Medium term Plan for Science

Y6: Evolution and Inheritance — Autumn 1

Class Text: Darwin's Dragons, Lightning Mary

Hook: Darwin's Dragons

Topic Outcome:

Topic Reflection: Children will be able to explain how evolution has made finches on the Galapagos islands suited to their habitat

Scientific Enquiry: Which finches beak is best suited to a certain diet?

Scientific Strands:

EYFS + KS1

Plants
Living things & their habitats
Animals including humans
Everyday materials
Light
Sound
Seasonal changes

KS2

Electricity
Earth and Space
Forces and Magnets
Sound
Light
States of matter
Properties & changes of materials
Rocks
Evolution and inheritance
Living things & their habitats
Animals including humans
Plants

vocabulary

Tier 1: change, living, danger, parent, child

Tier 2: competition, identical, reproduce/reproduction, formed, reveal, identify, relationships, evidence, theory, contributed, refute, environment

Tier 3: fossil, habitat, conditions, characteristics, traits, organism, variation, offspring, adaptation, evolution, inheritance, species, DNA, gene, mutation, generation, palaeontologist, extinct, natural / artificial selection

Scientific Concepts

Previous Skills

Children can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
They can describe the life process of reproduction in some plants and animals

Previous Knowledge

Most living things live in habitats to which they are suited and these different habitats provide for the basic needs of different kinds of animals and plants.
Environments can change and this can sometimes pose dangers to living things.

Previous Understanding

I understand that animals are adapted to their habitats
I understand that fossils are the preserved remains of plants and animals from the past

They can describe in simple terms how fossils are formed when things that have lived are trapped within rock		

	Concepts	**Learning Objective**	**Lesson Outcome**	**ARE Success Criteria**	**GD Success Criteria**	**SEND Success Criteria**
Lesson 1		LO: To identify features that individuals have inherited from their parents	Children learn that offspring inherit traits from their parents, and that organisms that reproduce sexually combine traits from two parents. Children learn about human-created hybrids. They create a simple family tree for a range of organisms – e.g. labradoodle, the mule, the zonkey and the loganberry, and discuss which traits they have inherited from their different-species parents	I can say what living things can inherit. I can say what cannot be inherited.	I can explain why some of these can be inherited as opposed to environmental reasons	See IEP/ My Plan/Birmingham Toolkit
	Working scientifically: Make their own decisions about which observations to make, using test results and observations to make predictions or set up further comparative or fair tests.					

Lesson 2		LO: To explain the process of evolution by natural selection	Children learn about the process of evolution by natural selection. They learn that offspring inherit traits of their parents, and that they might occasionally carry a random mutation which gives them a survival advantage and that they pass on to their own offspring. They learn that this process can change a population over time.	I can say what natural selection is. I can describe the process	I can make links with inheritance	See IEP/ My Plan/Birmingham Toolkit
	Working scientifically: Identify and explain causal relationships in data and identify evidence that supports or refutes their findings, selecting fact from opinion.					
Lesson 3		LO: To explain how some organisms are adapted to their environment	Children learn that over time, the process of natural selection can cause a range of beneficial traits (adaptations) to build up in a population. They look at a selection of organisms, identify useful adaptations, and explain the survival advantage that they provide	I can say what adaptation means I can identify ways different organism are adapted to their environment I can explain how this helps the organism	I can make links with inheritance	See IEP/ My Plan/Birmingham Toolkit
	Working scientifically: Identify and explain causal relationships in data and identify evidence that supports or refutes their findings, selecting fact from opinion.					

Lesson 4		LO: To explain how the fossil record helps us understand evolutionary relationships	Children will look at the fossil record for an animal and identify what changes have happened as the animal has evolved.	I can say what a fossil is. I can describe how fossils are formed I can identify what fossils tell us about the past.	I can make links with evolution	See IEP/ My Plan/Birmingham Toolkit
	Working scientifically: Identify and explain causal relationships in data and identify evidence that supports or refutes their findings, selecting fact from opinion.					
Lesson 5		LO: To research how palaeontologists developed their ideas on evolution	Children will research and describe the life and work of significant palaeontologists such as Anning, Darwin and Wallace. Focus on Mary Anning. Show video clip and discuss. What was she famous for? What did she do? Model using appropriate sources to discover more about Mary Anning.	I can use appropriate sources I can find suitable facts I can describe why and how Mary Anning is important	I can say what we can learn from her example	See IEP/ My Plan/Birmingham Toolkit
	Working scientifically: Identify validity of conclusion and required improvement to methodology. Discuss how scientific ideas develop over time.					

Lesson 6		LO: To plan and carry out a comparative test	Children will plan an investigation to find out which type of Galapagos finches beaks are best suited to certain diets. Model activity and how we could gather esults.	I can make a prediction I can gather results I can draw conclusions	I can evaluate and plan what we could investigate in the future	See IEP/ My Plan/Birmingham Toolkit
	Working scientifically: Select and plan the most suitable line of enquiry, explaining which variables need to be controlled and why, in a variety of comparative and fair tests					
Endpoints:	**Knowledge:** **Skills:** **Understanding:**					