



Classification of Living Things (Biology)

Year 6

End Points:

- Living things are classified into five main kingdoms.
- Members of each kingdom share features unique to that group.
- The five kingdoms are plants, animals, fungus, protist and prokaryote.
- Cells are tiny building blocks that make up all living things.
- There are two main types of cell: animal and plant.
- Taxonomy is a way of grouping organisms.
- Organisms are divided into kingdoms and then further divided into smaller groups.
- Organisms are divided into kingdoms, phylum, class, order, family, genus, species.
- Vertebrates are classified into five groups: fish, amphibians, reptiles, birds and mammals.
- Invertebrates are classified into groups, which include insects, arachnids and molluscs.

Building on prior knowledge of classification from Year 1, Year 2 and Year 4, children will study classification in more detail and will understand that scientists look closely at the features of living things when considering their classification. Previously, children have studied vertebrate and invertebrate animals. They have also looked at flowering and non-flowering plants. Within this unit, they will look further at the work of Carl Linnaeus and how he classified plants and animals. They will look at Latin names for plants and animals and will reflect upon the features of living things that led to their classification.

Pupils will learn the five kingdoms of living things and they will then look at further sub-divisions of groups, such as classifying invertebrates into insects, arachnids, molluscs etc. They will discuss why particular living things are sorted into one group and not another. Children will learn that plant and animal cells are structured differently and that plant cells contain chlorophyll, which is vital for the process of photosynthesis. Children will learn that organisms are classified into kingdoms, phylum, class, order, family, genus, species and that all organisms have a scientific name made of the genus and species e.g. Dog = *Canis Familiaris*, Human = *Homo Sapiens*. In this unit, children will build on their knowledge of invertebrates studying insects, arachnids and molluscs. They will also learn about cnidarian (pronounced nai-deuhre-uhn) invertebrates that live in a marine or freshwater environment, such as jellyfish, sea anemones and coral. They will reflect on the differences between cnidarian and insects, thinking deeply about the features of living things. Children will be working scientifically throughout this unit to sort, classify and explain their understanding of how scientists group living things.

The knowledge in this unit will prepare children for understanding Biology at KS3 when they study the structure and function of living organisms and genetics and evolution.

Lesson Sequencing:

This unit begins by looking at how organisms can be classified into five kingdoms. In lesson two, children will learn that there are two main types of cells: animal and plant. The knowledge around classification will be developed further by looking at the taxonomy used for organisms including kingdom, phylum, class, order, family, genus and species. In this lesson, they will look at the work of famous scientist Carl Linnaeus. In lessons four and five, children will further develop their understanding of classification by looking at vertebrates and invertebrates. In the assessment lesson, children will have the opportunity to present knowledge learnt to answer the question, 'how do scientists classify animals?'

Misconceptions:

- Mushrooms are plants
- All micro-organisms are harmful
- Insects are not animals
- Humans are not animals
- A crab is a vertebrate because it has a hard shell on its back
- Snakes are like worms, so they are invertebrates

Working Scientifically criteria met in this unit:

- Identifying scientific evidence that has been used to support or refute ideas or arguments
- Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs