Living things in their habitats

Science

Knowledge organiser

Learning Lens: Biology
Class: Year 6

Previous Knowledge

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. Can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals.

Project Hook or 'Wow' memory

Children to observe mould growth on bread over time

Learning Steps	Key Knowledge (answers)
How would you make a classification key for vertebrates/ invertebrates and microorganisms.? Develop skills in identifying and classifying	Living things can be grouped according to different criteria such as: vertebrates (fish, amphibians, reptiles, birds and animals); invertebrates (arthropods, mollusks, annelids and cnidarians) Children to be able to classify, sort, group and look at differences and similarities.
How would you identify the characters of different types of animals/plants (including micro-organisms? Develop skills in identifying and classifying	To understand how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. To match the characteristics with the correct animal class.
How did Carl Linneaus' ideas help us to group plants How scientific ideas have changed over time?	Linnaean taxonomy classifies living things into a hierarchy, starting with domains or kingdoms. Kingdoms are divided phyla (singular: phylum) or divisions for plants. Phyla are divided into classes, then orders, families, genera (singular: **genus**) and species. Children can describe how living things are classified into groups
What do different types of microorganisms do? Are they always harmful? Develop children's skills in research. Observing over time	Microorganisms are very tiny organisms where a microscope has to be used to see them.. Examples of microorganisms include dust mites, bacteria and fungi, such as mould. Some microorganism can be helpful in certain situations. Others can be harmful, and their spread needs to be controlled or contained. Investigate mould growth on bread and begin experiment
Investigate how micro-organisms break down food Skills in comparative and fair tests Observing over time	Observe mould growing on bread. Children observe the rate at which mould grows in different conditions—the bread left in warmer conditions decay more quickly than those left in colder conditions. This is due to enzymes and proteins working more efficiently under warm conditions.
I can explain the classification of organisms found in my local habitat. My Field Guide Develop children's skills in identifying and classifying	Children to present their Field Guide to their audience , explaining why they have classified the organisms into each group. They will be able to group living things according to whether they are plant or animal. Can identify the characteristics of different groups of organisms. What is the most common invertebrate and plants within the school ground?

The key skills we want pupils to use during this topic:

Develop children's skills in identifying and classifying. They will 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).

Develop children's skills in research. Pupils might find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification. Develop children's skills in observing over time. Can children identify changes in microorganisms growing in different temperatures?

Developing children's skills in exploring how scientific ideas have changed over time. To find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification.

Key vocabulary

Bacteria	A single-celled organism
Microorganism	An organism that can only be seen using a microscope, e.g. bacteria, mould and yeast
Microscope	A piece of equipment that is used to view very tiny things by magnifying their appearance.
Species	A group of animals that can reproduce to produce fertile offspring
Characteristics	Special qualities or appearances that make an individual or group of living things into categories
Classify	To sort things into different groups
Taxonomist	A scientist who classifies different living things into categories

Statutory Requirements

Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals

Give reasons for classifying plants and animals based on specific characteristics

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