

## Science Year 1 /2

Key Threshold Concepts	<u>Scientific attitudes</u>
<ul style="list-style-type: none"> <li>• Science is about looking closely at the world around us, making observations, asking questions, and thinking about how we could find the answers.</li> <li>• We can affect the things around us.</li> <li>• Not every object, place, living thing, and material is the same.</li> <li>• There are often explanations for the changes, events, and other observations we make of the world around us.</li> <li>• If we look closely at the world around us, we can often find explanations for what we see.</li> <li>• Materials have different properties and these affect what they are used for.</li> <li>• Living things find what they need to stay healthy in the environment around them.</li> <li>• Different living things need different things to stay healthy and survive.</li> </ul>	<ul style="list-style-type: none"> <li>• I can use science to help us to understand what we observe in the world around us</li> <li>• I can look at the world with curiosity and a desire to understand more</li> </ul>

Working Scientifically Key Skills		
Experimental skills and investigations	Analysis and Evaluation	Measurement
<ul style="list-style-type: none"> <li>• I can ask relevant questions and know that they can be answered in different ways</li> <li>• I can make careful observations</li> <li>• I can perform simple tests</li> <li>• I can observe things carefully using simple equipment</li> </ul>	<ul style="list-style-type: none"> <li>• I can identify and classify living things and materials by their basic structures or properties</li> <li>• I can use observations to suggest answers to questions</li> <li>• I can gather and record data to help answer questions</li> </ul>	<ul style="list-style-type: none"> <li>• I can take measurements using simple equipment</li> </ul>

Scientific Enquiry Skills				
Observation over time	Pattern Seeking	Identifying, classifying and grouping	Comparative and Fair Testing	Research
<ul style="list-style-type: none"> <li>• I can ask questions about how and why things change</li> <li>• I can questions about how and why things are similar or different</li> <li>• I can with help identify changes to observe and measure and suggest how to do it</li> <li>• I can use non-standard units and simple equipment to record changes</li> <li>• I can record in words or pictures or in simple prepared formats such as tables and / or charts</li> <li>• I can make comparisons between simple features of objects, materials or living things</li> </ul>	<ul style="list-style-type: none"> <li>• I can ask questions about why and how things are linked</li> <li>• I can decide what patterns to observe, measure, and suggest how to do it.</li> <li>• I can use non-standard units and simple equipment to record events that might be related</li> <li>• I can record in words or pictures or in simple prepared formats such as tables, tally charts and maps</li> </ul>	<ul style="list-style-type: none"> <li>• I can decide what to observe to identify or sort things</li> <li>• I can sort objects by observable and behavioural features</li> <li>• I can record my sorting in sorting circles or tables</li> <li>• I can identify similarities and differences and talk about them</li> <li>• I can use scientific language to talk about how things are similar or different</li> <li>• I can use my records to help sort or identify other things</li> </ul>	<ul style="list-style-type: none"> <li>• I can ask questions about why and how</li> <li>• I can, with help notice links between cause and effect</li> <li>• I can, with help identify simple variables to change and measure</li> </ul>	<ul style="list-style-type: none"> <li>• I can ask questions about how things are and the way they work</li> <li>• I can, with help make suggestions about how to find things out</li> </ul>

Vocabulary						
<ul style="list-style-type: none"> <li>• question</li> <li>• find</li> <li>• observe</li> <li>• identify</li> <li>• experiment</li> </ul>	<ul style="list-style-type: none"> <li>• predict</li> <li>• test</li> <li>• compare</li> <li>• because</li> <li>• investigate</li> <li>• sense</li> </ul>	<ul style="list-style-type: none"> <li>• answer</li> <li>• pattern</li> <li>• measure</li> <li>• Biology, chemistry, physics</li> </ul>	<ul style="list-style-type: none"> <li>• classify</li> <li>• record</li> <li>• diagram / chart</li> <li>• group</li> <li>• sort</li> </ul>	<ul style="list-style-type: none"> <li>• similar</li> <li>• different</li> <li>• Similarities</li> <li>• differences</li> </ul>	<ul style="list-style-type: none"> <li>• describe</li> <li>• data</li> <li>• measure</li> <li>• change</li> <li>• fair</li> <li>• expected</li> </ul>	<ul style="list-style-type: none"> <li>• question</li> <li>• how / why</li> <li>• John Dunlop- rubber</li> <li>• Charles Macintosh - waterproof fabric</li> </ul>

