

## St Bernadette's Catholic Primary Voluntary Academy



### Science Medium Term Planning - KS2 Pentecost Term Cycle A - Jurassic Jewels and Triassic Treasures - Evolution and Inheritance

Prior Learning						
<b>EYFS</b> <ul style="list-style-type: none"> <li>Explore different habitats outdoors, e.g. scent, colour &amp; shape of flowers attracting bees</li> <li>Begin to understand the need to respect &amp; care for the natural environment &amp; all living things</li> <li>Discuss how to care for the living things &amp; their habitats</li> </ul>	<b>KS1</b> <ul style="list-style-type: none"> <li>Find out about and describe the basic needs of Animals, including humans, including humans, for survival (water, food and air)</li> <li>Notice that animals, including humans, including humans, have offspring which grow into adults</li> <li>Explore and compare the differences between things that are living, dead, and things that have never been alive.</li> <li>Identify 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</li> <li>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</li> </ul>	<b>LKS2</b> <ul style="list-style-type: none"> <li>Compare and group together different kinds of rocks on the basis of their simple physical properties</li> <li>Recognise that that soils are made from rocks and organic matter</li> <li>Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</li> </ul>				
Biology Evolution & Inheritance	Learning Objective	Activity	Key Knowledge (By the end of the lesson)		Vocabulary (Tier 3)	
			Substantive	Disciplinary		
Lesson 1	L.O.15: 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.	Learn what fossils are and complete the fossilisation process activity.  Find out about different types of fossils and how they are formed: trace fossils; cast fossils; mould fossils; true form fossils.	<ul style="list-style-type: none"> <li>Know that fossils are the remains of plants and animals that died millions of years ago.</li> <li>Know that fossils are formed in sedimentary rock when plants/ animals have died and become trapped.</li> </ul>		Fossil Trace Cast Mould True Form	

Lesson 2	L.O.15: 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.	Discuss why fossils are useful and consider the important work of a palaeontologist.  Use a diagram showing a simplified cross-section of rock to date three different organisms, working out when they appeared, when they died out, and how long they lived for.	<ul style="list-style-type: none"> <li>Know that the fossil record tells us about the past.</li> </ul>		Fossil Record Palaontologist
Lesson 3	L.O.15: 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.	Learn about the life and work of the early palaeontologist, Mary Anning.  Create a poster about her life.	<ul style="list-style-type: none"> <li>Know that a palaeontologist is someone who studies fossils.</li> </ul>		Fossil Record Palaontologist
Lesson 4	L.O.16: 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.	Learn about the life of Charles Darwin and how he developed and published his theory of natural selection.  Learn about the process of evolution by natural selection	<ul style="list-style-type: none"> <li>Know that Charles Darwin developed the theory of natural selection.</li> <li>Know that offspring inherit traits of their parents.</li> </ul>		Evolution Natural Selection Inheritance Mutations
Lesson 5	L.O.16: 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.	Learn that offspring inherit traits from their parents, and that organisms that reproduce sexually combine traits from two parents.	<ul style="list-style-type: none"> <li>Know that humans inherit traits from their parents.</li> <li>Know that variation occurs within offspring.</li> </ul>	<ul style="list-style-type: none"> <li>Identifying scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>	Offspring Characteristics Variation Inheritance
Lesson 6	L.O.16: 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.	Explore the life and work of the early palaeontologist, Harry Seeley. Research his work on bird-hipped and lizard-hipped dinosaurs.  Create an information text about his life.	<ul style="list-style-type: none"> <li>Know Harry Seeley's classification system for dinosaurs - bird-hipped/ lizard-hipped.</li> </ul>		Offspring Characteristics Variation Inheritance

Lesson 7	L.O.16: 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.			<ul style="list-style-type: none"> <li>Classifying dinosaurs into bird hipped/ lizard hipped.</li> </ul>	
Lesson 8	L.O.17: 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.	Learn that over time, the process of natural selection can cause a range of beneficial traits (adaptations) to build up in a population. Look at the polar bear, barn owl and penguin, identify three useful adaptations, and explain the survival advantage that they provide.	<ul style="list-style-type: none"> <li>Know how a polar bear, barn owl and penguin have adapted to their environment.</li> </ul>	<ul style="list-style-type: none"> <li>Identifying scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>	Environment Adaptation Characteristics Variation Inheritance
Lesson 9	L.O.17: 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.	Learn that all organisms possess adaptations, not just animals. Examine three plants - the dandelion, cactus, and Venus fly trap - and identify several adaptations for each.	<ul style="list-style-type: none"> <li>Know how a dandelion, cactus and venus fly trap plant have adapted to their environment.</li> </ul>	<ul style="list-style-type: none"> <li>Identifying scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>	Environment Adaptation Characteristics Variation Inheritance
Lesson 10	L.O.17: 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.	Study a selection of dinosaurs and consider their adaptations. Explain how each adaptation provided a survival challenge.  Design a dinosaur to survive in a specific environment.	<ul style="list-style-type: none"> <li>Know how a dinosaur adapted to their environment.</li> </ul>		Environment Adaptation Characteristics Variation Inheritance
Lesson 11	End of Unit Assessment				

At KS3 (year 7+) Children will learn:

- 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.
- The variation between individuals of different species
- The variation between individuals within a species being continuous or discontinuous, to include measurements and graphical representation of variation.
- Heredity as the process by which genetic information is transmitted from one generation to the next
- The importance of maintaining biodiversity and use of gene banks to preserve heredity material
- 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

