Eaton Primary School
Science
Knowledge Organiser

Unit of work
Living things and their habitats

Year group
4

Prior learning
- Animals can be grouped into vertebrates (and then further into fish, reptiles, amphibians, birds and mammals) and invertebrates
- Animals can be grouped into carnivores, herbivores and omnivores
- The differences between the teeth of carnivores and herbivores.
- The names of some common wild and garden plants and deciduous and evergreen trees.
- Examples of habitats (including microhabitats) and the animals and plants that can be found there.
- Living things depend on each other to **survive**. How **food chains** and food webs work.
- How land use has changed over time and the effects this has on the **environment** (e.g. **urban** development)

National Curriculum
Pupils should be taught 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.

Knowledge/ Skills

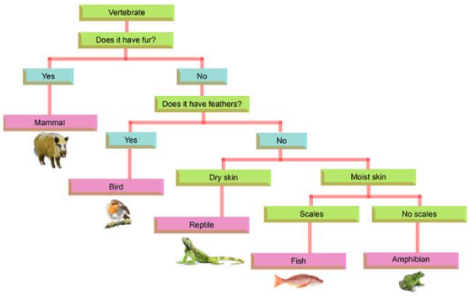
How can living things be grouped?

All living things, which can also be called **organisms**, have to do certain things to stay alive. These are the **life processes**:
- movement
- **respiration**
- **sensitivity**
- growth
- **reproduction**
- **excretion**
- **nutrition**

Living things can be grouped according to different **criteria** (where they live, what type of **organism** they are, what features they have). For example, a camel can belong in a group of **vertebrates**, a group of animals that live in the desert, and a group of animals that have four legs.

What is a classification key?

A **classification key** is a tool that is used to group living things to help us identify them.



How can environments change?

Habitats can change throughout the year and this can have an effect on the plants and animals that live there.

Humans can have positive and negative effects on the environment:
- positive effects: nature reserves, ecological parks
- negative effects: litter, **urban** development

Vocabulary and definitions

Word	Definition
biomes	a natural area of **vegetation** and animals
carnivore	an animal that eats meat
classification key	a system which divides things into groups or types
criteria	a factor on which something is judged
deciduous	trees that lose leaves in the autumn every year
environment	all the circumstances, people, things, and events around them that influence their life
evergreen	a tree or bush which has green leaves all the year round
excretion	the process of eliminating waste from the body
food chain	a series of living things which are linked to each other because each thing feeds on the one next to it in the series
habitat	the natural **environment** in which an animal or **plant** normally lives or grows
herbivore	an animal that only eats plants
invertebrate	a creature that does not have a spine, for example an insect, a worm, or an octopus
life processes	There are seven processes that tell us that living things are alive
microhabitat	a small part of the environment that supports a **habitat**, such as a fallen log in a forest
minibeast	a small **invertebrate** animal such as an insect or spider
nutrition	the process of taking food into the body and absorbing the nutrients in those foods
omnivore	person or animal eats all kinds of food, including both meat and **plants**
organism	a living thing
reproduction	when an animal or plant produces one or more individuals similar to itself
respiration	process of respiring; breathing ; inhaling and exhaling air
sensitivity	responding to the external environment
urban	belonging to, or relating to, a town or city
vegetation	**plants**, trees and flowers
vertebrate	a creature which has a spine

Investigate!

- Complete Venn diagrams to show if living things can be grouped into two or more groups . Use criteria to sort living things in a Carroll diagram.

- Sort vertebrate and invertebrate animals into groups, describing their key features. Use a classification key to identify which group of vertebrates animals belong to and then create your own.

- Sort plants into groups (e.g. flowering plants and non-flowering plants) and then create a classification key to help others identify plants.

- Carefully observe minibeasts in a microhabitat and use a classification key to identify them. Use simple computer software programmes to create a branching classification key.

- Explore examples of human impact (both positive and negative) on environments.

