KS2: MEDIUM TERM PLANNER
Living things and their habitats Y4

Pupils should be taught to:

- 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
- recognise that environments can change and that this can sometimes pose dangers to living things

The principal focus of science teaching in lower key stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping, and classifying things, carrying out simple comparative and fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out.

'Working scientifically' is described separately at the beginning of the programme of study but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word-reading and spelling knowledge.

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying, and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements, and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

Prior Learning:	**Future learning:**
• Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants) • Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants)	• Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. (Y5 - Living things and their habitats) • Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats)

• Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans) • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans) • Identify and name a variety of plants and animals in their habitats, including microhabitats. (Y2 - Living things and their habitats)	• Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. (Y6 - Living things and their habitats) • Give reasons for classifying plants and animals based on specific characteristics. (Y6 - Living things and their habitats)

Key Questions (*show how content and concepts link*) **Differentiated** Learning Objectives	**Teaching and learning activities** *(linked directly to objectives)*	**Resources** (*to help pupils reach the learning objectives)*	**Written and non -written outcomes** (*assessment including homework's)*
1) How can we classify different animals? SCIENCE CAPITAL: *How does this lesson connect with children in my class? What animals do you see around you? What group do they belong to?* Science Working scientifically Skills:  Science Enquiry Type **Classify** *Living things can be grouped (classified) in different ways according to their features. Classification keys can be used to identify and name living things. Living things live in a habitat which provides an environment to which they are suited (Year 2 learning). These environments may change naturally e.g. through flooding, fire, earthquakes etc. Humans also cause the environment to change.*	**Science reasoning task: explorify:** We had more than two legs? - Explorify **Activity 1:** PowerPoint what do all living things need **Activity 2:** classify a group of animals – what characteristics would you use? **Activity 3:** Classify a group of animals from the locality. **Misconception:** Some children may think: • the death of one of the parts of a food chain or web has no or limited consequences on the rest of the chain • there is always plenty of food for wild animals • animals are only land-living creatures • animals and plants can adapt to their habitats; however, they change • all changes to habitats are negative.	**Activity 1:** PowerPoint **Activity 2:** Venn diagram- heading prompts for some. **Activity 3-** classify- a range of animals from local area.	**Assessment:** can pupils identify similar characteristics to help classify animals.

This can be in a good way (i.e. positive human impact, such as setting up nature reserves) or in a bad way (i.e. negative human impact, such as littering). These environments also change with the seasons; different living things can be found in a habitat at different times of the year.			
2) **LO: How can we classify invertebrates and invertebrates?** SCIENCE CAPITAL: *How does this lesson connect with children in my class? How do you organise your wardrobe? Or your toys? What characteristics go together?* Science Working scientifically Skills:  Science Enquiry Type **Classify** *Living things can be grouped (classified) in different ways according to their features. Classification keys can be used to identify and name living things.* *Living things live in a habitat which provides an environment to which they are suited (Year 2 learning). These environments may change naturally e.g.,*	**Science reasoning task: explorify:** Spot the difference - Explorify **Activity 1:** PowerPoint what are the differences between vertebrates and invertebrates. **Activity 2:** Read through secondary sources the difference between vertebrates and invertebrates, comprehension task. **Activity 3:** classify vertebrates and come up with own questions. **Misconception:** Some children may think: • the death of one of the parts of a food chain or web has no or limited consequences on the rest of the chain • there is always plenty of food for wild animals • animals are only land-living creatures • animals and plants can adapt to their habitats; however, they change • all changes to habitats are negative.	**Activity 1:** PowerPoint- **Activity 2:** secondary sources and differentiated comprehension tasks. **Activity 3:** classification templates.	**Assessment:** Are pupils able to identify vertebrates and invertebrates?

through flooding, fire, earthquakes etc. Humans also cause the environment to change. This can be in a good way (i.e., positive human impact, such as setting up nature reserves) or in a bad way (i.e., negative human impact, such as littering). These environments also change with the seasons; different living things can be found in a habitat at different times of the year.			
3) LO: How can we classify different species in different habitats using a classification key? SCIENCE CAPITAL: *How does this lesson connect with children in my class? What kind of animals/ species are more likely to live in your garden? (microhabitat)* Science Working scientifically Skills:  Science Enquiry Type **Classify** *Living things can be grouped (classified) in different ways according to their features.*	**Science reasoning task: explorify:** You had magnets for fingers? - Explorify **Activity 1:** Identify the characteristics of different groups of animals. **Activity 2:** Model and work through a branching classification key. **Activity 3:** In small groups to create branching classification key. **Misconception:** Some children may think: • the death of one of the parts of a food chain or web has no or limited consequences on the rest of the chain • there is always plenty of food for wild animals • animals are only land-living creatures • animals and plants can adapt to their habitats; however, they change • all changes to habitats are negative.	**Activity 1:** pictures of various groups of animals / living things. **Activity 2:** branching classification key template. **Activity 3:** differentiated branching classification key- some question stems to support.	**Assessment:** Are ch able to use characteristics to create branching keys.

