

Knowledge Organiser - Year 4 - Science: Living things and their habitats – classification and habitats



Our environment is the natural world around us, in which a person, animal or plant lives and how it's affected by human activity.

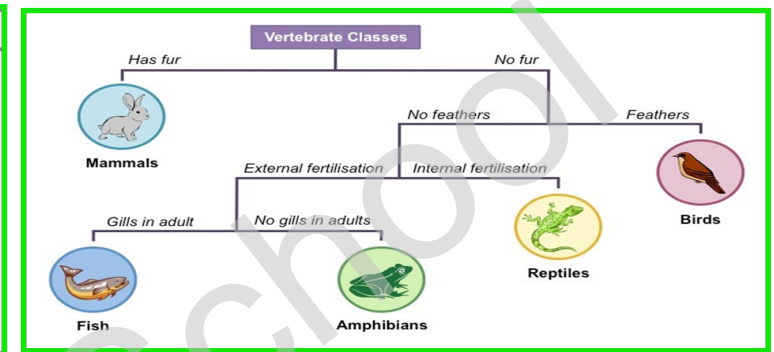
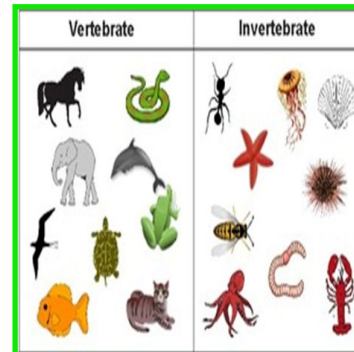
Key Vocabulary

Classification	The arrangement of animals and plants into groups according to their similarities.
Conifers	A tree that has cones and needle-like leaves that are typically evergreen, they do not flower.
Deforestation	The action of clearing a wide area of trees.
Ecology	The science that deals with living organisms. How they relate to one another and to their physical surroundings.
Ecosystem	An ecosystem is a community of living organisms in conjunction with the nonliving components of their environment, interacting as a system.
Environment	The surroundings or conditions in which a person, animal, or plant lives.
Ferns	A flowerless plant which has feathery or leafy fronds and reproduces with spores, not seeds.
Flowering plant	A plant or tree that produces flowers and seeds.
Habitat	The natural home or environment of an animal or plant.
Invertebrates	An animal that does not possess a backbone.
Keys	A series of questions about the organism's physical characteristics. The answers will either branch off to another question or will identify your unknown organism.
Mosses	Small flowerless green plants which lacks true roots, growing in low carpets in damp habitats and reproducing with spores, not seeds.
Nature Reserves	An area of land that is protected in order to keep safe the animals and plants that live there, often because they are rare.
Vertebrates	An animal with possession of a backbone or spinal column.

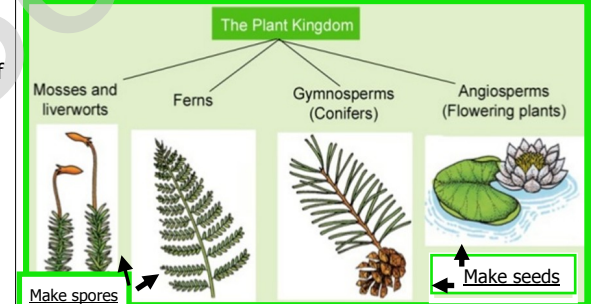
Working Scientifically

Pupils should be given a range of scientific experiences to enable them to raise their own questions about the world around them. They should start to make their own decisions about the most appropriate criteria for grouping, sorting and classifying; and use simple keys. They should begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. They should learn how to use new equipment, such as data loggers, appropriately. They should also recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations. Pupils should use relevant scientific language to discuss their ideas and communicate their findings.

Key Question: How do we classify our environment? Are we spoiling our home?



Animals and plants can be classified and put into groups by comparing their features and putting similar looking organisms together. We do this with the help of keys. A key asks a question with a yes or no outcome and then follows a pathway until an organism is identified. There are two main group of animals; vertebrates (animals with a backbone or spine) and invertebrates (animals with no backbone). Invertebrates generally have a different type of skeleton (hydrostatic or exoskeleton). Plants can be split into four main groups as shown in the diagram.



Below you can see the deforestation of a large area. Humans do this for cattle ranching, mining, logging, planting crops like palm oil, and oil/gas production. The results for the ecosystem are devastating. Animals like the Jaguar and Spider monkeys are now endangered and there are many more examples.



This is the Amazon rain forest in South America. When protected, it is a wonderful and diverse habitat and houses a third of the known species in the world. (There are approximately 10 million species of animals, plants and insects)The Amazon rainforest is also referred to as the 'Lungs of the Planet' because it produces more than 20% of the world's oxygen. Currently the forest is in danger of being destroyed by humans who are clearing the trees for a variety of reasons. Natural disasters, like fires, also occur.



We know that deforestation weakens the capacity of the remaining forest to produce rain. As a result, up to 65 percent of the Amazon is in danger of turning into flat grassland in the course of the next 50 years. We also know that if all approved and planned industrial projects are carried out, half of the Amazon rainforest will disappear, which will effect a huge range of wildlife.