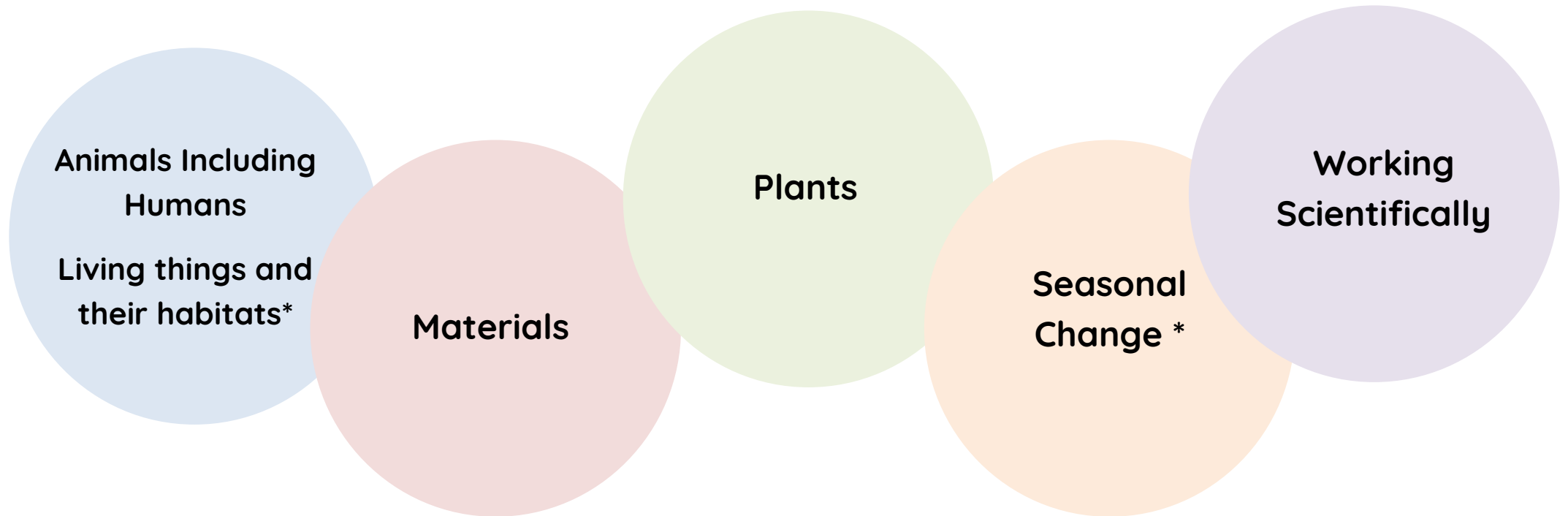


Herringthorpe Infant School

Science – Subject Overview



Key strands to the curriculum



The knowledge skills and learning progression for each component is delivered through a spiral curriculum.

**Living things and their habitats is developed in EYFS and again in Y2 curriculum. Seasonal change is in the EYFS and Y1 curriculum.*

Substantive Knowledge:

Science in EYFS

All areas of learning and development at the Foundation Stage are inter-connected. Through engaging in science activities, children not only learn about the world around them but develop disciplinary skills in all areas.

Characteristics of Effective Learning

The ways in which a child engages with other people and their environment - playing and exploring, active learning, and creating and thinking critically – underpin learning and development across all areas and support the child to remain an effective and motivated learner.

‘Understanding the World’

This is a specific area of the Early Years Curriculum that includes essential skills and knowledge about the world and provides firm foundations on which children can build their scientific understanding. Early Years children will be actively involved in play and exploration and be encouraged to be creative. They will be supported to think critically and ask questions, which will help them to make sense of their world through well-planned play opportunities.

ELGs:

- Explore the natural world around them, making observations and drawing pictures of animals and plants.
- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter
- Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.
- Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions.
- Make comments about what they have heard and ask questions to clarify their understanding.

End points:

By the end of EYFS, children can identify similarities and differences between themselves and others, places, objects, materials and living things. They can make simple observations of animals and plants. They recognise that technology is used for particular purposes in different environments and can select technology appropriately. They can explore how to make things move.