Significant Scientist

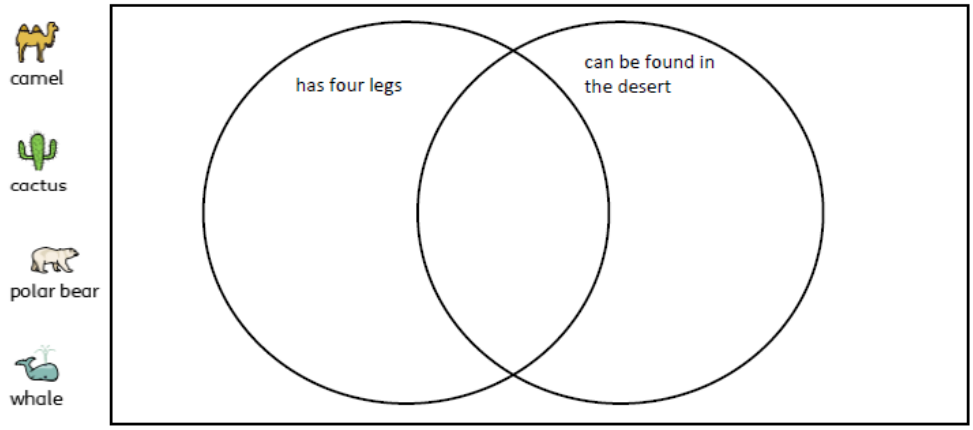
Jane Goodall

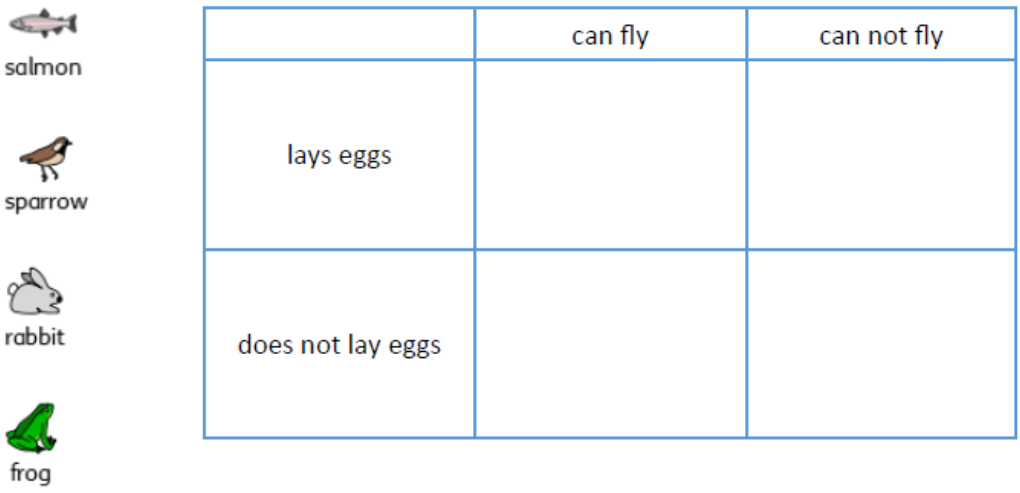
(Born 1934)

Jane Goodall is an expert on wild chimpanzees. She is known for her ground breaking discoveries about their behaviour. She has shown us the urgent need to protect chimpanzees from extiction.

Question 1: Which of these is not a vertebrae?	Start of unit:	End of unit:
bird		
mammal		
reptile		
insect		
amphibian		

Question 2: A duck and a fish are similar because… (tick three)	Start of unit:	End of unit:
they are both vertebrates		
they both need food and water to survive		
they both breathe using gills		
they are both invertebrates		
they both lay eggs		

Question 3: Write the word of each living thing in the Venn diagram below to show where they belong.	Start of unit:	End of unit:
		

Question 4: Write the word of each living thing in the Carroll diagram to show where they belong.	Start of unit:	End of unit:
		

	can fly	can not fly
lays eggs		
does not lay eggs		

Question 5: Complete the table by adding the name of the minibeast in the correct place.	Start of unit:	End of unit:


fly


spider


worm


ants

name	legs	wings
	6	0
	0	0
	8	0
	6	2

Question 6: Which three things do all animals do?	Start of unit:	End of unit:
move		
walk		
reproduce		
grow		

Question 7: What can we use to help us accurately identify living things?	Start of unit:	End of unit:
a food chain		
looking after the environment		
a classification key		
living processes		

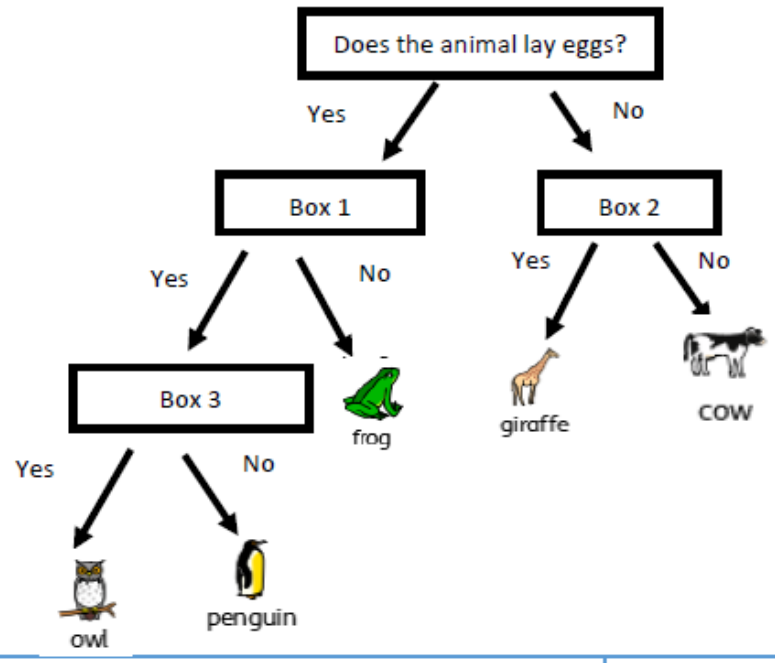
Question 8: Name one thing that makes these animals similar and one thing that makes these animals different.	Start of unit:	End of unit:


cow


human

similar	different

Question 9: Look at the following classification key. Which question belongs in each box?	Start of unit:	End of unit:



Question	Box Number (1, 2 or 3)
Does the animal have a long neck?	
Is the animal a bird?	
Does the animal fly?	

Question 10: List one way in which we can help the environment.	Start of unit:	End of unit: