

Evolution and Inheritance

Science Knowledge Organiser

Learning Lens: Biology

Class: Year 6

Previous Knowledge

Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Notice that animals, including humans have offspring which grow into adults.

Project Hook or 'Wow' memory

Clay Fossils

Learning Steps

Key Knowledge (answers)

Inheritance— **What is the most common eye colour in the class?**
Comparative testing.
To explain the scientific concept of inheritance

Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents in the context of inheritance. To understand how inherited characteristics can lead to variation. Eye colour is an example of an inherited trait, but so are things like hair colour, and the shape of your earlobes.

Adaptation— **I can demonstrate understanding of the scientific meaning of adaptation**
Identifying

To understand how animals and plants are adapted to suit their environment in different ways in the context of environmental variation. To understand that adaptations are mutations. Adaptive traits are characteristics that are influenced by the environment living things live in. These adaptations can develop as a result of many things, such as food and climate.

Theory of Evolution
What happened when Charles Darwin visited the Galapagos islands? Research/ ideas changed over time.

Be able to identify scientific evidence that has been used to support or refuse ideas or arguments. To understand how adaptation may lead to evolution by examining the theory of evolution constructed by Darwin and Wallace. Adaptation means the action or process of adapting or being adapted.

Evidence for Evolution— **I can identify evidence for evolution from fossil records.**
Research/Changes over time

To be able to identify scientific evidence that has been used to support or refute ideas. Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago in the context of the evolution of plants and animals. Fossils are the preserved remains, or partial remains, of ancient animals and plants. Fossils let scientists know how plants and animals used to look millions of years ago. This is proof that living things have evolved over time.

Evidence for Evolution (Humans)
Compare the skeletons of apes, humans and Neanderthals—how are they similar, and how are they different? Identifying/Changes over time.

To understand that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago in the context of the evolution of human beings. Identify adaptive traits in humans as species. Describe the known stages of human evolution. Compare modern humans with members of the same genus and family.

Adaptation, Evolution and Human Intervention— **I can explain how human intervention affects evolution. Pattern spotting**

To understand that some living things have acquired more adaptive traits than others. To be able to identify advantages and disadvantages of specific interventions. Explain how humans created new varieties of living things through selective breeding. To be able to demonstrate understanding of the issues raised by human interventions. Evolution is a natural process by which different kinds of organism have developed from earlier forms over millions of years.

The key skills we want pupils to use during this topic:

To develop children's skills in comparative tests. *What is the most common eye colour in your class?*

Develop children's skills in identifying and classifying. *Compare the skeletons of apes, humans and Neanderthals—how are they similar, and how are they different?*

Develop children's skills in research. *What happened when Charles Darwin visited the Galapagos islands?*

Key vocabulary

Biodiversity	A wide variety of plant and animal species living in their natural environment
Characteristics	The qualities or features that belong to them and make them recognisable.
Adaptation	A change in structure or function that improves the chance of survival for an animal or plant within a given environment.
Palaeontology	The study of fossils as a guide to the history of life on earth.
Mutation	Characteristics that are not inherited from the parents or ancestors and appear as new characteristics.
Ancestor	An early type of animal or plant from which later, usually dissimilar, type has resolved.
biome	A large naturally occurring community of animals and plants occupying a major habitat

Statutory Requirements

Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

Recognise that living things produce offspring of the same kind but normally offspring vary and are not identical to their parents.

Identify how animals and plants are adapted to suit their environment in different ways and that adapted to suit their environment in different ways.