By the end of KS1, pupils will have explored animals, humans and changes within environments and begin to develop simple scientific vocabulary linked to this. Children use different types of scientific enquiry to answer a range of questions. Children are encouraged to ask questions, discuss their findings and present the ideas in a variety of ways.

Progression of Substantive Skills – Science

	EYFS	Year 1	Year 2
Animals including Humans	• Make healthy choices about food, drink, activity and toothbrushing. • Begin to make sense of their own life-story and how they have grown and changed. • Understand the key features of the life cycle of a plant and an animal. • Know and talk about the different factors that support their overall health and wellbeing • Describe and comment on things they have seen whilst outside, including plants and animals. • Know how to record their observations of the natural world, • Recognise some environments that are different to the one in which they live. • Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices	• 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 • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) • Know, identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	• Notice that animals, including humans, have offspring which grow into adults • Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene
Living Things and their Habitats	• Understand the key features of the life cycle of a plant and an animal. • Begin to understand the need to respect and care for the natural environment and all living things		• Identify the differences between things that are living, dead, and things that have never been alive, using some of the 7 life processes. • Identify that most living things live in habitats to which they are suited • Name a variety of plants and animals in their habitats, including microhabitats. • Describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other • Know and explain 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

Materials	• Use all their senses in hands-on exploration of natural materials. • Explore collections of materials with similar and/or different properties. • Talk about what they see, using a wide vocabulary. • Talk about the differences between materials and changes they notice. • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	Everyday materials: • Know the difference between objects from the material from which it is made • Know, identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • Know and describe the simple physical properties of a variety of everyday materials: hard/soft, flexible/rigid, waterproof/absorbent. • Group together a variety of everyday materials on the basis of their simple physical properties. • Know the similarities and differences between some everyday materials.	Uses of everyday materials: • Identify what properties a material needs for a particular purpose. • Name the materials from which different objects are made. • Recognise suitable and unsuitable choices of materials for particular purposes based on physical properties • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. • Know that materials can be either man-made or naturally occurring. • Group objects into man-made or natural categories. • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching
Plants	• Describe and comment on things they have seen whilst outside, including plants and animals. • Know how to make a simple record of their observations of the natural world, including animals and plants • Know how to discuss how we care for the natural world around us. • Notice changes in the leaves, weather and seasons.	• Know, identify and name a variety of common wild and garden plants, including deciduous and evergreen trees • Know, identify and describe the basic structure of a variety of common flowering plants, including trees	• Plants can grow from seed or bulbs. Seeds and bulbs germinate and grow into seedlings. Seedlings grow into mature plants • Plants need light, water, space, suitable temperature in order to grow
Seasonal Change	• Discuss features of the environment and how environments may vary from one another (ELG). • Talk about the changes that each season brings in relation to their environment: the clothes they wear, the weather and the plants	• Observe changes across the four seasons. • Observe and describe weather associated with the seasons and how day length varies.	

Progression of Disciplinary knowledge: Working Scientifically

Disciplinary knowledge is taught and embedded within the teaching of each unit of substantive knowledge.

- **Methods used to answer questions** (use of models, classification, correlations and patterns, experimentation, fair testing)
- **Using apparatus and techniques** (accurate measurement, collecting and recording data, carrying out procedures safely and accurately)
- **Data analysis** (processing and presenting data, exploring relationships, communicating results in tables / graphs, identifying correlations)
- **Using evidence to develop explanations** (using evidence / scientific knowledge to draw conclusions, explain laws, models, concepts and findings)

As part of working scientifically which is embedded throughout all units, pupils will also learn to use a variety of enquiry strategies to answer scientific questions. Different questions lead to different types of enquiry and are not limited to fair testing. By the end of primary school, children will be able to use these enquiry strategies confidently and know that different strategies may be needed at different times.

