

Year	Topic	Topic	Topic	Topic	Topic
1	Plants (Identifying Plants)	Seasonal changes	Animals, including humans (Identifying Animals)	Everyday materials	
2	Plants (Growing Plants)	Living things and their habitats (Living in Habitats)	Animals, including humans (Growth and Survival)	Uses of everyday materials (Exploring Everyday Materials)	
3	Plants (How Plants Grow)	Light (Light and Shadow)	Animals, including humans (Health and Movement)	Rocks (Rocks, Fossils and Soils)	Forces and magnets
4	Sound	Living things and their habitats (Living in Environments)	Animals, including humans (Eating and Digestion)	States of matter	Electricity (Circuits and Conductors)
5	Earth and space	Living things and their habitats (Life Cycles curriculum links to Sex Ed/RSE)	Animals, including humans (Changes and Reproduction)	Properties and changes of materials	Forces (Forces in Action)
6	Evolution and inheritance	Living things and their habitats (Classifying Organisms)	Animals, including humans (Healthy Bodies)	Light (Seeing Light)	Electricity (Changing Circuits)

Progression in Working Scientifically;

KS1 (for pupils working towards Year 1 and 2 Curriculum):	Check list
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.	



Year 2 – Plants (Growing Plants)

NC Objectives and Learning Objectives/Assessment criteria from Classroom Monitor	Essential Knowledge	Working Scientifically (follow year 1 and 2)
	Key Learning:	Key Question(s):
- Observe and describe how seeds and bulbs grow into mature plants. - Find out and describe how plants need water, light and warmth to grow and stay healthy. - I can look closely (observe closely) at plants and trees, and record what I see. - I can plant seeds and bulbs, and suggest how to care for them. - I can set up a test and make a prediction. - I can describe the life cycle of plants. - I can identify if plants are living or dead. - I can describe what plants need to grow. - I can observe and describe the growth of seeds. - I can observe and describe the growth of bulbs. - I can record the results of a comparative test. - I can make a bar chart to show the growth of my plants.	Children must know and understand that: - Plants grow from seeds/bulbs - Plants need light, water and warmth to grow and survive - Flowers make seeds to make more plants (reproduce) - Plants are important - We need plants to survive (clean air and eating) - We can eat different parts of the plants (leaves, stems, roots, seeds, fruit)	- Does cress produce seeds? How can we find out? - Do all plants produce flowers and seeds? - What is the difference between freshly cut and planted flowers? - Do plants flower all year round? - What are flowers for? - What happens to a plant after it has produced seeds?
	Using and Applying knowledge: - Make close observations of seeds and bulbs - Classify seeds and bulbs - Look after plants as they grow e.g. water, weeding. - Make close observations and take measurements of plants growing from seeds or bulbs. Record it. - Make comparisons between plants as they grow.	PLAN Resources for Assessment (via Canvas): - Progression in working scientifically skills Year 1&2 - Working scientifically skills Year 1&2 - PLAN Primary Science – Supporting Assessment (Plants Year 2 - Max)
Prior Learning	Misconceptions:	

In Year 1 Children should: - Identify and name a variety of wild and garden plants, including deciduous and evergreen trees. - Identify and describe the different parts of plants and trees. - Label a flowering plant e.g. root, stem, leaf, flowering part (bud, petals). - Identify and name some common trees by their leaves, e.g. pine, oak, willow - Sort deciduous and evergreen leaves.	- Plants are not alive because they do not move. - Seeds are not alive. - All plants start off as seeds or bulbs. - Seeds and bulbs need sunlight to germinate.	<i>In Year 3 Children will:</i> - Identify and describe the functions of different parts of the flowering plant, roots, stem/leaves and flowers - Explore the part flowers play in a flowering plant life cycle, including: pollination, seed formation and seed dispersal - Explain what plants need to grow (air, light, water, nutrients from soil, room to grow) - Know how water is transported up to the plants
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Vocabulary [TA to create a list of key vocabulary, add sign graphics AND pictures next to each word]:

Leaves, trunk, branch, root, seed, bulb, flower, stem, wild, garden, deciduous, evergreen, observe, grow, compare, record, temperature, predict, measure, diagram, germinate, warmth, sunlight.

Teaching Ideas (examples) – Year 1 & 2 Working Scientifically

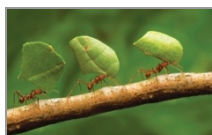
Ask simple questions	Observing closely	Performing simple test	Identifying & classifying	Gathering & recording data	Using observation to suggest answers to questions
Does cress seeds grow quicker inside or outside?	Do bulbs grow quicker than seeds?	What happens to my bean after I have planted it?	Do bigger seeds grow into bigger plants?	How do cactus survive in a desert without water?	What do I need to grow a healthy plant? What does a healthy plant need?



