

Science – Year 6

Evolution and Inheritance

Why do different species of animals look different?

NC objectives - areas of study	End point of area of study	Vocabulary		
<p>recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	<p>Children make connections to learning about fossil in year 3 and the work of Mary Anning, to find out more about how living thing son the Earth have changed over time.</p> <p>They recognise how living things have changed over time to enable them to survive in changing environments. They know that living things reproduce and that offspring can vary and are not identical to their parents. They identify how plants and animals are suited to their environment and that adaptation of plants and animals leads to evolution for survival.</p>	Basic	Adventurous	Technical
		<p>Adaptation, Characteristics, Offspring, species adapted, environment,</p>		<p>sexual reproduction, vary, inherited, Evolution, evolve</p>

Knowledge

Substantive Knowledge	Disciplinary Knowledge
<ul style="list-style-type: none"> ● Retrieval this unit builds upon knowledge of living things and their habitat from year 4 when children have studied how environmental change may impact animals. ● Children know how fossils are formed from learning about rocks in their materials learning and know about the work of Mary Anning. ● Lesson 1 ● LO To know that living things change over time and may become extinct. ● Adaptation, evolve ● Know that a species is a group of living things have many similarities that can reproduce together produce offspring ● Know that offspring vary and are not identical to their parents 	<p style="text-align: center;">Children work as geneticists to find out more about how living things on The Earth have changed and adapted to their environment to enable survival.</p> <p>Similarities and differences Pupils identify similarities and differences between species of animal and begin to ask questions about these variations and reasons for them. They are</p>

- Know that changes to the environment can make it more difficult for animals to survive and reproduce; in extreme cases this leads to extinction, where an entire species dies

- Lesson 2

- LO To know that animals and plants adapt to suit their environment.

- **Adaptation, species adapted, vary, Evolution, evolve**

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- Know that all life on Earth began from a single point around 4.5 thousand million years ago
- Know that living things change over time and that this gradual change is called evolution
- Know that natural selection is the cause of this change; natural selection works as there is natural variation within a species; there is also competition to survive and reproduce and that members of a species with advantageous characteristics survive and reproduce - these characteristics are passed down to their offspring; members of a species with less advantageous characteristics do not survive and reproduce – these characteristics are not passed down to offspring

- Lesson 3

- LO To know that humans impact on environment can lead to a change in animals.

- **Adaptation, species adapted, vary, inherited, Evolution, evolve**

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- Know that human activity – such as climate change caused by pollution - can change the environment for many living things, endangering their existence
- Know that the polar bear is a famous example of climate change endangering the existence of a species; as the climate changes and gets warmer, the sea ice on which polar bears live reduces in amount making it harder for them to survive and reproduce

Reflect on the impact that humans have had on animals, e.g. polar bears.

- Lesson 4

- LO To know that Charles Darwin was a naturalist.

- **species adapted, inherited, Evolution, evolve**

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- Know that Charles Darwin posited this theory of evolution by natural selection
- Know that Darwin was a naturalist whose theory of evolution by natural selection developed while travelling through the Amazon rainforest
- Know that Darwin's theory is accepted as fact by the scientific community
- Know that Darwin did not know similarities were passed between parents and their offspring; know DNA, a chemical discovered in the 20th century, is contains the "code" that passes on information between parents and their offspring in all living things

- Lesson 5

able to explain how animals and plants are suited to the environment in which they live. They observe and identify similarities in characteristics between offspring and their parents and can do this by looking at their own family characteristics. They can also investigate this in animals, for example dogs when they are cross bred- Labradors and poodles for example. What do they notice about the characteristics from each type of dog?

Evidence

Using research evidence, pupils explore how variation over time can make animals more or less able to survive in particular environments, for example exploring how giraffes got longer and the work of Darwin on finches. They will use literature to find out more about Charles Darwin and his work on evolution and retrieve learning about Mary Anning from Year 3 and build upon it. They are able to compare how living things are adapted to survive in extreme conditions. They analyse evidence and research to identify advantages and disadvantages of specific adaptations.

- LO To know that fossils provide information about living things that inhabited the Earth millions of years ago.
- **Characteristics, Offspring, environment,**
- Know that fossils form when a plant or animal dies and is quickly covered with silt or mud so that it cannot be rotted by microbes or eaten by scavenging animals; in time layers of sediment build, squashing the mud and turning it to stone around the dead plant or animal; the materials in the body are replaced by minerals that flow in water through the rock, leaving a rock in the shape of the animal or plant that was once there
- Know that fossils can help us learn about things that lived long ago
- Know that the gradual change of species over millions of years can be observed by looking at examples of fossils

Reflect on what we can learn about ancient life on Earth through studying fossils.

Concepts

Biology

Chemistry

Physics

SKILLS

1. Compare

2. Explore

3. Identify

4. describe

5. classify

6. Question

7. observe

8. test

9. record

10. research

ASSESSMENT

KNOW MORE, REMEMBER MORE, DO MORE...

In this unit of learning, progress has been made when a learner knows more. This 'distance travelled' from the starting point is evidenced through them remembering more and doing more: in books, low stakes quizzes, retrieval, use of mind maps, answering the big question and being able to feel more confident about this unit.