- **Observing over time:** (observing or measuring how one variable changes over time)
- **Identifying and classifying:** (identifying and naming materials/living things and making observations or carrying out tests to organise them into groups)
- **Looking for patterns:** (making observations or carrying out surveys of variables that cannot be easily controlled and looking for relationships between two sets of data)
- **Comparative and fair testing:** (observing or measuring the effect of changing one variable when controlling others)
- **Answering questions using secondary sources of evidence:** (answering questions using data or information that they have not collected first hand)

Progression of Disciplinary Knowledge (Working Scientifically)

Disciplinary Knowledge		
EYFS pupils can	Year 1 pupils can	Year 2 pupils can
- ask simple questions about the world around them ask teachers or adults within school about things they observe - make observations about things they see around them - conduct guided investigations with supervision - make choices when performing simple identifying and classifying - make some comparison between objects or living things - make some predictions about living things based on prior knowledge - make suggestions about how things work based on their own observations - use basic observations to help answer questions with help from the teacher - explore the natural world around me, making observations and drawing pictures of plants and animals. - identify some similarities and differences between the natural world around me and contrasting environments, drawing on their experiences and what has been read in class	- ask simple questions and recognise that they can be answered in different ways (fair tests, comparative tests, observation over time, research, pattern seeking) - observe closely, using simple equipment (hand lenses, egg timers) - perform simple tests to investigate the answer to a given question - perform simple identifying and classifying, grouping task using basic observations - use observations and ideas to suggest answers to questions, using simple sentences to describe the answer - gather and record data to help in answering questions, using given tables or data formats	- ask simple questions and recognise that they can be answered in different ways (fair tests, comparative tests, observation over time, research, pattern seeking) - research the answers to questions using books, tablets or computers - observe closely, using simple equipment (hand lenses, egg timers, rulers, stopwatches etc) - perform simple tests to investigate the answer to a given question - begin to design their own tests to investigate the answer to a given question - perform simple identifying and classifying, grouping using basic observations begin to group using prior knowledge - use observations and ideas to suggest answers to questions, using simple sentences to describe the answer to a question give basic conclusions with simple reasoning - gather and record data to help in answering questions, using given tables or data formats drawing own tables, deciding how to record

Science Y1

Subject Yearly Overview

Autumn Term 1 st Half	Spring Term 1 st Half	Summer Term 1 st Half
Unit Title: Seasonal Change (to be continued year round – see table at bottom of page)	Unit Title: Everyday Materials Focus Scientist – Katherine Johnson - she was a black woman who was a Nasa physicist – learn about her life and what barriers she overcame to be able to do her job. Books – Hidden Figures and Counting on Katherine.	Unit Title: Plants
Prior Knowledge:	Prior Knowledge:	Prior Knowledge:
<i>Prior Knowledge -</i> - Children are able to name the four seasons and discuss some of the changes they might see in each season. - Children have had experience of observing a tree throughout the seasons. ELG: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	<i>Prior knowledge</i> Children have had experience using the vocabulary associated with materials when using the areas in foundation eg sand, water, construction and workshop. ELG: Explore the natural world around them, making observations and drawing pictures of animals and plants.	<i>Prior knowledge</i> Children have had experience of planting vegetables such as potatoes and beans. They can name the basic parts of a plant. They can say what a plant needs to grow. ELG: Explore the natural world around them, making observations and drawing pictures of animals and plants.
New Knowledge:	New Knowledge:	New Knowledge:
<i>By the end of this unit Y1 pupils will:</i> Substantive Knowledge: - Observe changes of a deciduous tree and discuss what has changed week by week. - Discuss the changes associated with autumn including the changing weather and length of days. Disciplinary Knowledge: - Children will be able to observe a process over time and begin to ask questions.	<i>By the end of this unit Y1 pupils will:</i> Substantive Knowledge: - Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. - Distinguish between an object and the material from which it is made. - 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 physical properties. Disciplinary Knowledge:	<i>By the end of this unit Y1 pupils will:</i> Substantive Knowledge: - 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, including trees. Disciplinary Knowledge: - Identifying and classifying - Asking questions and realising that they can be answered in different ways.

