Year 4 Subject Knowledge Organiser – Evolution and Inheritance

What I should already know

Living things can be grouped in different ways.

Animals and plants have adaptations to help them survive in their habitats.

Offspring often look like their parents but are not exactly the same.

Fossils provide evidence of living things from the past.

What I will have learnt by the end of the unit

How animals and plants have evolved over time.

How fossils help us understand past life forms.

Why some characteristics are inherited and others are influenced by the environment.

The importance of adaptation and survival in different habitats.

Key Concepts

Biology

Chemistry

Physics

Scientific enquiry

Science for the future

Vocabulary

What I will have learnt at the end of the key stage

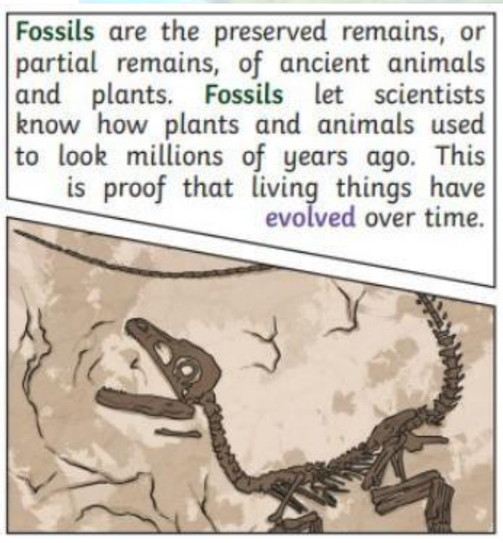
The process of natural selection and evolution.

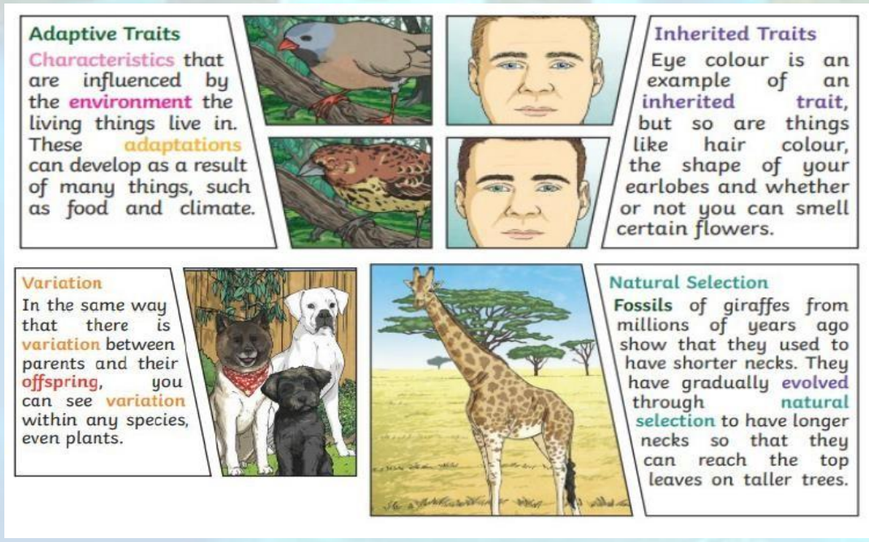
The role of genes in inheritance.

How different species have adapted to their environments.

The impact of human activity on species survival.

How scientific discoveries shape our understanding of life.





Key skills I will learn/use

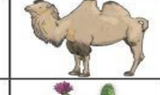
Notice- I will be able to ask relevant questions and using different types of scientific enquiries to answer them
Observe- I will be able to set up simple practical enquiries, comparative and fair tests
Record- I will be able to gather, record, classify and present data in a variety of ways to help in answering questions.
I will be able to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
Report- I will be able to report findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
I will be able to using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
Identify- I will be able to identify differences, similarities or changes related to simple scientific ideas and processes
Evidence- I will be able to use straightforward scientific evidence to answer questions or to support their findings.

Opportunities for teaching diversity, equality (including protected characteristics and expanding cultural capital)

Learning about different scientists and their contributions to evolution.
Understanding how indigenous cultures use knowledge of adaptation in survival.
Exploring how evolution is reflected in myths, legends, and stories from around the world.
Investigating endangered species and conservation efforts.
Visiting natural history museums or fossil sites.

Skills I may use for other subjects

Science – Understanding life cycles, habitats, and how organisms are classified.
Geography – Learning about different environments and how they affect living things.
History – Exploring how scientific discoveries have changed our understanding of the past.
Maths – Interpreting data, such as changes in species over time.

Living Things		Habitat		Adaptive Traits
polar bear		arctic		Its white fur enables it to camouflage in the snow.
camel		desert		It has wide feet to make it easier to walk in the sand.
cactus		desert		It stores water in its stem.
toucan		rainforest		Its narrow tongue allows it to eat small fruit and insects.

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Key Vocabulary

Evolution – The process of change in living things over time.

Inheritance – Passing on characteristics from parents to offspring.

Adaptation – A trait that helps an organism survive.

Natural Selection – The survival of the best-adapted organisms.

Fossil – Preserved remains of ancient life.

Extinction – When a species no longer exists.

Habitat – The environment where a living thing lives.

Species – A group of living things that can reproduce.

Characteristics – Features of an organism, inherited or influenced by the environment.

Environment – The surroundings in which an organism lives.

Key Knowledge

- Evolution is the process by which living things change over time.
- Inheritance is when characteristics are passed from parents to offspring.
- Adaptations help animals and plants survive in their environment.
- Natural selection is when only the best-adapted organisms survive and reproduce.
- Fossils give clues about organisms that lived millions of years ago.
- Charles Darwin developed the theory of evolution through natural selection.

Evolution means change over time. It is the reason we have so many species on Earth.

Inheritance is when something is passed on to the next generation. Offspring are not identical to their parents and some characteristics are inherited (passed on from parents to off-spring).

Adaptation is the action of a living things changing to suit the environment. If a species is well adapted it will survive and pass on successful genes to offspring.

Recall and Remember questions

What is evolution?

How do offspring inherit characteristics from their parents?

What is adaptation? Can you give an example?

Who was Charles Darwin, and what was his theory?

How do fossils help us learn about the past?

Why do some animals become extinct?

What is the difference between inherited and acquired traits?