Explore the world around them and raise their own questions. They should experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. They should use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time, and, with guidance, they should begin to notice patterns and relationships. They should ask people questions and use simple secondary sources to find answers. They should use simple measurements and equipment (for example, hand lenses, egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.	<u>Habitats</u> Sc2/2.1a explore and compare the differences between things that are living, dead, and things that have never been alive Sc2/2.1b 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 Sc2/2.1c identify and name a variety of plants and animals in their habitats, including microhabitats Sc2/2.1d 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. Look at a live spider, a dead spider and a toy spider. What are some of the differences between the live spider and the dead one? And the dead spider and the toy one? How can we work out what's alive and not alive? Is it	<u>Everyday Materials</u> Sc2/3.1a identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses Sc2/3.1b compare how things move on different surfaces. Sc2/3.1c find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching Explore all sorts of bouncy balls and investigate which one is the bounciest. Does this mean the ball that bounces the highest or the one that bounces for the longest time? Plot the results on a chart. Consider different fabrics and what they could be used for. Devise an investigation to test the elasticity of the fabric and record the results. Examine a selection of different materials and explore their rigidity by devising an investigation to test them. Why is it	<u>Plants</u> Sc2/2.2a observe and describe how seeds and bulbs grow into mature plants Sc2/2.2b find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. Explore the outdoors, looking at how plants disperse their seeds and why. Think specifically about plants that spread their seeds by utilising the wind. Make a seed helicopter and a dandelion seed. Consider different ways that plants can disperse their seeds, including seed designed to stick on animals and humans. Using clay or modroc, create a large burr, with hooks and use junk modelling to create other seeds. Talk about what bulbs need to grow into healthy plants. Plant beans in bags of water and watch them grow. What will happen to the bean left growing in a cupboard? Think about the conditions for healthy plant growth	<u>Autumn</u> <u>Habitats</u> Can say if something is alive, not alive or if it has never been alive Can identify some creatures that live in a micro-habitat Can draw what a micro-habitat looks like and what happens inside them Identify creatures that live in habitats and why Can identify which creatures live in different habitats Can label pictures of or draw different habitats Can identify different food chains Can say why a food chain might not work if there is too much/too little of one creature Can describe the stages of a food chain with the correct terminology Can state the conditions needed for mini beasts to thrive Can explain how the sun plays a big part in a food chain <u>Everyday Materials</u> Can name an object, say what material it is made from, identify its properties and make a link between the properties and a particular use

Sc2/2.1c identify and name a variety of plants and animals in their habitats, including microhabitats Sc2/2.1d 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. Sc2/2.2a observe and describe how seeds and bulbs grow into mature plants Sc2/2.2b find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. Sc2/2.3a notice that animals, including humans, have offspring which grow into adults Sc2/2.3b find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Sc2/2.3c describe the importance for humans of exercise, eating the right		sometimes difficult to tell? Armed with all these questions, go outside and collect something alive, something dead and something that was never alive. Sort these specimens into three categories. Explore the school grounds on the hunt for microhabitats. Zoom in on the tiny world of these habitats and draw or photograph what is going on there. Consider and draw conclusions about what lives in these microhabitats and why. Research creatures in larger habitats and ask: why do these living things live there? Create dioramas of different habitats and label with research information. Role play food chains in the hall. Understand that, in a healthy habitat, all living things depend on each other in different ways. Drawing on your knowledge of habitats, design a bug hotel! Incorporate many different microhabitats to encourage a variety of guests. Using the group designs, build a bug hotel in the	important that some materials bend and flex? Consider and sort different materials according to their material properties. Wonder what the world would be like without rigidity and test materials for their durability and toughness. Explore a selection of paper and predict the strongest one. Test the papers using weights and record the results. Using your knowledge of paper strength and rigidity, build a paper bridge strong enough to hold a toy car. <u>Animals Including Humans</u> Sc2/2.3a notice that animals, including humans, have offspring which grow into adults Sc2/2.3b find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Sc2/2.3c describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	and plant your own cress seeds. Record their growth. How long will it take for them to be long enough to eat? Record the growth of the bean and look at how it has developed over the last few weeks. Can you recreate the plant with craft materials? Can you label the parts of the plant? Look really closely at the little cress plants and draw what you see. Then pop them into egg sandwiches for an egg and cress snack! <u>Living Things and Their Habitats</u> Sc2/2.1b 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 Sc2/2.1c identify and name a variety of plants and animals in their habitats, including microhabitats Sc2/2.1d describe how animals obtain their food	Can label a picture or diagram of an object made from different materials For a given object can identify what properties a suitable material needs to have Whilst changing the shape of an object can describe the action used Can use the words flexible and/or stretchy to describe materials that can be changed in shape and stiff and/or rigid for those that cannot Can recognise that a material may come in different forms which have different properties Can sort materials using a range of properties Can explain using the key properties why a material is suitable or not suitable for a purpose Can begin to choose an appropriate method for testing a material for a particular property Can use their test evidence to select appropriate material for a purpose e.g. Which material is the best for a rain hat?

