

Life Cycles and Habitats: A Scientific Inquiry with Nova the Owl

Learning objective: To describe the differences in the life cycles of a mammal, an amphibian, an insect, and a bird, and to compare the process of reproduction in plants and animals.

Use this scaffold to structure your scientific report. Ensure you use precise biological vocabulary and provide clear justifications for your observations.

Across the natural world, living things undergo remarkable transformations to ensure the survival of their species through complex life cycles.

Word bank: metamorphosis · gestation · reproduction · pollination · consequently · furthermore · in contrast · subsequently · embryo · adaptation

1. Introduction: Define the importance of life cycles and state how they ensure the continuation of a species. Start with: 'The fundamental purpose of a life cycle is to...' (2 marks)

2. Comparison of Life Cycles: Compare and contrast the metamorphosis of an insect with the gestation period of a mammal. Consider: 'While mammals develop internally, insects...' (3 marks)

3. Plant Reproduction: Explain the role of pollination in the life cycle of a flowering plant. Start with: 'Plants reproduce through a process called pollination, which involves...' (3 marks)

4. Critical Thinking: Justify why certain animals provide more parental care for their offspring than others. Start with: 'Parental care is essential for some species because...' (3 marks)

5. Environmental Impact: What might happen to the life cycle of a frog if its aquatic habitat were to dry up prematurely? Start with: 'If the habitat were disrupted, the frog's life cycle would be affected because...' (3 marks)

6. Conclusion: Summarise your findings. Explain why biodiversity is vital for healthy ecosystems. Start with: 'In conclusion, the diversity of life cycles demonstrates that...' (2 marks)

Extension challenge: Research a specific species of your choice. Create a detailed annotated diagram showing each stage of its life cycle. Beneath the diagram, write a persuasive paragraph explaining how one specific adaptation helps this animal survive to adulthood.