

Year 9 – Genes – Evolution

Name of unit	
Expected Outcomes • Students will understand the theory of evolution by natural selection. • Students will describe how variation and adaptation lead to survival advantages. • Students will explain how species change over time and may become extinct. • Students will evaluate evidence for evolution from fossils and DNA. • Students will understand the role of Charles Darwin and the significance of his work.	
Developmental Focus Opportunities • Critical thinking: Evaluating scientific theories and interpreting evidence. • Scientific literacy: Engaging with historical and modern sources of evidence. • Ethical reasoning: Considering the societal impact of evolutionary theory. • Discussion skills: Debating concepts such as extinction and biodiversity.	
Key Learning Points	Powerful Knowledge
• Evolution is a gradual process where species change over time through natural selection. • Variation in a population can lead to advantageous traits being passed on. • Fossils provide evidence of how life on Earth has changed. • Extinction occurs when species can no longer survive in changing environments.	• Understanding how modern species evolved and are still evolving. • Appreciating the impact of Darwin’s work on science and society. • Making links between genetics, adaptation, and environmental pressures. • Building a foundation for more advanced genetics and biology at GCSE.
Subject-Specific Vocabulary	Reading Opportunities
• Evolution • Natural selection • Variation • Adaptation • Extinction • Fossil • Species	• Extracts from Darwin’s <i>On the Origin of Species</i>. • Articles on modern evidence for evolution (e.g., antibiotic resistance). • Case studies on endangered species and conservation strategies.

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- Inherited characteristics
- Ancestor
- Biodiversity

Possible Misconceptions

- Believing evolution is a planned or directed process.
- Thinking individuals evolve, rather than populations over generations.
- Assuming all traits are adaptations.
- Misunderstanding the role of mutation in variation.

Cross-Curricular Links

- **History:** The scientific revolution and Darwin's legacy.
- **Geography:** Environmental change and habitat loss.
- **English:** Writing persuasive texts or biographies of scientists.