

Nova's Evolutionary Expedition

Learning objective: To understand how living things have changed over time and that fossils provide information about organisms that lived millions of years ago.

Nova the owl has discovered a collection of fossils from different time periods. Use your knowledge of evolution and adaptation to sequence the evolutionary path of a fictional creature, 'The Gliding Leaf-Tail', and explain why these changes occurred to help the species survive.

Word bank: adaptation · fossil · natural selection · environment · ancestor · extinction · mutation

1. The Gliding Leaf-Tail began as a flightless creature on the forest floor. Describe one 'adaptation' it might have developed to avoid predators in the trees, and explain why this trait would be passed to future generations. (2 marks)

2. If the forest environment changed to become a dry, sandy desert, why might the original forest-dwelling 'Leaf-Tail' face the risk of extinction? (2 marks)

3. How do palaeontologists use a 'fossil' found in deep rock layers to understand the anatomy of an ancient ancestor compared to a modern-day animal? (2 marks)

4. Explain the role of 'natural selection' in the survival of the Gliding Leaf-Tail. Who decides which traits are the most successful? (2 marks)

5. Look at the word bank. Choose two words and write a sentence that explains how they are linked in the process of evolution. (2 marks)

Draw: Draw two versions of the 'Gliding Leaf-Tail': one as a simple ground-dwelling ancestor and one as a modern-day glider. Label the specific features (like claws or wing-flaps) that helped it adapt to its habitat.



Extension challenge: Research a real-life animal, such as a peppered moth or a Galapagos finch. Write a short paragraph explaining how its physical appearance has shifted over time due to changes in its local environment.