

Brough Primary School – Curriculum Intention Plan 2023 - 2024



Subject: Science		Area of learning: Living Things and their Habitats (Year B)	
Year Group: Year 5/6			
Links to previous work/Remember when	<ul style="list-style-type: none"> • Year 1/2 – Children will have learnt that plants are living things and have had experience naming and sorting plants using a variety of criteria. They will have learnt the basic structure of plants and conducted experiments to determine what plants need to grow well. Children will have extended their knowledge of plants to include the life cycle of a plant • and learnt about seeds. In the Living things and habitats topic; children will have learnt about habitats (including microhabitats) and that animals and plants live in habitats that suit them. They also may have learnt about simple food chains. • Year 3/4 – In the “Plants” topic children extend their knowledge of the parts of a plant and learn about flowers, pollination and seed dispersal. During the “Living Things and Habitats” topic, children will have further consolidated • their understanding of habitats and learnt how to use a basic classification key. <p><u>Working Scientifically</u></p> <ul style="list-style-type: none"> • being able to ask and investigate relevant scientific questions; • setting up simple scientific enquiries; • making systematic and careful observations; • gathering, recording and presenting data; • reporting on findings both oral and written; • using results to draw simple conclusions • using straight forward scientific evidence to support what they have found out. 		
	Year 5/6	Key Skills to be taught	
Summer 2 2024	<ul style="list-style-type: none"> • Explore and compare the differences between things that are living, dead, 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 microhabitats. • 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. <p><u>Working Scientifically</u></p>		
What the children should know at the end of this series of lessons			

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	<ul style="list-style-type: none"> Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter diagrams, bar line graphs. Report and present findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. Identify scientific evidence that has been used to support or refute ideas or arguments.
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Vocabulary

Classify, vertebrate, invertebrate, skeleton, exoskeleton, vascular, non-vascular, taxonomy, mammals, reptiles, amphibians, birds, fish, herbivore, omnivore, carnivore, species, characteristics, features, plants, seed dispersal, flowering, non-flowering, vascular, non-vascular, microorganism, microbe, microscope, yeast, mould, inflate, respiration, fungi. algae, bacteria, protozoa, virus, cell, standard method, taxonomy, hierarchy.

Sequence of learning	Learning Objectives/Outcomes	Suggested lesson outline
1 Explorify could be used at the start of the unit as a stimulus.	<p>Learning Objective: I can describe how living things can be classified into broad groups.</p> <p>Key Knowledge: Animals with backbones, also called vertebrates, can be divided into 5 broad groups. Features of fish, amphibians, birds, reptiles and mammals. animals can also be grouped by their nutrition - omnivores, carnivores and herbivores. Invertebrates do not have a backbone. Some animals have an exoskeleton. Some animals have no skeleton at all.</p> <p>Enquiry Type:</p>	<p>Recap – What is your favourite animal? Each child on a table writes an answer. Can we sort these into groups?</p> <p>Classifying Animals Fish, amphibians, birds, reptiles and mammals are the 5 main vertebrate groups. Look at key features of each group that might be used to classify them. Sort animals they started with in a different, more informed way. Consider nutrition. can the animals now be grouped in another, different way?</p> <p><i>Children complete a series of sorting activities grouping the animals they started with in different ways. Children complete a sorting quiz classifying animals into the two main vertebrate and invertebrate groups.</i></p>

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	Identify scientific evidence that has been used to support or refute ideas or arguments.	
2	<p>Learning Objective: I understand how I can use classification keys to help group, identify and name a variety of living things.</p> <p>Key Knowledge: A classification key helps to classify living things using their features and characteristics. Classification keys are only ever going to ask yes/no questions because having only two options simplifies the key and avoids confusion.</p> <p>Enquiry Type: Identify scientific evidence that has been used to support or refute ideas or arguments.</p>	<p>Recap – What was the difference between an invertebrate and a vertebrate? How many features of fish, birds, amphibians, reptiles and mammals can you remember?</p> <p>The importance of classification keys In this lesson the children will understand that classification means grouping. They will have an opportunity to use classification keys written by others to examine their effectiveness. They will then have the opportunity to write their own classification key for liquorice allsorts.</p> <p><i>Children record the questions and answers for a classification key about liquorice allsorts. They will then have an opportunity to complete a key selecting the most appropriate questions and answers to use in each blank space.</i></p>
3 IPad lesson or information books	<p>Learning Objective: I can describe how living things can be classified into broad groups.</p> <p>Key Knowledge: Plants can be classified in different ways - for example on the basis of their seed dispersal, or whether they flower or not. We could also classify them based on whether they are vascular or non-vascular.</p> <p>Enquiry Type: Identify scientific evidence that has been</p>	<p>Recap – Can you remember the 5 broad groups that we use to classify animals? Ask the children to write the 5 groups on their whiteboards. Discuss answers.</p> <p>How else can we classify animals into 2 groups? Hint – not all animals have a skeleton. Recap on the terms invertebrate and vertebrate.</p> <p>Classification of plants In this lesson the children will consider if plants are living things (MRS GREN). Children write on their white boards as many plants as they can in one minute. Children pair up and then consider how they could be classified. After this, introduce the children to 3 possible</p>

