Y6 – Living things and their habitats

Inspiration
Culture – history of science

Partnership with parents
Community

Key Questions
- Who was Carl Linnaeus and why is he important?
- How can we classify living things?
- What is a classification key and why are they used?
- What can I find out about my chosen living organism?
- What is a micro-organism?

Working Scientifically
- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
  recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.

- Also covered in: .
- Y4- living things and their habitats

By the end of this unit children will be able to:
- 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
- give reasons for classifying plants and animals based on specific characteristics

Knowledge
-Carl Linneaus was a pioneer of classification who designed the binomial classification system. He gave every living organism two Latin names the genus a name which belongs to a group of plants and the species name which separates the different plants in the genus.
-Animals are divided into two main groups. Animals that have a **backbone** are called **vertebrates.** Animals that don't have a **backbone** are called **invertebrates.**
-Vertebrates and invertebrates are divided into smaller groups. Vertebrates, for example, are divided into fish, amphibians, reptiles, birds and mammals.
-There are many different groups of invertebrates too. They include invertebrates which have soft bodies such as jellyfish, worms and molluscs (like slugs and squids). There are also groups of invertebrates with hard bodies, such as insects, crustaceans and spiders.
- A classification key s a **set of questions** about the characteristics of living things. You can use a key to identify a living thing or decide which group it belongs to by answering the question
-A dichotomous key is a way to classify and identify objects such as organisms. It consists of a series of questions each of which has exactly two answers.
-Micro-organisms (also known as **microbes**) cannot be seen by the naked eye (micro means tiny and organism means a living creature). The **five types of living micro-organisms** are bacteria, viruses, fungi, algae and protozoa.
Bacteria can be rod-shaped, spiral-shaped or spherical. Some bacteria can be useful, such as certain types found in the stomach, but other nasty kinds can give you a bad tummy ache or a sore throat.
Viruses are parasites, which mean they can only survive inside the cells of other living things. They can cause infectious diseases, such as chicken pox or measles.
Fungi can be different sizes ranging from a single cell, like yeast (used to make bread rise), or other fungi such as moulds or toadstools.
Algae can also be many different sizes – some single-celled algae are actually used in toothpaste!
Protozoa are single-celled organisms and can cause many diseases, although they are occasionally helpful too.

Topic Specific Vocabulary
vertebrate, invertebrate, habitat, organism, predator, prey, mammal, bird, fish, reptile, amphibian, insect, spider, worm, snail, classify, microorganism, environment, characteristic

NC Subject content
- 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
- give reasons for classifying plants and animals based on specific characteristics.

Subject Specific/Academic Vocabulary
This vocabulary should be explicitly taught in context. Other tier 2 words should also be explored as they are encountered.

Year 3	Year 4	Year 5	Year 6
Benefit, impact, issues, occur, process, sequence, source, variables	Appropriate, consequences, identified, procedure, range, relevant, significant, specific, theory, transfer	Factors, affect, analyse, contribute, demonstrate, outcome, react, volume,	Component, exclude, function, imply, initial, justify, sufficient.

We are scientists