

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.	



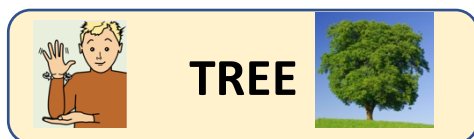
Year 1 – Plants (Identifying Plants)

NC Objectives and Learning Objectives/Assessment criteria from Classroom Monitor	Essential Knowledge	Working Scientifically (follow year 1 and 2)
	Key Learning:	Key Question(s):
- Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. - Identify and describe the basic structure of a variety of common flowering plants. - Identify and name the roots, trunk, branches and leaves of trees. - I can identify and name a variety of wild and garden plants, including deciduous and evergreen trees. - I can identify and describe the different parts of plants and trees. - I can label a flowering plant e.g. root, stem, leaf, flowering part (bud, petals). - I can identify and name some common trees by their leaves, e.g. pine, oak, willow - I can sort deciduous and evergreen leaves.	Children must know and understand that: - Plants grow from seeds/bulbs - Plants need light and water to grow and survive - Plants are important - Fruits and vegetables, we see/buy at shops are from plants - Plants grow fruits and vegetables - We can eat lots of plants that are fruit and vegetables	- How do plants grow? - What do plants need to grow? - Do all plants need water? - Are all plants green? - Do all seeds look the same/different? If so, how or why? - Can plants grow as big in the shade? - What is the biggest/smallest/smelliest (etc) tree/flower/plant on the planet? [Watch Planet Earth by David Attenborough]
	Using and Applying knowledge: - Make close observations of leaves, seeds, flowers etc. - Compare two leaves, seeds, flowers etc. - Classify leaves, seeds, flowers etc. based on their characteristics - Make observations of how plants and trees change over a period of time.	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 1 – Shanae)

Prior Learning	Misconceptions:	
In EYFS Children should: • Make observations of plants • Know some names of plants, trees and flowers • Be able to identify and describe basic differences between plants, trees and flowers • Show some care for the world around them	• Vegetables are not part of plants • All trees are trees • All leaves are green • All plants need water	<i>In Year 2 Children will:</i> • Observe and describe how seeds and bulbs grow into mature plants. • Working scientifically: Do an experiment to find out and describe how plants need water, light and warmth to grow and stay healthy.

Vocabulary [TA to create a list of key vocabulary, add sign graphics AND pictures next to each word]:

e.g.



Leaves, trunk, branch, root, seed, bulb, flower, stem, wild, garden, deciduous, evergreen

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
How many types of plants are there?	Measuring changes in shoots e.g. plant seeds, watch and measure. How do the trees around Kings Cross change over the year?	[Compare] Which tree has the biggest leaves?	How can we <u>sort</u> leaves that we collected from our walk?	Do trees with bigger leaves lose their leaves first in autumn?	What are the most common British plants/trees and where can we find them?



Year 1 – Seasonal Changes

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 changes across the four seasons. - Observe and describe the weather associated with the seasons and how the length of a day varies. I can describe weather changes across the four seasons. I can describe a summer's day and an autumn day. I can observe and describe the weather in the autumn and winter seasons. I can collect and record data about the weather in the autumn and winter seasons. I can identify changes in our clothes and trees during the summer and winter seasons.	Children must know and understand that: - Weather can change - There are lots of different types of weather: Rain, Sun, Cloud, Wind, Snow, etc - Days are longer and hotter in the summer - Days are shorter and colder in the winter - There are four seasons: Spring, Summer, Autumn, Winter	- Which leaf is the strongest/best shade cover/best at directing water off? - What do you notice about the different leaves? - What purpose do leaves serve for a tree? - Why do you think leaves turn brown in the Autumn/Winter? - What leaf colours can we find outside? Do the colours change across the seasons? - What effect does rain have on the environment? - What would happen if there was too much rain? - What would happen if there wasn't enough rain? <i>Optional</i> - Do countries with higher temperatures have less rain? - How does rainfall and temperature change over time in our school grounds?
	Using and Applying knowledge:	PLAN Resources for Assessment (via Canvas):
	- Collect information about weather throughout the year. - Present information visually in a table or a chart.	- Progression in working scientifically skills Year 1&2 - Working scientifically skills Year 1&2 - PLAN Primary Science – Supporting Assessment (Seasonal Changes Year 1 – Ryan)
Prior Learning	Misconceptions:	

In EYFS Children should: • Develop an understanding of change. • Observe and explain why certain things may occur (e.g. leaves falling off trees, weather changes). • Look closely at similarities, differences, patterns and change. • Comment and question about their immediate environment and/or the natural world.	• It always snows in winter • It is always sunny in the summer • There are only flowers in spring and summer • It rains most in the winter	<i>In Year 3 Children will:</i> • Recognise that they need light in order to see things and that darkness is the absence of light. • Notice that light is reflected from surfaces. • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. • Recognise that shadows are formed when light from a light source is blocked by a solid object. • Find patterns in the way that the sizes of shadows change.
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Vocabulary [TA to create a list of key vocabulary, add sign graphics AND pictures next to each word]:

Seasons, spring, summer, autumn, winter, windy, sunny, overcast, snow, rain, temperature

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
What does the Kings Cross area look like in each of the 4 seasons?	Look at photos of an area through seasons and identify the changes.	If we have a data logger: to record the amount of rain water in 1 week.	Identify and classify which trees lose their leaves in the autumn season.	Create a simple bar chart showing the amount of rain water in one week.	Are there plants that flower in every season? What are they?



