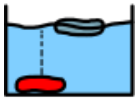
	Area	**Plants (Observations of animals and plants)** 	**Changing states of matter** 	**Floating and sinking** 	**Light and shadow** 	**Animals and their habitats (Contrasting environments)** 	**Life cycles** 	**Seasonal Changes** 
R E C P T I O N	Big question/ Key focus 	What does a bean need to grow?	Can something that has melted become solid again?	Do all big things sink?	Do taller children have longer shadows?	Are all bear habitats the same?	Do all livings things go through a life cycle?	What are seasonal changes?
	Enquiry Types	**Comparative/ fair testing**	**Problem solving**	**Classifying**	**Pattern Seeking**	**Researching**	**Researching**	**Observing over time**
	Working Scientifically  Disciplinary Knowledge	Talking about what they notice Use scientific words Similarities and differences Use equipment and tools	Questioning Testing own ideas Senses Notice changes Use equipment and tools	Questioning Scientific words Testing own ideas	Use equipment and tools Similarities and differences Use scientific words Senses	Similarities and differences Create representations Scientific words	Talk about what they notice Notice changes Similarities and differences Creating representations	Senses Similarities and differences Noticing changes Creating representations
	Key knowledge  Substantive	A seed grows roots The roots grow down (for water). A seed grows shoots. The shoots grow up (for sunlight).	Water is a liquid. Ice is a solid. We can change it from/to solid to liquid by freezing and melting. Changing the temperature of water/ice can mean it freezes or melts.	Floating means an item stays at the top. Sinking means it goes to the bottom.	A shadow appears when light is blocked. Shadows change based on the position of the light.	Some environments are different to our home. There are different types of habitats. Animals are adapted to live in different habitats.	Not all animals look like their babies. Plants and animals go through a life cycle. Life cycles keep repeating.	Autumn - leaves change colour and fall off the trees. Animals hibernate. Winter - the weather is cold. Water can freeze, to create ice/ frost. This will melt again. Spring – it will get warmer, plants grow and animals are born. **Summer** – weather is warmer, plants grow and flowers bloom.

	Key vocabulary 	Seed Root Shoot Leaves	Freeze Melt Solid Liquid Temperature	Sink Float Heavy Light	Shadow Light	Habitat Hibernate Camouflage	Life cycle Changes	Hatch Blossom
	Cultural Capital	Visit from Wakehurst Place gardener Visit to Butcher's Wood	Visits from scientists (parents).			Make and play top trump cards		

	Area	**Plants** 	**Everyday Materials** 	**Animals including Humans** 	**Seasonal Changes** 
Year 1	Big question/ Key focus 	How can we identify and group trees and plants?	What properties do materials need to be waterproof?	How can we identify and classify animals? What do our 5 senses do?	What changes can you observe throughout the seasons?
	Enquiry types	Observing, identifying, classifying and grouping, recording	Comparative/fair testing	Identifying, classifying and grouping	Observing over time, recording
	Working Scientifically  (Disciplinary Knowledge)	Grouping plants and trees into categories (e.g: deciduous and evergreen, wild or garden plants.) Recording their observations.	Ask simple questions. Use observations and ideas to suggest answers to questions. Gathering and recording data to help in answering a question.	Identifying and classifying animals using criteria.	Observing closely with magnifying glasses, comparing and contrasting familiar plants and describing how we can identify and group them (evergreen, deciduous)
	Key knowledge  (Substantive knowledge)	Plants and trees can be identified by how they look. Trees have different parts including roots, a trunk, branches and leaves. Some trees are deciduous and lose their leaves in autumn. Some trees are evergreen and keep their leaves all year. Plants need water and light to grow. Different plants can be grouped by their features.	Objects are made from materials. Materials have different properties. Some materials are waterproof, and some are absorbent. Materials can be hard or soft, smooth or rough, shiny or dull. Materials are chosen for a purpose because of their properties. Some materials are better for keeping things dry than others.	Animals can be grouped into fish, amphibians, reptiles, birds and mammals. Animals can be grouped by what they eat: carnivores, herbivores and omnivores. Animals have different body parts that help them move and survive. Humans have the same basic body parts. Humans use their senses to see, hear, smell, taste and touch.	There are four seasons: spring, summer, autumn and winter. The weather changes across the seasons. Day length changes during the year. In summer the days are longer and warmer. In winter the days are shorter and colder. Plants and animals change as the seasons change.

	Key vocabulary 	Plant, tree, evergreen, deciduous, roots, trunk, branches, stem, leaves, flower, seed, bulb, blossom	Material, object, properties, waterproof, absorbent, bendy, smooth, rough, shiny, dull, stretchy, soft, hard	Animal, fish, amphibian, reptile, bird, mammal, carnivore, herbivore, omnivore, senses	Seasons, winter, spring, summer, autumn, weather, rainfall, temperature, sunlight, light, dark.
	Cultural capital	Group visits to 'The Patch' in Hassocks	Practical design experience (making a hat to test materials)		Seasonal outdoor observations, nature walk on school field.

Year 2	Area	**Plants** 	**Everyday Materials** 	**Animals including Humans** 	**Living Things and Their Habitats** 
	Big question/ Key focus 	How does a plant grow from a seed or a bulb? What does a healthy plant look like?	Can I change the properties of some materials?	How do humans grow and stay healthy? What makes a good habitat? Where do small creatures make their homes?	
	Enquiry types	Comparative and fair testing Observing over time	Identifying, classifying and grouping Comparative and fair testing	Identifying, classifying and grouping	Pattern seeking Researching
	Working Scientifically  (Disciplinary knowledge)	-Observing and recording growth of plants as they change over time -Comparative test to show that plants need light and water to stay healthy	- Testing and comparing the use of everyday materials within school with those in other places -Observing, identifying and classifying the uses of different materials -Recording observations	-Identifying, classifying and grouping into living, dead and never alive. -Observing to notice that humans and animals change as they grow, and that they can have offspring. -Closely observing and pattern seeking to see whether more animals live in wet or dry microhabitats on the school field. -Researching to find out what animals eat.	
	Key knowledge  (Substantive knowledge)	Plants need water, light, air and a suitable temperature to grow and stay healthy. Seeds and bulbs grow into mature plants over time. Different plants can be identified and named.	-Materials have different properties which make them useful for some things and not others. -We can change the shape of some solid objects by squashing, bending, twisting and stretching.	A habitat is the natural home of a living thing. Habitats provide what living things need to survive, including food, water, air and shelter. A microhabitat is a small habitat where tiny animals live. Living things can be grouped as living, dead or never alive. Food chains show how animals get their food and energy.	
	Key vocabulary 	Life cycle, survive, thrive, healthy, temperature seed, bulb, plant, grow, soil, water, light, temperature.	Rigid, flexible, squash, bend, twist, stretch, material, soft, hard, strong	Living, alive, never alive, habitat, microhabitat, environment, predator, prey, consumer, producer, food chain, human, growth, reproduce	
	Cultural Capital	Forest School Trip to Wakehurst Place – botanical gardens.			