Year 6 - Science - Unit 4 -Evolution and Inheritance

Knowledge you already have

In Year 2:
- I identified that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.
- I noticed that animals, including humans, have offspring which grow into adults.

In Year 3:
- I described in simple terms how fossils are formed when things that have lived are trapped within rock.

In Year 4:
- I recognised that environments can change and that this can sometimes pose dangers to living things.

In Year 5:
- I described the life process of reproduction in some plants and animals.

Future Knowledge

In KS3, I will study:
- 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.
- The variation between species and between individuals of the same species means some organisms compete more successfully, which can drive natural selection.
- Changes in the environment may leave individuals within a species, and some entire species, less well adapted to compete successfully and reproduce, which in turn may lead to extinction.

New Knowledge

During this unit:
- I will recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.
- I will recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.
- I will identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

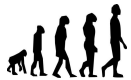
Scientific Enquiry

Researching using secondary sources:
- Use secondary sources to find out about how the population of peppered moths changed during the industrial revolution.
- Use secondary resources to compare the ideas of Charles Darwin and Alfred Wallace on evolution.
- Use secondary resources to research the work of Mary Anning and how this provided evidence of evolution.

Pattern seeking:
- Identify features in animals and plants that are passed onto offspring and explore this process by considering the artificial breeding of animals or plants e.g. dogs
- Use models to demonstrate evolution e.g. 'Darwin's finches' bird beak activity.

Key Ideas and Vocabulary

All living things have offspring of the same kind, as features in the offspring are inherited from the parents. Due to sexual reproduction, the offspring are not identical to their parents and vary from each other. Plants and animals have characteristics that make them suited (adapted) to their environment. If the environment changes rapidly, some variations of a species may not suit the new environment and will die. If the environment changes slowly, animals and plants with variations that are best suited survive in greater numbers to reproduce and pass their characteristics on to their young. Over time, these inherited characteristics become more dominant within the population. Over a very long period of time, these characteristics may be so different to how they were originally that a new species is created. This is evolution. Fossils give us evidence of what lived on the Earth millions of year ago and provide evidence to support the theory of evolution. More recently, scientists such as Darwin and Wallace observed how living things adapt to different environments to become distinct varieties with their own characteristics.

adaptation 	Changes which help an animal survive.
evolution 	Living things have developed and changed over a long time.
inherit 	Certain features are passed to a species offspring.
species 	Classification of a similar group of living things that are able to reproduce.
variation 	Differences between offspring of the same litter.