



Subject: Year 8 Evolution

Prior key stage 2 Knowledge			
<p>Evolution and inheritance - 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.</p> <p>Living things and their habitats - describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics. Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things.</p>			
Overarching Topic: Evolution			
<p>Why is this topic being studied at this time?</p> <p>How does it fit into the wider subject curriculum?</p>	<ul style="list-style-type: none"> How could studying evolution contribute to pressing issues such as human disease? Responding to this, biologists often use a famous quotation from Theodosius Dobzhansky: "Nothing in biology makes sense except in the light of evolution." Understanding evolution helps us solve biological problems that impact our lives. There are excellent examples of this in the field of medicine. To stay one step ahead of pathogenic diseases, researchers must understand the evolutionary patterns of disease-causing organisms. To control hereditary diseases in people, researchers study the evolutionary histories of the disease-causing genes. In these ways, a knowledge of evolution can improve the quality of human life. This unit draws on ideas about living things and their habitats developed in the key stage 2 programme of study, including ideas about classification. It builds on Interdependence, Classification, Variation, Ecosystems and Inheritance. Moving forward to KS4 it is linked to the topics Adaptations, Evolution and Natural Selection, Speciation and Extinction. 		
	Essential	Core	Ambitious
<p>The Big Questions (What questions will students be able to answer upon mastery of the topic?)</p>	<p>Why is organism adaptation important? What is a gene? What adaptation to predator need to catch their prey? What adaptations do organisms need to escape their predators</p>	<p>What is evolution? What is natural selection? Why does the survival of the fittest drive evolution? What can cause an organism to become extinct?</p>	<p>Do you agree with selective breeding? Why/why not? What are the next evolutionary steps for Homo sapiens? How is natural selection linked to antibiotic resistant bacteria? Write an argument that you could present to a creationist, proving the theory of evolution. Compare and contrast natural selection and selective breeding. How would the world be different if dinosaurs didn't become extinct? What would the ultimate animal be? What adaptations has it evolved to have?</p>
The Key Skills/ Techniques	The sophistication and application of skills will become more advanced as students' progress through the essential, core and ambitious knowledge		
	Skill/Technique	How will this skill be developed?	
	1. Graphing & Drawing	Draw graphs with suitable scales, axes and units. Correct line of best fit. Appreciation of anomalies and processed data. Scientific drawing of cells, concepts and scientific equipment.	
	2. Variables	Identify independent, dependent and control variables and devise experiments to include these to ensure valid results. Appreciation of uncertainty.	
	3. Data Analysis	Describe, explain and predict trends. Graph and table data interpretation. Identify links and patterns within and between topics. Statistical analysis of data to include mode/median/mean/range determination. Drawing justified conclusions from presented data.	
4. Application	Apply known and taught theory in unfamiliar contexts. Making links to taught theory and extracting key ideas. Communicating using correct scientific		

		terminology.
	5. Working Scientifically	Identify hazards and planning to limit risk. Describe how to improve accuracy/precision/repeatability/reproducibility/validity. Evaluate reliability of methods and investigations, taking in to account data analysis.