



HAWTHORN PARK COMMUNITY PRIMARY SCHOOL

Where Care and Learning Count

Headteacher: Mrs Jeni Houghton



Science Knowledge Organiser

Area: Evolution and Inheritance

Year Group: 6

Statutory guidance:

By the end of this unit pupils will be able to:

- 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 adaptation may lead to evolution

Notes and guidance (non-statutory)

Building on what they learned about fossils in the topic on rocks in year 3, pupils should find out more about how living things on earth have changed over time. They should be introduced to the idea that characteristics are passed from parents to their offspring, for instance by considering different breeds of dogs, and what happens when, for example, Labradors are crossed with Poodles.

They should also appreciate that variation in offspring over time can make animals more or less able to survive in particular environments, for example, by exploring how giraffes' necks got longer, or the development of insulating fur on the arctic fox.

Pupils might find out about the work of palaeontologists such as Mary Anning and about how Charles Darwin and Alfred Wallace developed their ideas on evolution.

Note: At this stage, pupils are not expected to understand how genes and chromosomes work.

Pupils might work scientifically by: observing and raising questions about local animals and how they are adapted to their environment; comparing how some living things are adapted to survive in extreme conditions, for example, cactuses, penguins and camels. They might analyse the advantages and disadvantages of specific adaptations, such as being on two feet rather than four, having a long or a short beak, having gills or lungs, tendrils on climbing plants, brightly coloured and scented flowers.

Key Vocabulary

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| 1. offspring | The young animal or plant that is produced by the reproduction of that species. |
| 2. inheritance | This is when characteristics are passed on to offspring from their parents. |
| 3. variations | The differences between individuals within a species. |
| 4. characteristics | The distinguishing features or qualities that are specific to a species. |
| 5. adaptation | An adaptation is a trait (or characteristic) which changes to increase a living thing's chances of surviving and reproducing. |
| 6. habitat | Refers to a specific area or place in which particular animals and plants can live. |
| 7. environment | An environment contains many habitats and includes areas where there are both living and non-living things. |
| 8. evolution | Adaptation over a very long time. |
| 9. natural selection | The process where organisms that are better adapted to their environment tend to survive and produce more offspring. |
| 10. fossil | The remains or imprint of a prehistoric plant or animal, embedded in rock and preserved. |
| 11. adaptive traits | Genetic features that help a living thing to survive. |
| 12. inherited traits | These are traits you get from your parents. Within a family, you will often see similar traits, for example curly hair. |

Key Assessment Questions

Can they recognise that living things have changed over time and that fossils provide information about living things that inhabited the earth millions of years ago?

Can they recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents?

Can they give reasons why offspring are not identical to each other or to their parents?

Can they explain the process of evolution and describe the evidence for this?

Can they identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution?

Can they record more complex data and results using scientific diagrams, classification keys, tables, bar charts, line graphs and models?

Greater Depth:

Can they research and discuss the work of famous scientists, such as Charles Darwin, Mary Anning or Alfred Wallace?

Can they explain how some living things adapt to survive in extreme conditions?

