

Y6 – Evolution and Inheritance

Inspiration

Culture – history of science

Partnership with parents

Community

Key Questions

- What can we learn from fossils?
- How do offspring vary?
- Who were Charles Darwin and Alfred Wallace?
- What do we mean by adaptation and evolution?
- Who was Gregor Mendel and why is he important?

Working Scientifically

- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments.

- Also covered in:
- Y3 – Rocks (Fossils)
- Y5 – Living things and their habitats (reproduction)

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

- recognise that living things have changed over time
- know 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
- explain how evidence can be used to support the idea of evolution and inheritance
- present finding including causal relationships and explanations relating to the ideas of evolution and inheritance

Knowledge

- Some animals or plants used to live on Earth but no longer exist e.g. lots of different dinosaurs, Dodo, Great Auk, Sabre-toothed cat, Quagga, etc.. It's not so easy to think of plants, but an example is the St Helena Olive. These animals and plants are extinct.
- Fossils provide information about some living things that inhabited the planet millions of years ago, e.g. horsetails, conifers & cycads (plants) were numerous in the Triassic Period alongside early dinosaurs, insects, lizards & turtles). Some plants & animals are known as living fossils as species are still alive today. Not all the details of an animal or plant can be found from a fossil and scientists make informed guesses as to what these organisms looked like and how they behaved. The remains of bones in the stomach area of a fossil or a skeleton can show what was eaten by the larger organism, the teeth might indicate the type of diet, the remains can be carbon dated, fossil faeces (coprolites) show the kinds of food eaten, etc
- Animals and plants are adapted to suit their environment in different ways and that adaptations may lead to evolution.
- The peppered moth apparently adapted to the changed environment it found itself living in. Visit <http://www.bbc.co.uk/schools/gcsebitesize/science/aga/evolutiontheories/theoriesofevolutionrev5.shtml>
- Living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. <https://www.bbc.co.uk/teach/class-clips-video/what-is-selective-breeding/z6cs382>
- Charles Darwin published his scientific theory of natural selection in a book called 'On the Origin of Species' in 1859. Darwin's theory explained how every living thing is connected in a family tree that stretches back billions of years to the beginning of life on Earth
- One of the best known examples of Darwin's observations while travelling on HMS Beagle is the variety of beaks in finches found on the various islands of Galapagos

Topic Specific Vocabulary

adaptation; gene; offspring; fossil; evolution; finch, characteristics; extinction

NC Subject content

- 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.

Subject Specific/Academic Vocabulary

This vocabulary should be explicitly taught in context. Other tier 2 words should also be explored as they are encountered.

| Year 3 | Year 4 | Year 5 | Year 6 |
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| Benefit, impact, issues, occur, process, sequence, source, variables | Appropriate, consequences, identified, procedure, range, relevant, significant, specific, theory, transfer | Factors, affect, analyse, contribute, demonstrate, outcome, react, volume, | Component, exclude, function, imply, initial, justify, sufficient. |

We are scientists

Children to investigate how some living things are adapted to survive in extreme conditions eg cactuses, penguins and camels