



### Subject: Year 8 Evolution

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"> <li>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.</li> <li>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.</li> </ul>		
	Critical	Core	Pinnacle
<p><b>The Big Questions</b> (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>
<p><b>The Key Skills/ Techniques</b></p>	<p><b>The sophistication and application of skills will become more advanced as students' progress through the critical, core and pinnacle knowledge.</b></p>		
	<p><b>Skill/Technique</b></p>	<p><b>How will this skill be developed?</b></p>	
	<p>1. Graphing &amp; Drawing</p>	<p>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.</p>	
	<p>2. Variables</p>	<p>Identify independent, dependent and control variables and devise experiments to include these to ensure valid results. Appreciation of uncertainty.</p>	
<p>3. Data Analysis</p>	<p>Describe, explain and predict trends. Graph and table data interpretation. Identify links and patters within and between topics. Statistical analysis of data to include mode/median/mean/range determination. Drawing justified conclusions from presented data.</p>		

	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.