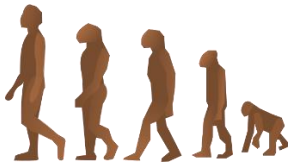
St James' Church of England Primary School
Science Overview Sheet

Year 6 – Evolution and Inheritance



Rationale: Building on what they have learnt about fossils in the topic on rocks in Year 3, pupils should find out more about how living things on earth have change 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.

Pre-unit task: Knowledge Organiser Quizzes

Working Scientifically:

- Observing and raising questions about local animals and how they are adapted to the environment;
- Comparing how some living things are adapted to survive in extreme conditions, for example cactuses, penguins & camels.
- Analysing 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.

Statutory Requirements:

- **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.**

Overview:

Lesson 1: Inheritance - I can explain the scientific concept of inheritance
Lesson 2: Adaptation - I can demonstrate understanding of the scientific meaning of adaptation.
Lesson 3: Theory of Evolution - I can identify the key ideas of the theory of evolution.
Lesson 4: Evidence for Evolution - I can identify evidence for evolution from fossil records.
Lesson 5: Evidence for Evolution: Humans - I can understand how human beings have evolved.
Lesson 6: Adaptation, Evolution and Human Intervention - I can explain how adaptations can result in both advantages and disadvantages. • I can explain how human intervention affects evolution.

Cross Curricular Links

Resources

Notes and Guidance

Most Children will: • Identify inherited traits and adaptive traits. • Understand that adaptations are random mutations. • Examine fossil evidence supporting the idea of evolution
Less Able Children will: • Develop an understanding of the development of evolutionary ideas and theories over time. • Explain how human evolution has occurred and compare modern humans with those of the same genus and family. • Understand that adaptation and evolution is not a uniform process for all living things.
More Able Children will: • Explain the terms adaptation, evolution and natural selection and use these in context. • Describe how living things evolve via the process of natural selection. • Explain in simple terms what genes and DNA are. • Investigate the ethical issues of human intervention in the process of evolution by natural selection.