

Year 6 – Evolution & Inheritance – Everything Changes

What it looked like last year (Yr4 Living Things and their Habitats)

- Recognise that environments can change and that this can sometimes pose dangers to living things.

What it looks like next year

- Heredity as the process by which genetic information is transmitted from one generation to the next.
- A simple model of chromosomes, genes and DNA in heredity, including the part played by Watson, Crick, Wilkins and Franklin in the development of the DNA model.
- The variation between species and between individuals of the same species means some organisms compete more successfully and reproduce, which in turn may lead to extinction.

Vocabulary (definitions)

DNA - the material that carries all the information about how a living thing will look and function (deoxyribonucleic acid).

extinction - the dying out or disappearance of a species from earth.

genes - the basic units of heredity.

genetics - the study of genes and heredity.

offspring

population

vary

species

fossils

characteristics

suited

adapted

environment

breeding

natural selection

Evolution means change over time. It is the reason we have so many species on earth. It happens when there is competition to survive (natural selection) and through differences within a species caused by inheritance and mutations.

Inheritance is when something is passed on to the next generation. Offspring are not identical to their parents and some characteristics are inherited (carried in offspring from parents) and other differences are new in the offspring - these are called mutations

Sequence of Learning

1. Identify ways in which living things of the same kind vary and begin to think about why these variations exist.
2. Recognise how organisms can be bred to select particular characteristics in their offspring.
3. Describe selective breeding and evaluate different people's opinions.
4. Observe the effects of the environment on plants and design an experiment to investigate some of these effects; interpreting the results.
5. Explore ways in which living things are adapted to suit the environments in which they live and to help them survive.
6. Evaluate variables that contribute to the extinction of living things.
7. Recognise that fossils allow us to study things that have lived in the past and provide evidence of evolution.
8. Describe the process of natural selection.

Cultural Capital

- To 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.
- To be able to recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

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- To be able to identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
- The real life knowledge that links is: grouping and classifying, using secondary sources for research.
- The jobs it can be used in are: Biologist, Genetics, Archaeology.

Principles of Teaching Science.

Exploring – when we look at how things work in the world

Questioning – when we question what will happen

Understanding – when we use scientific language to explain

Investigating – when we can explore and are hands on

Predicting – when we use our previous knowledge to say what we think will happen.

- 1.) Charles Darwin is an English scientist best known for his theory of evolution.
- 2.) He was a geologist who went travelling in 1831 on the HMS Beagle.
- 3.) He saw many animals and plants and came up with the idea of natural selection (the strongest survive and evolve).
- 4.) His book 'Origin of the Species' was released in 1851 and was controversial because it went against the creation story in the Bible.

CHARLES DARWIN
(1809 – 1882)



THE DODO



The dodo was a flightless bird from Mauritius which failed to adapt to its new environment. Humans arrived, hunted it and introduced other animals and so became extinct in 1681.

A cactus stores water to help keep it alive in the desert. It also has spikes to protect itself from attack.



A camel has humps of fat storage to use up for energy in the dry desert when there is a shortage of food.



A polar bear has adapted to camouflage itself against white snow/ice so it can hunt without being seen.

FOSSILS



Fossils are the remains of living things which inhabited the world millions of years ago. They are formed in sedimentary rock (sand, mud and pebbles squashed under layer, after layer over time) and plants/animals get trapped in these layers, revealing their shape.

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