Year 1 and 2 - Science Programme of Study

Programme of study	Animals including humans	Seasonal changes	Everyday materials	Plants	Animals including humans	Living things and their habitats
Coverage	The human body and senses	Weather forecast and seasonal changes	More exploration of materials	Plants – Grow your own cress	Humans and health – exercising and hygiene	Food chains
Content	Name and locate parts of the human body, including those relating to the senses. Understand the importance of exercise, balanced diet and hygiene for humans. Describe the main changes as young animals, including humans, grow into adults.	Understand and describe the main changes across the seasons. Understand weather associated with the seasons. Understand how day length varies across the year.	Recognise the difference between the name of an object and the material from which it is made. Identify a range of everyday materials including wood, plastic, glass, metal, water and rock. Describe the physical properties of everyday materials including hard/soft, stretchy/stiff, shiny/dull, rough/smooth, bendy/not bendy, waterproof/ not waterproof, absorbent/ not absorbent, opaque/ transparent.	Be able to name a variety of different plants (including deciduous and evergreen trees). Understand and describe how plants are suited to different habitats. Understand and describe the structure of plants including leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches and stem. Understand and describe the main changes as seeds and bulbs grow into mature plants. Understand and describe the basic needs of plants for	Be able to identify and name different common animals including fish amphibians, reptiles, birds and mammals. Be able to describe and compare the observable features of animals from a range of groups. Recognise that animals can be grouped according to whether they are carnivores, herbivores and omnivores. Know the basic needs of	Recognise whether things are alive, dead or have never lived. Understand that animals get their food from other animals and/or from plants. Recognise that a food chain is made of a series of plants and animals that eat each other and shows how energy is transferred from one organism to another via food.

			Understand how to group everyday materials according to their physical properties. Understand how everyday materials can be used for more than one thing. Understand how different everyday materials can be used for the same thing. Understand why the properties of materials make them suitable or unsuitable for particular purposes. Recognise that squashing, bending, twisting and stretching can change the shapes of solid objects made from some everyday materials.	water, light and a suitable temperature to grow and stay healthy.	animals for survival. Describe the main changes as young animals, including, humans, grow into adults.	
Notes and guidance	Learn the names of the main body parts (including head, neck, arms,	Observe changes across the four seasons	Explore and experiment with a wide variety of materials, not only	Use the playground environment throughout the	Be introduced to the processes of reproduction and growth in	Understand what is meant by a food chain.

	elbows, legs, knees, face, ears, eyes, hair, mouth, teeth) through games, actions, songs and rhymes.	Observe and describe weather associated with the seasons and how day length varies	those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil.	year to observe how different plants grow. Be introduced to how seeds and bulbs grow into mature plants.	animals. The focus at this stage should be on questions that help pupils to recognise growth; they should not be expected to understand how reproduction occurs.	Understand that living things need other living things to survive.
Working Scientifically	♣ Asking simple questions and recognising that they can be answered in different ways ♣ Observing closely, using simple equipment ♣ Performing simple tests ♣ Identifying and classifying ♣ Using their observations and ideas to suggest answers to questions ♣ Gathering and recording data to help in answering questions.					
	Using their senses to compare different textures, sounds and smells.	Making tables and charts about the weather; and making displays of what happens in the world around them, including day length, as the seasons change. Explore making forecasts about the weather at school, using weather symbols and notes made 'on location' in the playground.	Performing simple tests to explore materials and consider which one is best for fixing a broken umbrella.	Observing and recording, with some accuracy, the growth of a potato plant as they change over time, during different stages of growth. Setting up a comparative test to show that plants need light and water to stay healthy (Beans in bag test)	Observing, through video or first-hand observation and measurement, how animals grow. Asking questions about what animals need to stay healthy Suggesting ways to find	Construct a simple food chain that includes humans (e.g. grass, cow, human).

					answers to their questions.	
Identifying and Classifying	♣ Focus on asking questions about the similarities and differences between things. ♣ Going outside to explore the world around them at all times of the year. ♣ Reporting by producing scientific drawings of their observations, increasing in fine detail. ♣ Developing scientific vocabulary.					
	Can we classify these foods into groups using our senses?	How would you group these things based on which season you are most likely to see them in?	Understand and sort the objects into natural and man-made and observe any similarities and differences between the two groups	Explore the outdoor area at school and look at plants that are growing. Talk about what they are and what they will look like when they are fully grown. Map out the school garden area and decorate with sketches, facts and labels.	Use plastic toys to talk about the characteristics of different animals. Sort them into groups and write facts around large outlines of different creatures. Which offspring belongs to which animal?	How could you classify these objects as dead, alive and never been alive?
Comparative testing	♣ Report findings using tally charts, pictograms, or block charts					
	Is our sense of smell better when we can't see?	Which day of the week had the most rain?	Test a selection of materials using a pipette to simulate raindrops – Which materials are waterproof?	Where do bean plants grow quicker?		
Pattern seeking	♣ Begin to look for patterns in their measurements and observations. ♣ Describe them both orally and in writing. ♣ Start to think about cause and effect relationships. ♣ Start to use appropriate vocabulary to discuss these.					
	If someone has big feet, do they also need larger gloves?	Observe wind direction over time and notice any patterns between rainfall and wind.	Which materials can be recycled?	Do bigger seeds grow into bigger plants?		Does a larger creature live in a larger habitat?

Research	♣ Pose their own 'big question'. ♣ Interpret the information they find and consider its relevance in answering their questions. ♣ Use a range of secondary sources, including books, websites, and video. ♣ Listen to presentations from experts and science professionals to get their information, or ask them questions in interviews and letters.					
				How does a cactus survive in a desert with no water?	What do you need to do to look after an egg/chick and keep it healthy?	How does a food chain in the Arctic compare with a food chain in the rainforest?
Ideas over time	♣ Report findings using posters, leaflets, newspapers, reports or letters ♣ Timeline of scientists					
	In the 1500s, tobacco plants were grown in Britain for medicine. How have our ideas about these plants changed? How did French doctor Renè Laennec's ideas improve medicine?		Why was hemp so important for Christopher Columbus? (Hist link)	What ideas did botanist Arthur Tansley have about habitats in 1935?	How did George Washington Carver use science to improve farming in America?	What ideas did Charles Darwin have about evolution and adaptation?