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	used to support or refute ideas or arguments.	<p>classifications (see key knowledge). Finally, children research how many plants they can find which fit into the given categories for seed dispersal.</p> <p><i>Children record the names of plants and then consider how they might be classified. After input, children research the names of plants which would fit in each of the given modes of seed dispersal.</i></p>
4 Requires live yeast and other 'ingredients'	<p>Learning Objective: I understand that microorganisms are also living things.</p> <p>Key Knowledge: Microorganisms (also known as microbes) cannot be seen with the naked eye. Hundreds of them could fit on the full stop at the end of a sentence. They are everywhere, in soil, air, water, on your skin and in your body. They are the largest group of living things on the planet.</p> <p>Enquiry Type: Report and present findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.</p>	<p>Recap – Partner talk - how can we classify animals and how can we classify plants?</p> <p>Microorganism Most of the time microorganisms are not harmful to people and often do a lot of good, such as breaking down waste and making bread. We couldn't live without them. Sometimes they can be harmful and make us ill. Some can get into your digestive system and make you sick. Others can give you a cold and some can give you infectious diseases such as chicken pox or measles. MRS GREN and consider yeast.</p> <p><i>Children predict what will happen when they carry out a short investigation to prove if yeast gives off carbon dioxide. They then make observations off the experiment after 5, 10, 15 and 20 minutes. An extension could be to consider if the temperature of the water affects the rate at which the yeast emits the gas.</i></p>
5 IPads or information books could be made available.	<p>Learning Objective: I can describe how living things can be classified into broad groups.</p> <p>Key Knowledge:</p>	<p>Recap – What is a microorganism? Can you give an example?</p> <p>Different types of microorganisms For Teachers - Microbes or microorganisms are too small to be seen with the naked eye and vary in size.</p>

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	<p>Microorganisms are tiny living things. They are everywhere and there are millions of different types. The five main groups are fungi, algae, bacteria, protozoa and viruses.</p> <p>Enquiry Type: Record findings using simple scientific language.</p>	<p>There are millions of different types of microorganisms living on the planet. There are five main groups that scientists use to classify microorganisms; fungi, algae, bacteria, protozoa and viruses. Some children may think that all microorganisms are harmful and make you ill. It is important to highlight that some microorganisms are useful (e.g. in digestion) and play an important part in decomposition.</p> <p>Children learn about the five main types of microorganisms, and that not all of them are harmful. Some are very useful indeed.</p> <p><i>Children complete a factfile style piece of writing for each of the five main groups of microbes. They draw a picture to best represent each type. Additional research could be done if thought necessary to help with the factfiles.</i></p>
<p>6 IPad lesson</p>	<p>Learning Objective: I know that scientists have developed different ways to classify living things.</p> <p>Key Knowledge: Carolus Linnaeus (also known as Carl Linnaeus) was a scientist who developed a detailed way to classify all living things known as a taxonomy. His taxonomy helps us to determine what each living thing is. His scientific process involved observing, recording the information and making conclusions.</p> <p>Enquiry Type: Make systematic and careful observations;</p>	<p>Recap – What is a microorganism? Can you remember the five main groups?</p> <p>The taxonomy of Carolus Linnaeus In this lesson the children will meet the word taxonomy and understand it is a detailed way to classify living things. Within his taxonomy, he divided the animal kingdom into two groups: Vertebrates and Invertebrates. His taxonomy divided these groups again. Vertebrates were divided into five groups: Fish, Amphibians, Reptiles, Birds and Mammals. Invertebrates were divided into nine groups!</p> <p>He gave each organism a two part Latin scientific name and used a hierarchy system which showed how important each animal was.</p> <p><i>Children research Carolus Linnaeus as an important scientist. Children could work as a group and present their work</i></p>

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	gather, record and present findings;	<i>as a poster, PowerPoint or even a drama activity.</i>
7	Learning Objective: To demonstrate what has been learnt about the classification of living things and their habitats.	ASSESSMENT LESSON Children complete short formative assessment.

Learning Outcome/product

During this unit of work, children will learn about classification of living things, including microorganisms. They will learn the names and characteristics of the main groups used to classify animals, plants and microorganisms. Children will learn to use a classification key and create their own key using yes/no questions. Children will investigate the question; Is yeast a microorganism? And conduct an experiment involving the respiration of yeast. They will produce a presentation about the life and work of Carolus Linnaeus and understand the importance of his standard classification system.

Assessment records	List only those children who have not achieved the expected outcomes.