Big Question:

Why is it useful to classify living things?

Exeter

Key Vocabulary

Classify: *To sort things into different groups.*

Key: *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.*

Characteristics: *Special qualities or appearances that make an individual or group of things different to others.*

Taxonomist: *A scientist who classifies living things.*

Species: *A group of animals that can reproduce to produce fertile offspring.*

Bacteria: *A single-celled microorganism.*

Microorganism: *An organism that can only be seen using a microscope (e.g. bacteria, mould and yeast).*

Microscope: *an instrument that can be used to observe small objects, even cells. It is like a very powerful magnifying glass.*

Knowledge from Y4 that will help me answer the big question:

Scientists classify living things according to shared characteristics.
Animals can be divided into six main groups: mammals, reptiles, amphibians, birds, fish and invertebrates.
Classification keys are scientific tools that aid the identification of living things.
Habitats change over time, either due to natural or human influences. These changes can pose a risk to animals and plants that live in the habitat.

New knowledge that will help me answer the big question

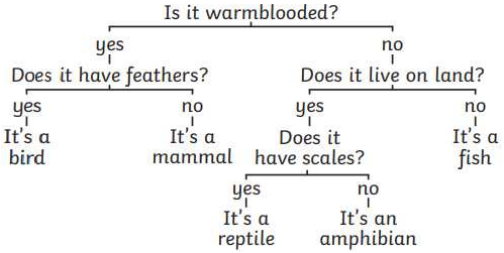
- Living things are classified into groups, according common, observable characteristics.
- In 1735, Swedish Scientist Carl Linnaeus first published a system for classifying all living things. An adapted version of this system is still used today: The Linnaeus System.
- Living things are classified by eight levels. The number of living things in each level gets smaller until the one animal is left in it 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

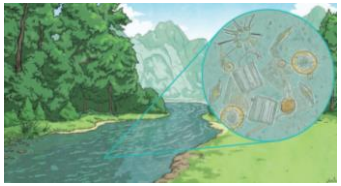
- Each group allows scientists to observe and understand the characteristics of living things more clearly. They group similar things together then split the groups again and again based on their differences.

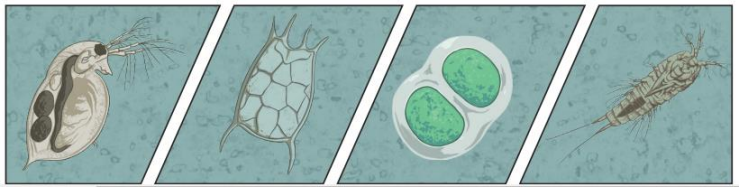
New knowledge that will help me answer the big question:

- Classification keys help us identify living things based on their physical characteristics.



- 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 Covid-19 are examples of viral diseases
Bacteria – yoghurt	Fungi – athlete's foot
Yeast – bread dough	Bacteria – plaque
Peculium fungi - antibiotics	Fungi - mould

As a scientist, by the end of our topic, I will know that:	Date
Living things are classified into groups, according to common observable characteristics and based on similarities and differences.	
Scientists classify living organisms into broad groups according to their characteristics. Vertebrates are an example of a classification group. There are a number of ranks, or levels, within the biological classification system. The first rank is called a kingdom, the second a phylum, then class, order, family, genus and species.	
Classification keys help us identify living things based on their physical characteristics.	
Specialised equipment is used to take accurate measurements in standard units. Examples include data loggers plus sensors, such as light (lux), sound (dB) and temperature (°C); timers (seconds, minutes and hours); thermometers (°C) and measuring tapes (millimetres, centimetres, metres).	
An observation involves looking closely at objects, materials and living things. Accurate observations can be made repeatedly or at regular intervals to identify changes over time, identify processes and make comparisons.	