Living Things and their Habitats

Knowledge

Living Things and their Habitats

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

Working Scientifically

use classification systems and keys to identify some animals and plants in the immediate environment.

Research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.

Investigation into Penicillium Fungi - Antibiotics

Key Vocabulary

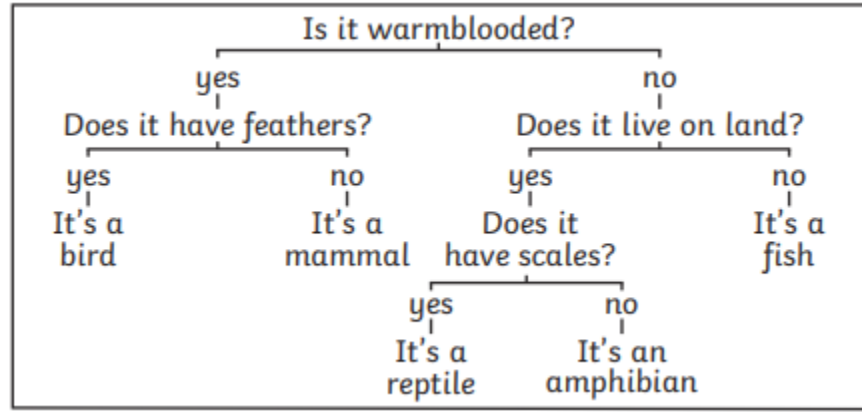| Key Vocabulary	
characteristics	Special qualities or appearances that make an individual or group of things different to others.
classify	To sort things into different groups.
taxonomist	A scientist who classifies different living things into categories.
key	A key is a series of questions about the characteristics of living things. A key is used to identify a living thing or decide which group it belongs to by answering 'yes' or 'no' questions.

Key Vocabulary	
bacteria	A single-celled microorganism.
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 (microscopic) things by magnifying their appearance.
species	A group of animals that can reproduce to produce fertile offspring.

Activate Prior Knowledge

EY

- Exploring the natural world around them, making observations.
- Know similarities and differences between the natural world around them.
- Habitats of animals in Autumn
- Habitats of animals in Winter
- Habitats of creatures under the sea
- Minibeasts habitats
- Farm animals
- Lifecycles of animals

KS1

- Living, dead, never living
- Food chains
- Habitats and Microhabitats
- Working Scientifically
  - Sorting and classifying animal characteristics
  - Answer questions using scientific vocabulary
  - Carry out practical tests using their observations and drawing simple conclusions

KS2

- Classify vertebrates and invertebrates, using classification keys
- Create their own classification keys
- Identify and recognise positive and negative changes to a local environment
- Recognise that environments can change and this can sometimes pose dangers to living things.
- The process of reproduction in plants and animals
- Differences in the life cycles of different animals
- Linnaean System

Investing in the UNIQUENESS of each individual

"I Am Fearfully And Wonderfully Made" – Psalms 139 v14

Is it warmblooded?

- yes
  - Does it have feathers?
    - yes — It's a bird
    - no — It's a mammal
- no
  - Does it live on land?
    - yes
      - Does it have scales?
        - yes — It's a reptile
        - no — It's an amphibian
   - no — It's a fish

Classification

Classification

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.

Living things can be **classified** by these eight levels. The number of living things in each level gets smaller until the one animal is left in its species level. This is how a dog would be classified.

Domain: Eukarya	jackal, clownfish, cat, dog, ladybird, daisy, rabbit, fox
Kingdom: Animalia	jackal, clownfish, cat, dog, ladybird, rabbit, fox
Phylum: Chordata	jackal, clownfish, cat, dog, rabbit, fox
Class: Mammalia	jackal, cat, dog, rabbit, fox
Order: Carnivora	jackal, cat, dog, fox
Family: Canidae	jackal, dog, fox
Genus: Canis	jackal, dog
Species: Lupus	dog

