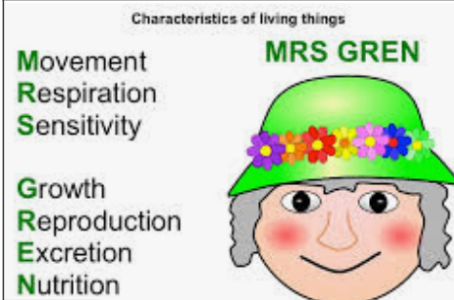


Year 4 Science Knowledge Organiser - Living Things & Habitats

Knowledge: How Does a Plant Grow?

Life processes of living things

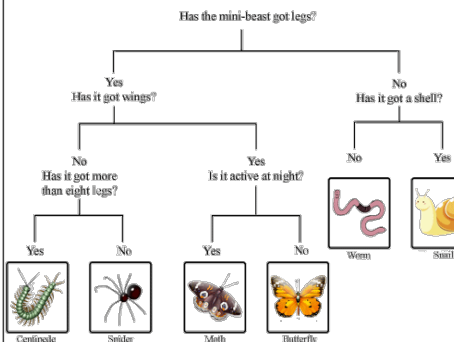
All **living things**, which can also be **called organisms**, have to do certain things to **stay alive**. These are the **life processes**



Living things can be grouped in many different ways

1. Where they can be found
2. What type of organism they are
3. What features they have
4. How they reproduce
5. What they eat..... etc etc

Classification



A **classification key** is 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

Vocabulary

1. Biome	A natural area of vegetation and animals.
2. Carnivore	An animal that eats meat.
3. Classification Key	A system which divides things into groups or types.
4. Criteria	A factor on which something is judged.
5. Deciduous	Trees that lose leaves in the autumn every year.
6. Environment	All the circumstances, people, things, and events around them that influence their life.
7. Evergreen	A tree or bush which has green leaves all the year round.
8. Excretion	The process of eliminating waste from the body.
9. 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.
10. Habitat	The natural environment in which an animal or plant normally lives or grows.
11. Herbivore	An animal that only eats plants.
12. Invertebrate	A creature that does not have a spine, for example an insect, a worm, or an octopus.
13. Life Processes	There are seven processes that tell us that living things are alive.
14. Microhabitat	A small part of the environment that supports a habitat, such as a fallen log in a forest.
15. Minibeast	A small invertebrate animal such as an insect or spider.
16. Omnivore	Person or animal that eats all kinds of food, including both meat and plants.
17. Organism	A living thing.
18. Reproduction	When an animal or plant produces one or more individuals similar to itself.
19. Respiration	Process of respiring; breathing; inhaling and exhaling air.
20. Urban	Belonging to, or relating to, a town or city.
21. Vegetation	Plants, trees and flowers.
22. Vertebrate	A creature which has a spine.

Humans and the Environment



Positive Effect

1. Nature reserves
2. National parks
3. Protecting endangered species
4. Recycling centres
5. Cleaning rivers
6. Reducing plastic use

Negative Effect

1. Deforestation
2. Hunting endangered animals
3. Litter
4. Waste and landfill
5. Pollution of the air, (greenhouse gases)
6. Pollution of oceans - plastic and sewage

Year 4 Science Skills Knowledge Organiser - Living Things & Habitats




Key Concepts and what they mean

1. Biology	Biology comes from the greek word bio which means life and logy which means to study. It is the science of life and living organisms.
2. Chemistry	Chemistry deals with the properties of substances, the transformations they undergo, and the energy that is released or absorbed during these processes. For example, when plants use sunlight to produce energy (or food for itself).
3. Data Collection	Data collection is the process of gathering and measuring information to answer a question. For example, recording living and non living things to investigate whether numbers change depending on the weather.
4. Cause and effect	Cause and effect is the relationship between events or things, where one is the result of the other or others. For example, the weather gets colder and there is less food around, so animals hibernate.
5. Environmental	Environmental relates to the environment around us at Old Fletton.

Tally Charts

A tally chart is a simple way of recording and counting frequencies (numbers of something).

Alive, never alive, dead		
	Tally	Frequency
Alive		22
Never alive		5
Dead		13
Total		40

Favourite living thing		
Living thing	Tally Marks	Number
		10
		4
		6

INSECT SCAVENGER HUNT TALLY CHART		
Insect	Tally	Total
Ladybug		6
Ant		13
Butterfly		14
Maggot		10

Steps to Success

1. Think of a question and possible answers. For example, question would be 'types of litter' and answers could be 'cans, paper and crisp packets'
2. Fill in tally chart with question and possible answers

Types of litter	TALLY	TOTAL
Cans		
Paper		
Crisp Packets		

3. Collect the data. Put a line in the correct box.
4. When you need to draw the fifth line, cross through the first four lines
5. When done, count up the lines (in groups of 5) and complete the last box with each answers total.

Comparing Data - Similarities and Differences

When comparing two things - physical, objects, ideas - you look at things that are the same. For example, both animals have fur.



When comparing two things - physical, objects, ideas - you look at things that are different. For example, one animal lives in the rainforest and one in the arctic.

Literacy links to this topic

Stories that relate to the topic of 'Living Things and their Habitats' are:

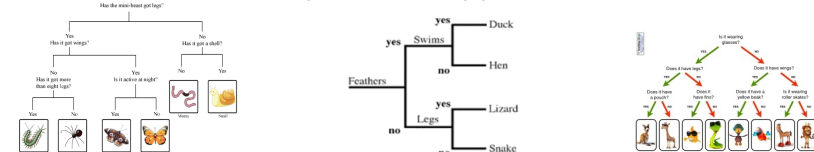


The Vanishing Rainforest by Richard Platt
Charlotte's Web by E. B. White
Beetle Boy by M. G. Leonard

These stories help you to gain a greater understanding of the topic of living things and may spark some questions that you might want to ask in your next science lesson!

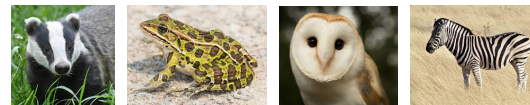
Classification Keys

A classification is a series of yes, no questions that help you determine unknown items or living things.



Steps to Success - Creating a Classification Key

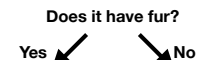
- 1) Lay out all the living things and look at their features



- 2) Think of a question - yes or no - that will sort all the living things into two piles. For example 'Does it have fur?'



- 3) Write down the question at the top



- 4) Think of another question - yes or no - that will further sort each pile into two. For example 'Does it live in a woodland?' and 'Does it live in a pond?'

- 5) Write down the question under the last yes or no answer.



- 6) Put the picture under the correct answer

- 7) Recheck to make sure the classification works