Classification keys can be used to identify and name living things. *Living things live in a habitat which provides an environment to which they are suited (Year 2 learning). These environments may change naturally e.g., through flooding, fire, earthquakes etc. Humans also cause the environment to change. This can be in a good way (i.e., positive human impact, such as setting up nature reserves) or in a bad way (i.e., negative human impact, such as littering). These environments also change with the seasons; different living things can be found in a habitat at different times of the year.*			
4) LO: **What are the environmental dangers and how they affect endangered species?** SCIENCE CAPITAL: *How does this lesson connect with children in my class? Why are bees endangered?*	**Science reasoning task:** Family meal - Explorify **Activity 1:** PowerPoint environmental dangers and how they cause endangered species. Is any of this happening to animals around our local area? **Activity 2:** list the different issues and the impact it has to the living things.	**Activity 1:** PowerPoint **Activity 2:** worksheet to complete to identify the issues and to write what the impact it has on animals in that habitat. **Activity 3:** pictures of endangered animals,	**Assessment:** Able to identify what attract and repel mean? **Homework:** research about one particular endangered animal/species.

Science Working scientifically Skills:  Science Enquiry Type **Research** *Living things can be grouped (classified) in different ways according to their features. Classification keys can be used to identify and name living things.* *Living things live in a habitat which provides an environment to which they are suited (Year 2 learning). These environments may change naturally e.g., through flooding, fire, earthquakes etc. Humans also cause the environment to change. This can be in a good way (i.e., positive human impact, such as setting up nature reserves) or in a bad way (i.e., negative human impact, such as littering). These environments also change with the seasons; different living things can be found in a habitat at different times of the year.*	**Activity 3:** look at different animals/ species and how they are affected in their habitat from environmental dangers. **Misconception:** Some children may think: • the death of one of the parts of a food chain or web has no or limited consequences on the rest of the chain • there is always plenty of food for wild animals • animals are only land-living creatures • animals and plants can adapt to their habitats; however, they change • all changes to habitats are negative.		

5) **How can we use our knowledge of environmental issue to change views?** SCIENCE CAPITAL: *How does this lesson connect with children in my class? Can you think of what would happen if Peterborough had no parks?* Science Working scientifically Skills:  Science Enquiry Type **Research** *Living things can be grouped (classified) in different ways according to their features. Classification keys can be used to identify and name living things.* *Living things live in a habitat which provides an environment to which they are suited (Year 2 learning). These environments may change naturally e.g., through flooding, fire, earthquakes etc. Humans also cause the environment to change. This can be in a good way (i.e., positive human impact, such as*	**Science reasoning task: explorify:** Lunchtime - Explorify **Activity 1:** PowerPoint recap the different environmental issue and how they are affecting the environment and living things. **Activity 2:** Discuss the problem of school grounds and how to persuade someone to save the environmental area. **Activity 3:** write a letter to organisation to save the local area. **Misconception:** Some children may think: • the death of one of the parts of a food chain or web has no or limited consequences on the rest of the chain • there is always plenty of food for wild animals • animals are only land-living creatures • animals and plants can adapt to their habitats; however, they change • all changes to habitats are negative.	**Activity 1:** PowerPoint **Activity 2:** discussion / question cards to discuss **Activity 3:** letter template	**Assessment:** Are pupils able to use research to support their views?

setting up nature reserves) or in a bad way (i.e., negative human impact, such as littering). These environments also change with the seasons; different living things can be found in a habitat at different times of the year.			
6) How was the work of Libbie Hyman significant in classification? SCIENCE CAPITAL: *How does this lesson connect with children in my class? What science matters to you?* Science Working scientifically Skills:  Science Enquiry Type **Research** *Living things can be grouped (classified) in different ways according to their features. Classification keys can be used to identify and name living things.* *Living things live in a habitat which provides an environment to which they are suited (Year 2 learning). These environments may change naturally e.g.,*	**Activity 1:** PowerPoint facts about Libbie Hyman- who? What? Why? Where? When? **Activity 2:** research and ask questions would like to find out about scientist. **Activity 3:** To write a biography about the scientist of study. **Misconception:** Some children may think: • the death of one of the parts of a food chain or web has no or limited consequences on the rest of the chain • there is always plenty of food for wild animals • animals are only land-living creatures • animals and plants can adapt to their habitats; however, they change • all changes to habitats are negative.	**Activity 1:** PowerPoint **Activity 2:** use website **Activity 3:** biography template	**Assessment:** Are pupils able to use secondary resources to research and answer questions?

through flooding, fire, earthquakes etc. Humans also cause the environment to change. This can be in a good way (i.e., positive human impact, such as setting up nature reserves) or in a bad way (i.e., negative human impact, such as littering). These environments also change with the seasons; different living things can be found in a habitat at different times of the year.			