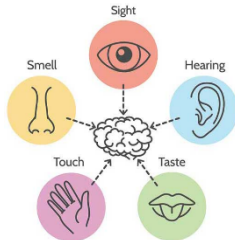


Science Knowledge Organiser

	Year 1	Term: Autumn 1	Topic: Childhood	Area of Science: <u>Animals</u>
Prior substantive knowledge		Substantive knowledge taught		Disciplinary knowledge*
Name body parts. Eyes, ears, nose, mouth		The <u>5 senses</u> are sight, taste, sound, touch and smell. The body parts that help us use these senses are our nose, ears, eyes, mouth and skin. 		N/A
National curriculum objective for substantive knowledge				
Animals Identify, name, draw and label basic parts of the human body, including those related to the senses				
Vocabulary				
sight, taste, sound, touch and smell.		Suggested experiments covered and questions		
Observe using sense a range of different items and describing which sense they are using. Items in feely bags. Sound in headphones. Taste of food from storybook. Smell of items from story etc				

*For previous and post disciplinary knowledge see Disciplinary knowledge progression document. Please note this is also a national curriculum objective.

Science Knowledge Organiser

	Year	Term: Autumn 2	Topic: Splendid Skies	Area of Science: Seasonal Changes
Prior substantive knowledge		Substantive knowledge taught		Disciplinary knowledge*
Understanding of day and night / light and dark.		The four <u>seasons are Spring, Summer, Autumn and Winter</u>. In the summer it is sunnier than in the winter when it is colder. The length of each day changes. In the summer there is more sunlight than in the winter. Explain common weather types and link them to the correct season. Snow in winter. Hot sunny weather summer. Colder, windier weather in Autumn. Discuss how wind is measured using the Beaufort Scale.		Working Scientifically
National curriculum objective for substantive knowledge				• Observe objects, materials and living things and describe what they see. Observe closely, using simple equipment
Seasonal Changes				• Use simple non-standard measurements in a practical task. Gather and record data to help in answering questions
• Broadly assign different weather types to seasons				• Use the observations and ideas to suggest answers to questions
• Observe and describe weather associated with the seasons and how day length varies				• Perform simple tests
• Describe how day length changes over a year from experience and if and how it affects their lives				
Vocabulary				Suggested experiments covered and questions
Spring, Summer, Autumn and Winter..				What is the windiest place in school? Measure wind using anemometer and simple windmill devises. Measure participation and temperature across the half term and spot patterns from your findings.

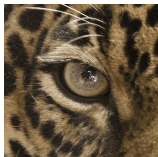
*For previous and post disciplinary knowledge see Disciplinary knowledge progression document. Please note this is also a national curriculum objective.

Science Knowledge Organiser

	Year	Term: Spring 1	Topic: Moon Zoom	Area of Science: Materials
Prior substantive knowledge		Substantive knowledge taught		Disciplinary knowledge*
<u>Straw, sticks</u> and <u>bricks</u> can be used to build a house. Bricks are the <u>strongest</u> .		Materials such as <u>plastic</u> can be hard but bendy. <u>Fabric</u> is used for clothing because it is bendy. <u>Wood and stone</u> are used in construction because they are hard and strong.		<u>Working Scientifically</u>
National curriculum objective for substantive knowledge				• Talk about their findings and explain what they have found out. Use their observations and ideas to suggest answers to questions • Use everyday language and begin to use simple scientific words to ask or answer a scientific question. • Follow instructions to complete a simple test individually or in a group
<u>Uses of everyday materials</u>				
• Describe properties of a material using everyday language or simple science vocabulary (e.g. hard/soft or bendy/not bendy) • Name a range of everyday materials including wood, plastic, metal, rock and glass • Group and sort materials according to their simple physical properties by using every day or simple scientific language to ask and/or answer a question on given data				
Vocabulary				Suggested experiments covered and questions
Wood, Plastic, Glass, Paper, Water, Metal, Rock, Hard, Soft, Bendy, Rough, Smooth				Comparing materials – which is best for a space helmet? Weight drop test onto different materials covered in unit.

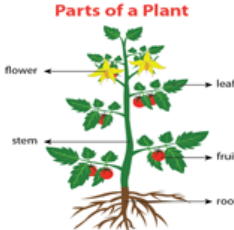
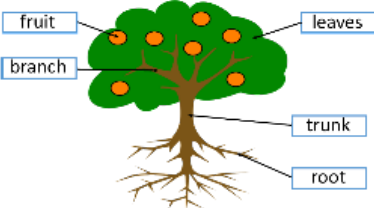
*For previous and post disciplinary knowledge see Disciplinary knowledge progression document. Please note this is also a national curriculum objective.

