Year 6 Biological Science: Living Things and Habitats (Classification of Living Things) Unit 5

Scientific Model (KS2):

Bigger Picture Model

- Need to understand how living things are related and depend on each other. To appreciate the diversity and need for conservation. Understanding diversity helps us understand and make advances in a variety of fields including medicine.

Science investigations:

- Observing Changes over Time
- Looking for Naturally- Occurring Patterns and Relationships
- Identifying and Classifying Things

Scientists:

- Carl Linnaeus - In 1735, Swedish Scientist Carl Linnaeus first published a system for classifying all living things. An adapted version of this system is still used today: The Linnaeus System.

Scientific Skills Applied:

ASK
- To ask different kinds of questions

BREAKDOWN
- To plan different enquiries to answer questions

CAPTURE
- To create classification keys

DESCRIBE
- To use evidence from enquiry to support or refute ideas being tested
- To use varied ways to present data
- To explain how scientific ideas develop over time
- To identify and comment, using appropriate language, on patterns they notice
- To use relevant scientific language and illustrations in reports and when drawing conclusions

Prior Learning:

- recognise that living things can be grouped in a variety of ways. (Y4 - Living things and their habitats)
- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Y4 - Living things and their habitats)
- 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)

Curriculum	Learning Intention	Knowledge and Key Vocabulary
Making links to learning and discuss the model (if needed) **Notes and guidance (non-statutory)** Pupils should build on their learning about grouping living things in year 4 by looking at the classification system in more detail.	What is classification? • Discuss producers and consumers. • Discuss how animals have been grouped in previous year groups. • Discuss reproduction knowledge children have of animals and plants. • Create a classification key for objects in the classroom. • Recall learning from the Y4 discussing the difference between vertebrates and invertebrates.	**Knowledge:** - Know that things can be grouped according to their features. - Know animals are classified as vertebrates and invertebrates. **Vocabulary:** - Vertebrates, invertebrates
Knowledge and skills through investigations Pupils should be taught to: - describe how living things are classified into broad groups according to common observable	What is classification? • Sort and group animals based on their features. • Give reasons for classifying animals based on their similarities and differences.	**Knowledge:** - Know Carl Linnaeus invented the Linnaean system - Name the 8 categories in order of the Linnaean system.

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<td>characteristics and based on similarities and differences, including microorganisms, plants, and animals
- give reasons for classifying plants and animals based on specific characteristics
Notes and guidance (non-statutory):
- They should be introduced to the idea that broad groupings, such as micro-organisms, plants and animals can be subdivided.
- Through direct observations where possible, they should classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals).
- They should discuss reasons why living things are placed in one group and not another.
- Pupils might find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification.
Pupils might work scientifically by:
- using classification systems and keys to identify some animals and plants in the immediate environment.
- They could research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.</td>
<td>What is Carl Linnaeus well known for?
• Describe who Carl Linnaeus was.
• Explain how living things are classified using the Linnaean system.
• Classify living things using the Linnaean system.
• Identify different types of animals.
• Match the types of animals to their characteristics.
• Design a creature that has a set of characteristics of one type of animal.
• Classify creatures based on their characteristics.

What Are Microorganisms?
• Identify types of microorganism.
• Describe helpful and harmful micro-organisms.
• Investigate harmful microorganisms.

How are microorganisms classified?
• Draw conclusions from results.
• Describe and compare the structure of different cells.
• Describe the characteristics of different microorganisms.
• Design a microorganism using these characteristics.

How can things in the local habitat be classified?
• Classify organisms found in the local habitat.
• Explain the classification of organisms found in the local habitat.
• Group living things according to whether they are plants or animals.
• Classify living things according to their characteristics.
• Give reasons for the classification of different organisms.
• Identify the characteristics of different groups of organisms.</td>
<td>- Understand there are 5 main groups of vertebrates.
- Name an animal in each of the main 5 vertebrate groups.
- Understand there are 5 main groups of plants.
- Name the three types of micro-organisms.
- Explain 3 different ways how some microorganisms have helped us and 3 different ways how microorganisms have harmed us.

<u>Vocabulary:</u>
- Classify, sort, group, similarities, differences, compare
- Carl Linnaeus, Linnaean, classification, standard, domain, kingdom, phylum, class, order, family, genus, species.
- Microorganism, fungus, bacteria, virus, microscopic, mould.
- Microorganism, cell, eukaryote, nucleus, DNA, fungus, virus, bacteria.
- Classify, organism, species, vertebrates, invertebrates, mammals, birds, amphibians, reptiles, fish, insects, arachnids, molluscs, crustaceans, annelids, plants, flowering, non-flowering.</td>
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<td><u>Application and Assessment Activity</u></td>
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<td><u>Knowledge:</u></td>
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	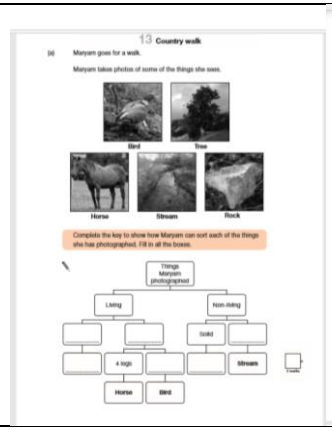 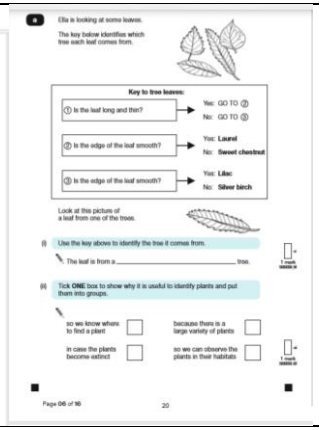	**Vocabulary:**

Thinking Deeper:
Children create a field guide for designated areas of the school grounds. They then present their guides to Year 5 children.

Links to other subjects:

- Subject Specific links –
  - English oral delivering a presentation.
  - Computing to create a key for classification.
- Personal Development – to be aware of harmful organisms and how to keep themselves safe.
- SMSC – creating awe and wonder discussing the amount of species on Earth and the amount we have discovered and classified.
- Cultural Capital – broadening knowledge about scientists and the impact they have upon our lives, even those from the 17th Century.
- Careers – microbiologists, botanists, zoologist, marine biologist, medical scientist, cook.
- British Values – respect for the environment when looking in the school grounds for organisms taking care not to destroy the habitat.
- Equality – feeling a sense of belonging in the wider school whilst delivering a presentation to another class.