	- Sort and classify different materials. - Carry out simple experiments. - Gather and record data to help in answering questions.	
Vocabulary:	Vocabulary:	Vocabulary:
<i>By the end of this unit Y1 pupils will understand and use the vocabulary:</i> - Autumn - Deciduous - Evergreen - Conkers (seeds) - Leaves - Day - Night - Warm - Cold	<i>By the end of this unit Y1 pupils will understand and use the vocabulary:</i> - Metal - Wood - Plastic - Glass - Stretchy - Stiff - Strong - Weak - Shiny - Dull - Rough - Smooth - Water proof - Opaque - Transparent	<i>By the end of this unit Y1 pupils will understand and use the vocabulary:</i> - Leaf - Stem - Flower - Petal - Roots - Trunk - Bark - Branches - Seeds - Fruit - Evergreen - Deciduous
Learning Sequence:	Learning Sequence:	Learning Sequence:
<i>Learning to be continued throughout the year – see table at bottom of document.</i> <i>Begin by discussing the four seasons and naming them – watch some videos of trees changing throughout the seasons.</i> <i>Discuss evergreen and deciduous trees and complete a sorting activity.</i> <i>Decide what happens to deciduous trees throughout autumn and introduce the horse chestnut tree at the bottom of the junior playground (PLEASE ENSURE YOU GO TO THE CORRECT TREE!!!) Take photographs for comparison between the beginning and the end.</i> <i>Children to complete observations of the tree throughout the following weeks. Children to draw a labelled pencil drawing and then write a sentence or two about the changes that they have observed.</i>	Begin with a material hunt around school, how many different materials can they identify? Why do we have so many materials? What if everything was made of wood? Children to be presented with a carousel of different materials – children to explore them and write down the different materials of each. Children to then have sorting hoops and choose a property – sort materials according to properties. Children to then design an umbrella using the knowledge they have gained from the previous sessions to choose appropriate materials for the different parts – assessment. Run alongside stem challenges eg parachutes.	Begin by presenting the children with a plant in soil – can they explore the plant, what are the different parts? Can they name and label the roots, stem, flower etc? Take photographic evidence for books. Look at plants in the local environment – can they name any? – revisit this throughout the term. Linking to chocolate – where does chocolate come from? What else do we use plants for? Comparison task looking at seeds, leaves, roots etc. Showing children different varieties and asking what is the same and what is different about them. Show children two seeds eg a conker and a poppy seed – ask them what the similarities and differences are. Repeat with leaves and roots using a mixture of real life objects and pictures. Children to be presented with a variety of flowers on sugar paper around the room. Children to complete the task in three parts. Part 1 – children to write some words to describe the plant on a post it note. Learning stop to be undertaken and discussion focussing on scientific vocabulary and addressing misconceptions. Part 2 – children to write questions about the plants focussing on using different question stems (see additional resource)

		Part 3 – children to use the British flowers identification booklet to look at each flower and see if they can identify it. Children to grow their own cress heads – link to literacy instructions.
Assessment Opportunities	Assessment Opportunities	Assessment Opportunities
- The children will be able to identify deciduous and evergreen trees. - Children will be able to observe changes across several weeks and use the correct vocabulary to describe what they can see. - Children will be able to say what happens to the weather and length of day throughout the seasons (continuous assessment throughout the year) Evidence of assessment – autumn tree study booklet and photographic evidence of sorting.	Children will be able to identify different materials and will be able to describe some of their properties. Evidence of assessment – umbrella design to be used as an end of unit assessment.	- The children will be able to name the basic parts of a plant - Children will be able to name and identify some common British plants and trees. Evidence of assessment – photographic evidence, instructions, identification booklets.
Resources:	Resources:	Resources:
- Magnifying glasses - Tree identification sheet - Booklets - Videos of seasonal change – see explorify and the woodland trust websites. - Date board (already in classrooms)	- Variety of objects made from different materials. - Magnifying glasses. - Integrated area – waterproof materials, pipettes, test tubes, jugs.	- Sugar paper - Plants - Magnifying glasses - Artificial common British flowers - Identification booklets.