Year 1 – Animals, including humans (Identifying Animals)

NC Objectives and Learning Objectives/Assessment criteria from Classroom Monitor	Essential Knowledge	Working Scientifically (follow year 1 and 2)
- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. - Identify and name a variety of common animals that are carnivores, herbivores and omnivores. - I can draw and label my body parts. - I can identify body parts that I use to see, hear, smell, feel and taste. - I can match the 5 senses with the body parts. - I can identify common animals. - I can sort animals into groups. - I can describe and compare common animals. - I can describe what carnivores, herbivores and omnivores mean. - I can identify and label animals that are carnivores, herbivores and omnivores. - I can sort animals into carnivores, herbivores and omnivores.	Key Learning:	Key Question(s):
	Children must know and understand that: - There are many different animals with different characteristics. - Animals have senses to help individuals survive. When animals sense things, they are able to respond. - Animals need food to survive. - Animals need a variety of food to help them grow, repair their bodies, be active and stay healthy.	- What do animals eat? - Do all animals eat the same food? - Which of our senses is the most accurate at identifying food? - Do all animals hunt? - Why are animals in different colours and patterns?
	Using and Applying knowledge:	PLAN Resources for Assessment (via Canvas):
	- Visit farm / zoo and make first hand observations of animals from each group (birds, fish, frogs, big / small animals etc). - Draw and measure own bodies and label each part. - Compare parts of their own body with their peers. - Classify people according to their features e.g. skin colour, ethnicity - Investigate human senses e.g. smell, taste. Which food/flavours can I identify by taste?	- Progression in working scientifically skills Year 1&2 - Working scientifically skills Year 1&2 - PLAN Primary Science – Supporting Assessment (Animals including humans Year 1 – Eva)
Prior Learning	Misconceptions:	

In EYFS Children should: • Be able to identify different parts of their bodies. • Have some understanding of healthy food and the need for variety in their diet. • Be able to show care and concern for living things. • Know the effects exercise has on their bodies. • Have some understanding of growth and change. • Be able to talk about things they have observed including animals.	• Only four-legged mammals, such as pets, are animals. • Humans are not animals. • Insects are not animals. • All 'bugs' or 'creepy crawlies', such as spiders, are part of the insect group. • Amphibians and reptiles are the same.	<i>In Year 2 Children will:</i> • 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.
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Vocabulary [TA to create a list of key vocabulary, add sign graphics AND pictures next to each word]:

Amphibians, birds, fish, mammals, reptiles, carnivores, herbivore, omnivore, sight, hearing, touch, taste, smell, head, neck, ear, mouth, shoulder, hand, fingers, leg, foot, thumb, eye, nose, knee, toes, teeth, elbow.

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
Do we see better as we get older?	Do our clothes size/height change over time?	Test to check which food tastes sweet / sour.	After farm/zoo visit, can all animals be grouped together? Why not?	Record how many people prefer sweet / sour food.	Do all animals have the same sense of smell, sight etc (senses)?



Year 1 – 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):
- Distinguish between the object and the material from which it is made. - Identify and name a variety of everyday materials, including wood, metal, plastic, glass, water and rock. - Describe the simple physical properties of a variety of everyday materials. - Compare and group together a variety of everyday materials on the basis of their simple properties. I can identify and name different materials. I can tell the difference between an object and the materials it is made from. I can describe the properties of everyday materials. I can draw a picture of an object and label the materials used to create the object. I can compare and group everyday materials based on their physical properties. I can sort objects by their properties. I can test different materials.	Children must know and understand that: - There are many different materials that have different describable and measurable properties. - Materials that have similar properties are grouped into metals, rocks, fabrics, wood, plastic and ceramics (including glass). - The properties of a material determine whether they are suitable for a purpose.	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 decide which materials for making an object e.g. a boat.		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):
	- Classify different ways one type of objects can be made from different materials e.g. spoons can be made of different materials. - Classify materials based on their properties - Test the properties of objects e.g. absorbency of cloths, strength of party hats made of different papers, which material is waterproof?	- Progression in working scientifically skills Year 1&2 - Working scientifically skills Year 1&2 - PLAN Primary Science – Supporting Assessment (Everyday Materials Year 1 – Tahmeed)
Prior Learning	Misconceptions:	
In EYFS Children should: - Be able to ask questions about the place they live. - Talk about why things happen and how things work. - Discuss the things they have observed such as natural and man-made objects. - Manipulate materials to achieve a planned effect.	- 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	<i>In Year 2 Children will:</i> - 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.

Vocabulary [TA to create a key list of vocabulary, add sign graphics AND pictures next to each word]:

Hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy/not bendy, waterproof/not waterproof, absorbent, opaque.

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
Where does wool come from? Which material would be the best for the roof	What happens to materials over time if we bury them in the ground?	Which materials are the most flexible?	Identify which material is used to make pencils?	Are the school chairs made of the same material? Gather and record data – check?	What are the things I use made from?

of the three little pig's houses?		Which materials are the most absorbent?	Are all pencils made out of the same material?		
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