Year 2 – Living things and their habitats (Living in habitats)

NC Objectives and Learning Objectives/Assessment criteria from Classroom Monitor	Essential Knowledge	Working Scientifically (follow year 1 and 2)
	Key Learning:	Key Question(s):
- Explore and compare the difference between living and non-living things and things that have never been alive. - 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. - Identify and name a variety of plants and animals in their habitats, including micro habitats. - Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name the different sources of food. I can identify and classify objects that are living and non-living. I can compare which plants and animals are living and non-living. I can explain what habitat means and give examples. I can identify and name plants and animals in their habitats. I can describe how animals get their food (from plants and other animals). I can create a simple food chain.	Children must know and understand that: - Some things are living, some were once living but now are non-living, and some things never lived. - There is a variation between living things. - Different animals and plants live in different places. Living things are adapted to survive in different habitats. - Environmental change can affect plants and animals that live there.	- How do animals eat? - Do all animals eat the same things? - Which animals hunt and which animals are hunted? Why? - What animals live in our school environment? - How are animals and plants 'adapted' to live in their habitats? - Why do animals and plants like to live in different habitats/places? - How do seasons affect our animals and plants? - Which animals hibernate and why?
	Using and Applying knowledge: - Explore the outside environment to identify objects that are living or non-living - Classify objects found in the local environment - Observe animals and plants by drawing and labelling them - Create simple food chains for familiar plants and animals (or from the local environment) - Create simple food chains using the information/pictures provided	PLAN Resources for Assessment (via Canvas): - Progression in working scientifically skills Year 1&2 - Working scientifically skills Year 1&2 - PLAN Primary Science – Supporting Assessment (Living things and their Habitats Year 2 - Max)

I can explain how living things (animals and plants) in a habitat depend on each other.					
Prior Learning	Misconceptions:				
In Year 1 Children should: - Describe how the weather changes across the four seasons. - Describe a day in the summer and a day in the autumn. - Observe and describe the weather in autumn and winter seasons. - Collect and record data about the weather in the autumn and winter seasons. - Identify changes in the trees and in our clothes during the summer and winter seasons.	- An animal’s habitat is like its ‘home’ - Plants and seeds are not ‘alive’ as they cannot be seen to be moving - Fire is living - Arrows in a food chain mean ‘eats’	<i>In Year 4 Children will:</i> - Recognise that living things can be grouped in a variety of ways. - Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. - Know and label the features of a river - Recognise that environments can change and that this can sometimes pose danger to living things.			
Vocabulary [TA to create a list of key vocabulary, add sign graphics AND pictures next to each word]: Living, dead, never alive, habitats, micro-habitats, food, food chain, leaf litter, shelter, sea shore, woodland, ocean, rainforest, conditions, desert, damp, shade					
Teaching Ideas (examples) – Year 1 & 2 Working Scientifically					
Ask simple questions	Observing closely	Performing simple test	Identifying & classifying	Gathering & recording data	Using observation to suggest answers to questions
I can answer simple questions about habitats and why some animals / insects prefer to live in these habitats?	Which habitat do worms prefer – where can we find the most worms?	Do a field trip and find animals.	Identify animals living in their specific habitats.	Identify and record by drawing/labelling animals found in different habitats.	Do all animals live in the same place?



Year 2 – Animals, including humans (Growth and Survival)

NC Objectives and Learning Objectives/Assessment criteria from Classroom Monitor	Essential Knowledge	Working Scientifically (follow year 1 and 2)
	Key Learning:	Key Question(s):
- Know that animals, including humans, have offspring which grow into adults - Know the basic stages in a life cycle for animals, including humans. - Find out and describe the basic needs of animals, including humans, for survival (water, food and air). - Describe the importance for humans to exercise, eat the right amounts of different types of food, and hygiene. - I can describe how animals/humans change as they grow. - I can match animals/human and their babies. - I can describe what animals need to grow and survive. - I can sort and label the stages of growth in humans. - I can describe what humans need to grow and survive (water, food, air (oxygen)). - I can identify healthy and unhealthy food and draw/say what I should eat. - I can draw/list ways I can improve my diet. - I can list reasons why humans need to exercise.	Children must know and understand that: - Animals move in order to survive. - Different animals move in different ways to help them survive. - Exercise keeps animal's bodies in good condition and increases survival chances. - All animals eventually die. - Animals reproduce new animals when they reach maturity. - Animals grow until maturity and then stop growing any more.	- How long should my pet/s live for? - Do all animals grow and live in the same way? - Do bigger animals live longer? - Why do we all have different height measurement? - How and why do we grow and change?
	Using and Applying knowledge: - Explore the life cycles of some animals - YouTube or recall previous science experiments, observe animals growing over time e.g. chicken, butterfly, a baby - Ask staff who are mothers, how do they look after their baby/babies?	PLAN Resources for Assessment (via Canvas): - Progression in working scientifically skills Year 1&2 - Working scientifically skills Year 1&2 - PLAN Primary Science – Supporting Assessment (Animals including humans Year 2 – Max)