Autumn Term 2nd Half	Spring Term 2nd Half	Summer Term 2nd Half
Unit Title: Animals including humans Focus scientist - Discuss the naturalist David Attenborough and use this as a focus scientist throughout the unit of learning. Link to learning about David's life in literacy.	Unit Title: Animals including humans Miller Hutchinson – engineer who invented the first electric hearing aid. https://www.ogdentrust.com/wp-content/uploads/2021/10/Research-cards_helping-us-hear.pdf	Unit Title: Plants – as above continued.
Prior Knowledge:	Prior Knowledge:	
<i>Prior Knowledge</i> - Children have observed chicks hatching and talked about the differences between baby and adult animals. - Children have discussed animals that they have as pets and what pets need to survive. - Children have looked at minibeasts in the local area.	<i>Prior knowledge</i> - Children can talk about how they interact with the world eg smell, taste, touch through every day experiences. - Children can name some of the basic parts of their bodies. - Children can talk about how their body feels when they exercise.	

ELG: Explore the natural world around them, making observations and drawing pictures of animals and plants.		
New Knowledge:	New Knowledge:	
<i>By the end of this unit Y1 pupils will:</i> Substantive Knowledge: - 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. - Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). - Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Disciplinary Knowledge: - Sort and classify items into different groups. - Use identification boards to help them with sorting and classifying.	<i>By the end of this unit Y1 pupils will:</i> Substantive Knowledge: - Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Disciplinary Knowledge: - Perform simple tests	
Vocabulary:	Vocabulary:	
<i>By the end of this unit Y1 pupils will understand and use the vocabulary:</i> - Fish - Amphibian - Reptile - Birds - Mammals - Carnivores - Herbivores - Omnivores	<i>By the end of this unit Y1 pupils will understand and use the vocabulary:</i> - Taste - Smell - Touch - Sight - Hearing - Skin - Skeleton - Muscles - Bones - Brain - Lungs - Heart - Tongue - Eyes - Ears - Nose	

Learning Sequence:	Learning Sequence:	
Begin by showing children a variety of animals – ask the children to sort them in different ways and decide how they are similar and how they are different. Use this as an initial assessment opportunity. Over the following weeks learn about each of the types of animals (BBC bitesize videos are helpful for this) and sort the animals into the categories (eg reptile or not a reptile) Take regular assessment opportunities and complete a final assessment on all types of animals. Move on to learn about carnivores, herbivores and omnivores and give children opportunities to sort the animals.	Begin by carrying out an initial assessment of what children already know about their bodies. Give children a large piece of sugar paper and a variety of resources. Ask children to create a model of the human body and label their diagram. Children to present their ideas. Address any common errors and misconceptions. Discuss what our skeleton looks like, what our muscles do and how we move, breathe etc. If time permits additional lessons could be added to look at the skeleton in more detail. Move on to thinking about senses – discuss the five senses and which sense is associated with which part of the body. Give children the opportunity to carry out experiments to test each of their senses – eg can you read a book with a blindfold on? Extend learning by asking if we need one sense to be able to use another for example can you taste with a peg on your nose?	
Assessment Opportunities	Assessment Opportunities	
- Children will be able to identify the different types of animals and use the correct vocabulary. - Children will be able to name the basic parts of animals. - Children will be able to use the vocabulary of carnivores, herbivores and omnivores and will be able to sort animals into the correct groups. Assessments to be undertaken at the beginning and end of the unit.	- The children will be able to name parts of their body – at least the outer parts and moving onto internal parts. - Children to be able to name each sense and say which body part is needed for each sense. Evidence of assessment – experiment results, photographic evidence of their body diagram.	
Resources:	Resources:	
- Animals to sort - Identification boards - Sorting hoops - Labels for sorting	- Sugar paper - Variety of materials for creating body diagram - Model skeleton - Books about bodies - Items to taste, smell, touch etc. - Blindfolds, nose pegs. Gloves.	

