Science Knowledge Organiser:

Scientific Enquiry:

Plan different types of scientific enquiries to answer questions, including recognising and controlling variable where necessary.
Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
Report and present findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
Identify scientific evidence that has been used to support or refute ideas or arguments.
Describe and evaluate their own and other people's scientific ideas related to topics in the NC, using evidence from a range of sources.
Group and classify things and recognise patterns.
Find things out using a wide range of secondary sources of information.
Use appropriate scientific language and ideas from the NC to explain, evaluate and communicate his/her methods and findings.

Vocabulary:

an offspring
a fossil
a characteristic
the environment
identical / non-identical
vary / variation
evolve / evolution
adapt / adaptation
inherit / inheritance
Charles Darwin
Mary Anning

Knowledge and skills:

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 adaptation may lead to evolution.

Facts:

- Evolution is change over time.
- Evolution occurs when there is competition to survive (natural selection)
- Differences within a species can be caused by inheritance and mutations.
- Mutations are random changes (which are not inherited from the parents).
-Both extinct animals and living things provide evidence for evolution.
- Fossils are the remains of living things which are found in sedimentary rocks. These rocks form in layers so animals and plants can get trapped between the layers.
- When palaeontologists compare fossils to animals from today, they can see similarities and identify relationships between them.
- Living things also provide evidence for natural selection and evolution.
- Offspring are not normally identical to their parents.
- Characteristics can be inherited or caused by mutations.
- Sometimes the changes in the next generation can be an advantage (because they are better suited to their habitat); sometimes they can be a disadvantage (it is harder for them to survive in their habitat).
-Some animals have changed over time to suit their habitat.
-Sometimes changes to animals can be advantages or disadvantages.
-Adapting to suit a particular environment helps animals to survive.
- Lots of scientists have researched evolution for many years.
- Charles Darwin, Mary Anning and Alfred Wallace are scientists who thought about evolution.
- All of the work that scientists do helps us to understand where we have come from.

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