Key Knowledge							
Y1		Y1 & 2			Y2		
Biology		Chemistry		Physics	Biology		Chemistry
Plants	Animals including Humans	Everyday Materials	Seasonal Changes	Plants	Animals Including Humans	Living things and their habitats	Uses of Everyday Materials
<ul style="list-style-type: none"> <li>I know the names of a variety of common wild and garden plants.</li> <li>I know the names of a variety of common trees including deciduous and evergreen trees.</li> <li>I know the difference between deciduous and evergreen trees.</li> <li>I know the basic structure of a variety of common flowering plants, including trees</li> </ul>	<ul style="list-style-type: none"> <li>I know a variety of common animals including fish, amphibians, reptiles, birds and mammals</li> <li>I know variety of common animals that are carnivores, herbivores and omnivores</li> <li>I know the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</li> <li>I know the basic parts of the human body and know which part of the body is associated with each sense.</li> </ul>	<ul style="list-style-type: none"> <li>I know that objects are made from materials</li> <li>I know the names of a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>I know the simple physical properties of a variety of everyday materials.</li> <li>I know how I can group materials together based on simple physical properties.</li> </ul>	<ul style="list-style-type: none"> <li>I know the changes that occur across the four seasons</li> <li>I know the weather types associated with the seasons</li> <li>I know how day length varies across the four seasons</li> </ul>	<ul style="list-style-type: none"> <li>I know how seeds and bulbs grow into mature plants</li> <li>I know that plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul>	<ul style="list-style-type: none"> <li>I know that animals, including humans, have offspring which grow into adults</li> <li>I know the basic needs of animals, including humans, for survival (water, food and air)</li> <li>I know the importance for humans of exercise, eating the right amounts of different types of food and hygiene.</li> </ul>	<ul style="list-style-type: none"> <li>I know the differences between things that are living, dead, and things that have never been alive.</li> <li>I know that most living things live in habitats to which they are suited.</li> <li>I know how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</li> <li>I know the names of a variety of plants and animals in their habitats, including micro-habitats</li> <li>I know 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.</li> </ul>	<ul style="list-style-type: none"> <li>I know how suitable / unsuitable a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard are for particular uses.</li> <li>I know that some materials can be used for more than one thing. (metal can be used for coins, cans, cars and table legs; wood can be used for matches, floors, and telegraph poles)</li> <li>I know that different materials are used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass).</li> <li>I know how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul>
Vocabulary							
Alder, Willow, Oak, Maple, Beech, Elm, Hawthorn, Hazel, Holy, Birch, Foxglove, Sunflower, Tulip, Rose, Sweet Pea, Lily, Carnation, Daffodil, Common wild plant, garden plants, tree deciduous, evergreen, trunk, branches, leaf, root, plant, leaf, bud, flowers, blossom, petals, root, stem, fruit, vegetables, bulb, seed	common animals, fish, amphibians, reptiles, birds, mammals, pets, human, carnivores, meat, cat, dog, lion, tiger, fox, shark, whale, eagle, hawk, snake, herbivores, plants, cow, hamster, guinea pig, tortoise, omnivores, badger, bear, chickens, meat, plants head, neck, arms, elbows, legs, knees face, ears, eyes, hair, mouth, teeth, sight, smell, touch, smell, taste	material, wood, plastic, glass, metal, water, rock, properties, hard, soft, stretch, stiff, shiny, dull, rough, smooth, bendy, waterproof, absorbent, brick, paper, fabrics, elastic, foil	season, spring, summer, autumn, winter, weather, hot/ warm, cool/ cold, sun/ sunny, cloud/ cloudy, wind/ windy, rain/ rainy, snow/ snowing, hail/ hailing, sleet, frost, fog/ mist, ice/icy, rainbow, thunder, lightning, storm, light/ dark, day/ night time, change	water light Suitable temperature grow healthy germination reproduction	Offspring, grow, adults, nutrition, reproduce, survival, water, food, air, exercise, hygiene egg-chick-chicken egg-caterpillar-pupa-butterfly spawn-tadpole-frog lamb-sheep baby-toddler-child-teenager-adult	Living, dead, never alive, habitats, micro-habitats, food, food chain- (sun-grass-cow-human) alive, healthy, logs, woodland, seashore, shelter, ocean, rainforest, leaf litter, woodlice, conditions hot/ warm/ cold dry/ damp/ wet bright/ shade/ dark	wood, metal, plastic, glass, brick, rock, paper, cardboard, squashing, properties, uses, purpose, bending, twisting, stretching waterproof, absorbent, suitable, unsuitable