Science Y2

Subject Yearly Overview

Autumn Term	Spring Term 1 st Half	Summer Term 1 st Half
Unit Title: Animals including humans Focus scientists - Discuss the naturalist David Attenborough and use this as a focus scientist throughout the unit of learning. Link to learning about David's life in literacy. Florence Nightingale - Nurse and founder of modern nursing. https://www.natgeokids.com/uk/discover/history/general-history/florence-nightingale/	Unit Title: everyday materials Focus Scientist – Katherine Johnson - she was a black woman who was a nasa physicist – learn about her life and what barriers she overcame to be able to do her job. Books – Hidden Figures and Counting on Katherine.	Unit Title: Living things and their habitats Focus Scientists - Prem Singh Gill - Polar Scientist who studies where Antarctic seals live, breed and feed, so we can know more about where they prefer to live. https://pstt.org.uk/application/files/3716/2851/6538/Polar_scientist_-_Prem_Singh_Gill.pdf Dawood Qureshi - Marine Biologist who studies wildlife in the ocean. https://pstt.org.uk/application/files/7916/2851/6348/Marine_biologist_-_Dawood_Qureshi.pdf
Prior Knowledge:	Prior Knowledge:	Prior Knowledge:
Prior knowledge - Children are able to name the basic parts of the body and say which is associated with which sense. - Children are able to identify the different types of animals eg reptile, amphibian, mammal, fish and bird.	Prior knowledge Children are able to identify a variety of materials and can describe their properties.	Prior Knowledge - Children are able to name a variety of common animals. - Children know what animals need to survive. - Children know the vocabulary of carnivores, herbivores and omnivores.
New Knowledge:	New Knowledge:	New Knowledge:
By the end of this unit Y2 pupils will: Substantive Knowledge: - notice that animals, including humans, have offspring which grow into adults - find out about and describe the basic needs of animals, including humans, for survival (water, food and air) - describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	By the end of this unit Y2 pupils will: Substantive Knowledge: - 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 the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Disciplinary Knowledge:	By the end of this unit Y2 pupils will: Substantive Knowledge: - 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

- explore and compare the differences between things that are living, dead, and things that have never been alive Disciplinary Knowledge: - Using secondary sources of information to research and find answers to questions. - Carry out simple experiments. - Gathering and recording data to help in answering questions.	- Carry out simple experiments. - Gathering and recording data to help in answering questions. - Identifying and classifying - Ask different questions and realise that they can be answered in different ways.	- describe 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. Disciplinary Knowledge: - Identifying and classifying - Using their observations and ideas to suggest answers to questions
Vocabulary:	Vocabulary:	Vocabulary:
<i>By the end of this unit Y2 pupils will understand and use the vocabulary:</i> - Offspring - Adult - Baby/ infant - Life cycle - Survival - Exercise - Healthy - Hygiene	<i>By the end of this unit Y2 pupils will understand and use the vocabulary:</i> - Plastic - Glass - Brick - Wood - Metal - Paper - Cardboard - Twist - Bend - Stretch - Squash - change	<i>By the end of this unit Y2 pupils will understand and use the vocabulary:</i> - food chain - habitat - microhabitat - predator - prey - food
Learning Sequence:	Learning Sequence:	Learning Sequence:
Children to have a sorting sheet with 3 columns – alive, dead and never been alive. Children to use the criteria from the input to explain their choices. Encourage children to use scientific vocabulary where possible. Show the children a picture of a baby and adult, what is different about them and what is the same? What can they do now that they couldn't do as a baby that they can do now? What can an adult do that they can't do yet? Focus on matching offspring with adults and labelling life cycles. Split the class into groups and give each group a different food group to research. Children to present the research that they have found out using a piece of sugar paper. Guide the children by showing them how to use books and the internet to find out information about their given food group. See websites below for age appropriate resources.	Begin by exploring a variety of materials and discussing their properties. How many words can they use to describe the materials? Can they use sorting hoops to sort them in different ways? Explore how materials can change when they are pushed, squashed twisted bent etc. Give the children a variety of materials to investigate, what happens when they are pushed pulled, twisted etc. Do they stay the same shape or do they change? What happens to them? Can they be changed or are they rigid? Linking to space think about the materials that a space suit would need to have – what would be a suitable material? Think about being waterproof and warm. Conduct an experiment to see how materials can be used to insulate. Choose and use materials to wrap around a cup. Add	Begin by discussing the idea of habitat – Children to explore the outdoor environment looking at different places -the beach -the forest -the pond -the playground Take photographic evidence of minibeasts found in different areas. Carry out initial assessment on children's knowledge of habitats. Children to draw a line to match together an animal and its habitat. Children to be encouraged to explain their reasoning. Children to investigate two contrasting habitats and have a column for each. Children to have a list of common minibeasts and list how many of each they saw in the habitat.