Each group allows scientists to observe and understand the **characteristics** of living things more clearly. They group similar things together then split the groups again and again based on their differences.
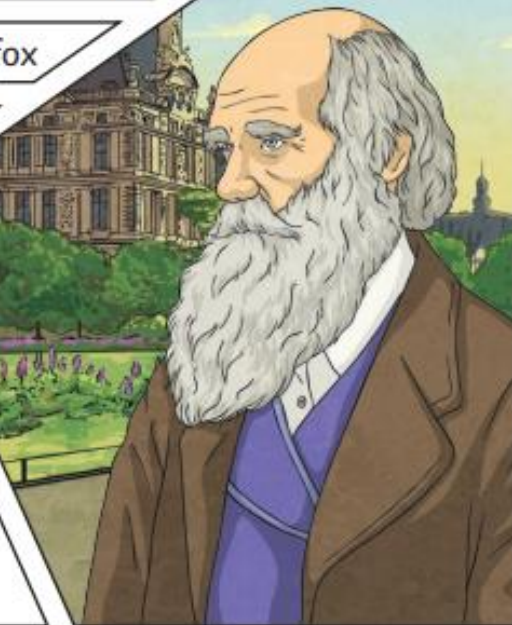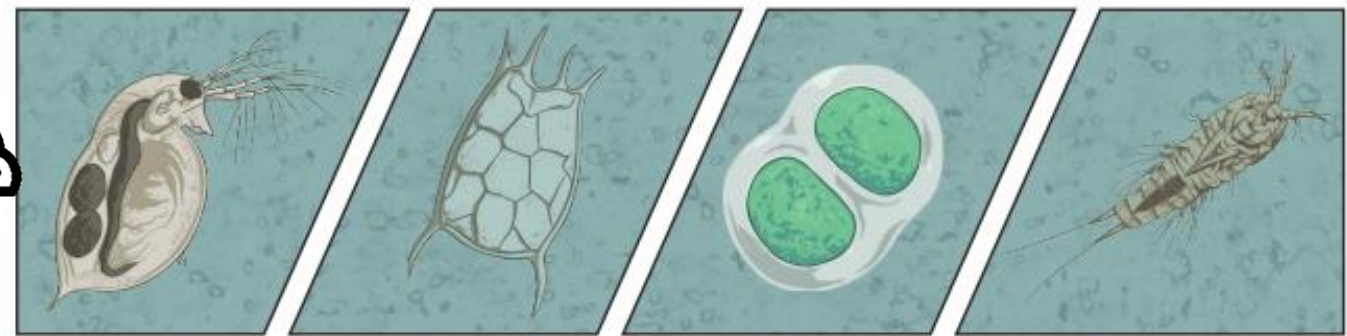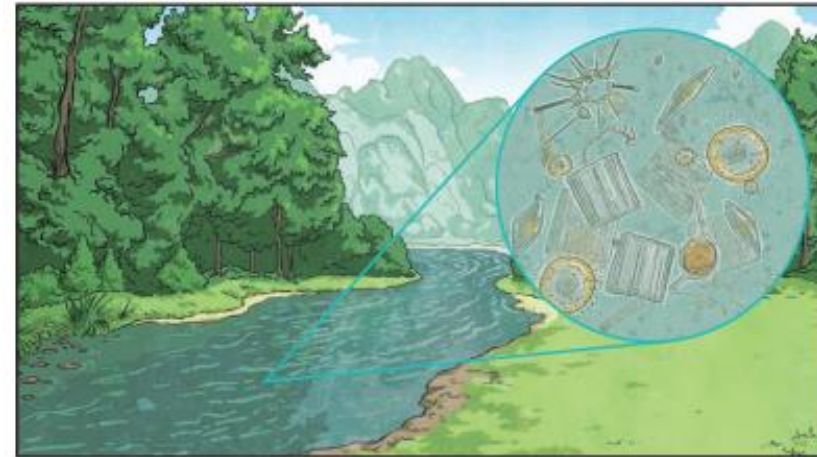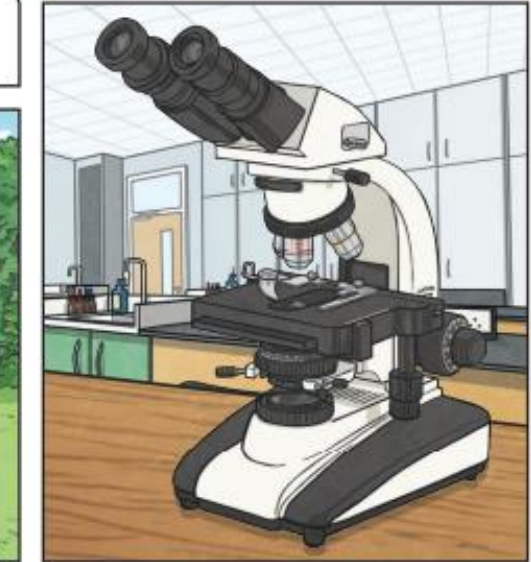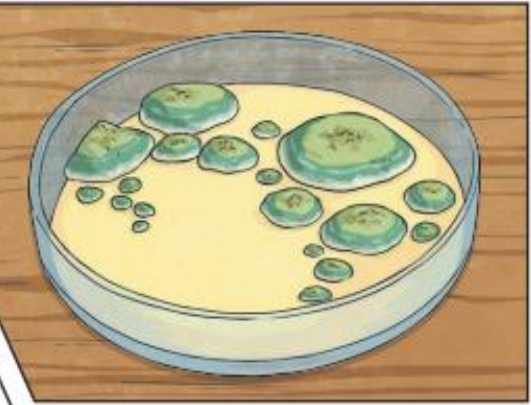
Microorganisms

Microorganisms

Microorganisms are viruses, **bacteria**, moulds and yeast. Some animals (dust mites) and plants (phytoplankton) are also **microorganisms**.

Microorganisms are very tiny living things that can only be seen using a **microscope**. They can be found in and on our bodies, in the air, in water and on objects around us.

Helpful Microbes	Harmful Microbes
Bacteria – cheese	**Bacteria** – salmonella is a bacterium that can lead to food poisoning
Yeast – wine	Virus – chicken pox and flu are examples of viral diseases
Bacteria – yoghurt	Fungi – athlete's foot
Yeast – bread dough	**Bacteria** – plaque
Penicillium fungi - antibiotics	Fungi - mould