I can give examples why we need to keep ourselves clean.					
Prior Learning	Misconceptions:				
In Year 1 Children should: - Draw and label their body parts. - Identify body parts that they use to see, hear, smell, feel and taste. - Match the 5 senses with the correct body parts. - Identify common animals. - Sort animals into groups. - Describe and compare common animals. - Describe what carnivores, herbivores and omnivores mean. - Identify and label animals that are carnivores, herbivores and omnivores. - Sort animals into carnivores, herbivores and omnivores.	- An animal’s habitat is like its ‘home’. - All animals that live in the sea are fish. [extension] Respiration is breathing. Breathing is respiration.	<i>In Year 3 Children will:</i> - Identify that animals, including humans, need the right types and amount of nutrition, and they cannot make their own food; they get their nutrition from what they eat. - Know how nutrients, water and oxygen are transported within animals and humans. - Know about the importance of a nutritious and a balanced diet. - Identify that humans and some other animals have skeletons and muscles for support, protection and movement.			
Vocabulary [TA to create a list of key vocabulary, add sign graphics AND pictures next to each word]: Living, dead, never alive, habitats, micro-habitats, food, food chain, leaf litter, shelter, sea shore, woodland, ocean, rainforest, conditions, desert, damp, shade					
Teaching Ideas (examples) – Year 1 & 2 Working Scientifically					
Ask simple questions	Observing closely	Performing simple test	Identifying & classifying	Gathering & recording data	Using observation to suggest answers to questions

	Observe and record the growth of pupils in your class.	Record/Draw what I eat every day for breakfast, lunch and dinner.	Identify and classify which animals give birth to babies and which animal lay eggs.	Collect information on healthy / unhealthy food your class eat and draw a bar chart.	What happens if I eat unhealthy food and do not exercise?
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Year 2 – Uses of everyday materials (Exploring Everyday Materials)

NC Objectives and Learning Objectives/Assessment criteria from Classroom Monitor	Essential Knowledge	Working Scientifically (follow year 1 and 2)
	Key Learning:	Key Question(s):
- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. - Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. - I can give examples of everyday materials. - I can identify uses of different everyday materials. - I can identify and group the uses of everyday materials. - I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. - I can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. - I can demonstrate that you can use different materials to change the shape of an object.	Children must know and understand that: Materials can be changed by physical force (twisting, bending, squashing and stretching)	It is recommended to incorporate the topic of materials in your termly KS1 Curriculum based on the theme for each topic e.g. buildings, exploration, toys, the seaside. Pupils to investigate different types of materials and their properties in each topic so they are exposed to working with different materials. <u>Buildings</u> - Which materials should I use to build the walls of a castle? - Which rocks are the least crumbly? - Which materials absorb the most water? - Which type of brick would be the easiest to drag/carry to make a pyramid/castle? - Which material would be the strongest to use as a floor tile? Roof tile? <u>Toys</u> - Which fabric would make the softest blanket e.g. to keep a baby warm? - Which materials do we need to make a slippery slide? - Which chocolate will melt fastest - on a warm plate or on a warm hand? - Which wrapping papers are strong enough to wrap and post a present? <u>Clothing & Materials</u> - Which material could make a waterproof boat?

I can describe what recycling means and give an example.		Which plastic would be flexible enough to make a belt or hand holder for the shield?			
	Using and Applying knowledge:	PLAN Resources for Assessment (via Canvas):			
	- Be able to classify different materials - Be able to suggest an alternative material that will be suitable or not. - Test the properties of materials e.g. test materials for waterproofness to make a boat or a rain hat.	- Progression in working scientifically skills Year 1&2 - Working scientifically skills Year 1&2 - PLAN Primary Science – Supporting Assessment (Uses of Everyday Materials Year 2 - Glory)			
Prior Learning	Misconceptions:				
In Year 1 Children should: - Identify and name different materials. - Tell the difference between an object and the material it is made from. - Describe the properties of everyday materials. - Draw a picture of an object and label the materials used. - Compare and group everyday materials based on their physical properties. - Sort objects by their properties. - Test different materials. - Decide which material/s to make an object e.g. a boat.	- Only fabrics are materials - Only building materials are materials - Only writing materials are materials - The word ‘rock’ describes an object rather than a material ‘Solid’ is another word for hard	In Year 3 Children will: - Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties - Describe in simple terms how fossils are formed when things that have lived are trapped within the rock - Recognise that soils are made from rocks and organic matter.			
Vocabulary [TA to create a key list of vocabulary, add sign graphics AND pictures next to each word]: Waterproof, fabric, rubber, cars, rock, paper, cardboard, wood, metal, plastic, glass, brick, twisting, squashing, bending, matches, cans, spoons.					
Teaching Ideas (examples) – Year 1 & 2 Working Scientifically					
Ask simple questions	Observing closely	Performing simple test	Identifying & classifying	Gathering & recording data	Using observation to suggest answers to questions

Can their idea of a specific material be used for another purpose?	Observe the different patterns in each material.	Identify which materials can be squashed, bent, twisted and stretched.	Which materials will float and sink?	Gather and record which material can be squashed, bent, twisted and stretched.	Identifying appropriate materials for different uses
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