Science Knowledge Organiser

	Year	Term: Spring 2	Topic: Paws, Claws & Whiskers	Area of Science: Animals
Prior substantive knowledge		Substantive knowledge taught		Disciplinary knowledge*
Children know about herbivores, omnivores and carnivores and that they eat different things. They are aware of the lifecycle of a butterfly and a chick. They can name and identify a range of different animals but can not categorise them.		Animals Carnivores such as foxes eat meat. They have sharp claws and teeth to catch their prey, herbivores are animals that just eat planets . Animals such as deer have lots of molar teeth to help them chew up vegetation. Omnivores eat both meat and plants. They do not have claws but some have sharp teeth for ripping down vegetation. Examples are, robins, rats and badgers. Fish are cold blooded animals that have gills and fins and live underwater. Amphibians, are cold-blooded vertebrate animals. They spend part of their lifecycle in water and part on land. Often the larval stage is underwater. Examples include frogs, toads and newts. Reptiles are a vertebrate animal that have dry scaly skin and typically laying soft-shelled eggs on land. Snakes, lizards, crocodiles, turtles, and tortoises are examples of these. Birds are a warm-blooded egg-laying animals. They have feathers, wings, a beak, and can usually fly. Mammals are a warm-blooded animals that have hair or fur, Example are whales, humans, dogs and monkeys.		Working Scientifically • Sort and group objects, materials and living things, with help, according to simple observational features. Identify and Classify • Follow instructions to complete a simple test individually or in a group
National curriculum objective for substantive knowledge				
Animals • Identify whether an animal is a carnivore, herbivore or omnivore and how we might know this from their physical appearance • Name a variety of common animals that are carnivores, herbivores and omnivores • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals) • Identify and name a range of common animals from the local and wider environment				
Vocabulary				Suggested experiments covered and questions
Carnivores prey, herbivores molar teeth vegetation. Omnivores claws teeth, blooded animals gills fins underwater. Amphibians, cold-blooded vertebrate lifecycle warm-blooded. Mammals Native Non native				• Love to investigate = to support Why do we have teeth? Classify different animals based on their appearance. Sorting images of animals into correct classifications based on physical appearance.

*For previous and post disciplinary knowledge see Disciplinary knowledge progression document. Please note this is also a national curriculum objective.

Science Knowledge Organiser

	Year	Term: Summer 1	Topic: Enchanted woodland	Area of Science: Plants
Prior substantive knowledge		Substantive knowledge taught		Disciplinary knowledge*
Children know some plants come from seeds and have planted them and watched them grow. They are able to identify flowers, trees and bushes.		Trees that grow in the local <u>environment</u> are <u>cherry, oak, sycamore and silver birch</u> . These can be identified by their truck, leaves and blossom types. Common flowers are Roses.,Daffodils, Sunflowers and daisies. Parts of a plant include, <u>root, stem, stalk, leaves, flowers, bulb, fruit, seeds and trunk</u>		Working Scientifically Sort and group objects, materials and living things, with help, according to simple observational features. Identify and classify
National curriculum objective for substantive knowledge		Parts of a Plant  Evergreen trees, such as pine, are tree that do not loose their leaves. Deciduous trees such as ash, birch and oak, do loose their leaves in the winter. Children can identify common woodland animals including, Fox, Deer, rabbit, mouse, hedgehog, squirrel, pheasant.		
Plants - Identify and name common flowers and trees found growing in the locality - Identify and name a range of common woodland animals - Sort trees in to groups to show those that are evergreen and those that are deciduous - Identify the basic structural parts of common flowering plants and trees, including root, stem, stalk, leaves, flowers, bulb, fruit, seeds and trunk - Care for a growing seedling, observing and describing its growth Animals - Name animals living in a range of familiar environments such as their homes, woodland or school grounds		The Parts of a Tree 		
Vocabulary				Suggested experiments covered and questions
truck, leaves blossom types. root, stem, stalk, leaves, flowers , bulb, fruit, seeds and trunk Evergreen Deciduous Nocturnal				-Sort native animals based on locality – Woodland / city. -Dissect a daffodil -Plant and care for a sunflower/tomato seeding

*For previous and post disciplinary knowledge see Disciplinary knowledge progression document. Please note this is also a national curriculum objective.

Science Knowledge Organiser

	Year	Term: Summer 2	Topic: Bright Lights Big City	Area of Science: Materials
Prior substantive knowledge		Substantive knowledge taught		Disciplinary knowledge*
Materials such as <u>plastic</u> can be hard but bendy. <u>Fabric</u> is used for clothing because it is bendy. <u>Wood and stone</u> are used in construction because they are hard and strong.		<u>Materials</u> Buckets are made of <u>plastic</u> because they hold their form, are waterproof and strong. Houses are made from <u>brick or stone</u> because they are strong and hard wearing. <u>Metal</u> is used to make cars because it can be bent into shapes, is strong and can be light for its size.		N/A
National curriculum objective for substantive knowledge				
Everyday Materials Identify the material an object is made from suggesting why it is made from that material				
Vocabulary				Suggested experiments covered and questions
waterproof				N/A

*For previous and post disciplinary knowledge see Disciplinary knowledge progression document. Please note this is also a national curriculum objective.