amounts of different types of food, and hygiene. Sc2/3.1a identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses Sc2/3.1b compare how things move on different surfaces. Sc2/3.1c find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching		school grounds. Create microhabitats layers using found materials: for example, sticks, leaves, tubes, <u>Everyday Materials</u> Sc2/3.1a identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses Sc2/3.1b compare how things move on different surfaces. Sc2/3.1c find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching Explore the properties of different kitchen papers and disposable cloths. Rise to the challenge of mopping water from the floor. Which paper is the most absorbent? Which will be the best for mopping up the spillage? Think about hard materials and their absorbent properties. Which building materials are absorbent? Why must they have this	Using magnifying glasses, closely observe feathers and eggs and draw what you see. Consider the question: what do you think is inside an egg? Look after an incubator in the classroom and observe what happens to the eggs! Invite visitors in who are pregnant or have very young children. Gather information by careful questioning. Make a timeline using photographs or cut out pictures of babies, young children, adults and elderly people. Create a desert island in the classroom! Imagine being stranded on the island. What would make you happy? What would your needs be? Send letters in bottles across the material sea, asking for essential provisions! Feel your heart pumping before and after running in the playground and discover that exercise makes your heart pump harder and faster! Carousel around different physical activities, observe the effects and answer questions in pairs. Look at lots of different lunch box foods and discuss which ones are healthy by	from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. Take large tubs and tyres into the playground and plant edible plants! Learn about the right conditions for growth and attracting the right mini-beasts to the allotment. Tend to the allotment and review the plant growth. Are there any mini-beasts the allotment habitat would benefit from? How will you attract them? Make micro-habitats to encourage them to live in the allotment. Find out more about farming first-hand and play farms in the classroom. Understand why farms are so important to the food chain and why farmers think protecting the environment is so important. Think about some simple food chains and make a food chain using laminated cards and string. Challenge each other to string them up in the right order. Think further about food chains and look at the transfer of energy from the sun, through the	<u>Spring</u> <u>Everyday Materials</u> Can name an object, say what material it is made from, identify its properties and make a link between the properties and a particular use Can label a picture or diagram of an object made from different materials For a given object can identify what properties a suitable material needs to have Whilst changing the shape of an object can describe the action used Can use the words flexible and/or stretchy to describe materials that can be changed in shape and stiff and/or rigid for those that cannot Can recognise that a material may come in different forms which have different properties Can sort materials using a range of properties Can explain using the key properties why a material is suitable or not suitable for a purpose Can begin to choose an appropriate method for testing a material for a particular property Can use their test evidence to select appropriate

		property? Test different hard materials and record the results. Explore different fabrics and investigate how waterproof they are using a dropper of water. How can we make the fabrics waterproof? Colour them in with wax crayon and repeat the investigation! Explore the textures and properties of different materials by printing with a selection of items. Make a large collective piece of art showing the variety of materials used by the class. Learn more about the waterproof properties of wax by having a go at a wax resist picture! Talk about how some materials change shape when they are heated up. Chop up old wax crayons, heat them up and turn them into different shapes!	checking the sugar and fat contents on the packaging. Design a mat to fit in the bottom of your lunchbox (or school plate) divided into the different food groups needed for healthy living. Invite another class to join you on a healthy picnic in the school grounds. Make healthy snacks before you set off and share all that you have learned about what makes a well-balanced healthy lunch box.	members of the food chain, and back into the ground. Can you represent this cycle in a dance? Harvest the edible foods you have been growing in the allotment. Study, smell and feel them before turning them into a class snack! Why not perform the Food Chain dance to an audience before you eat?	material for a purpose e.g. Which material is the best for a rain hat? <u>Animals Including Humans</u> Can describe how animals including humans have offspring which grow into adults, using the appropriate names for the stages Can state the basic needs of animals, including humans, for survival. Can state the importance for humans of exercise, eating the right amounts of different types of food and hygiene. Can name foods in each section of the Eatwell guide Can describe, including using diagrams, the life cycle of some animals, including humans, and their growth to adults e.g. by creating a life cycle book for a younger child Can measure/observe how animals, including humans, grow. Show what they know about looking after a baby/animal by creating a parenting/pet owners' guide Explain how development and health might be affected by differing conditions and needs being met/not met.

					<u>Summer</u> <u>Plants</u> Can describe how plants that they have grown from seeds and bulbs have developed over time Can identify plants that grew well in different conditions Can spot similarities and difference between bulbs and seeds Can nurture seeds and bulbs into mature plants identifying the different requirements of different plants <u>Living Things and Their Habitats</u> Can say if something is alive, not alive or if it has never been alive Can identify some creatures that live in a micro-habitat Can draw what a micro-habitat looks like and what happens inside them Identify creatures that live in habitats and why Can identify which creatures live in different habitats Can label pictures of or draw different habitats Can identify different food chains Can say why a food chain might not work if there is

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