Focus on exercise – how do our bodies feel when we exercise? Children to carry out simple tests to see what happens to their bodies when they exercise. Children to learn about hygiene – carry out experiment with bread – press hands onto bread and then wash hands and press hands onto a new slice of bread. Observe what happens to the bread over time, which one has the most mould? Why is this?	warm water to the cup and use a thermometer to monitor the temperature. Which materials were the best insulators? Which would be good to use for a winter coat? For example foil might be a good insulator but would it rip?	Children to have a recording sheet with 4 boxes – each one having a different habitat. Children to choose an animal from their table and decide which habitat that animal would live in and record it on their sheet. Learn about food chains – children to order a simple food chain.
Assessment Opportunities	Assessment Opportunities	Assessment Opportunities
- Children can say how they can keep their bodies healthy. - Children can say how they have changed and how offspring are similar and different to their parents. - Children can say what the basic needs of animals are and what they need to survive. Evidence for assessment - End of topic quiz.	- Children can identify a range of materials and discuss their suitability for a range of uses. - Children can describe what happens when they change a material. Evidence for assessment – space suit experiment.	- Children can identify a variety of habitats and can say which animals might be found there. - Children can understand reproduce a simple food chain. Evidence for assessment - End of topic quiz.
Resources:	Resources:	Resources:
- Life cycle models. - Variety of objects. - Stopwatches - Bread - Soap.	- Range of materials - Sorting hoops - Cups - Thermometers - Graphs for logging data	- Minibeast equipment for observing. - Magnifying glasses - Book – meerkat mail

Autumn Term 2nd Half	Spring Term 2nd Half	Summer Term 2nd Half
Unit Title: as above continued.	Unit Title: as above continued.	Unit Title: Plants
		Prior Knowledge:
		<i>Prior knowledge</i> - Children can identify a variety of common British plants and trees. - Children can identify and name the basic structure of plants. - Children are aware of what plants need to grow.
		New Knowledge:
		<i>By the end of this unit Y2 pupils will:</i>

		Substantive Knowledge Plants – seeds and bulbs – • observe and describe how seeds and bulbs grow into mature plants • find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.
		Vocabulary:
		<i>By the end of this unit Y2 pupils will understand and use the vocabulary:</i> • Bulb, • Seed • Stem • Leaves • Flower • Pollen • shoots
		Learning Sequence:
		Recap the basic structure of a plant and take some time to explore plants within the school grounds – can they identify any of them? Children to grow beans – focussing on what the plant needs to grow. Children to plan their own experiment to answer a question about how plants grow – for example could a plant grow in the dark? Children to use their observations to suggest answers to their questions.
		Assessment Opportunities
		• Children are able to say what a plant needs to be able to grow. Evidence assessment – written and photographic evidence of experiment.
		Resources:
		• Seeds • Plant pots • Soil • Water

Seasonal change – Year 1

Autumn	Spring	Summer
- Autumn tree study – in depth study week by week. - Daily discussion about the weather. - Discuss the day length what is happening. - Look for signs of autumn in local environment.	- Revisit the same tree – what has changed? Take photographs, write captions and add to timeline in classroom. - Daily discussion about the weather. - Discuss the day length what is happening. - Look for signs of spring in local environment.	- Revisit the same tree – what has changed? Take photographs, write captions and add to timeline in classroom. - Daily discussion about the weather. - Discuss the day length what is happening. - Look for signs of summer in local environment.

Progression in working scientifically – Whole School

EYFS	KS1
Explore the natural world around them, making observations and drawing pictures of animals and plants; - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. Pupils in EYFS should have experience of - Observing closely. - Asking questions. - Notice similarities and differences. - Test ideas by carrying out simple experiments	- 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 - Pupils in years 1 and 2 should explore the world around them and raise their own questions. - They should experience different types of scientific enquiries, including practical activities, and begin to recognise ways in which they might answer scientific questions. - They should use simple features to compare objects, materials and living things and, with help, decide how to sort and group them, observe changes over time, and, with guidance, they should begin to notice patterns and relationships. - They should ask people questions and use simple secondary sources to find answers. - They should use simple measurements and equipment (for example, hand lenses, egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. - With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.