

Nova's Life Cycle Investigation

Learning objective: To describe the differences in the life cycles of a mammal, an amphibian, an insect, and a bird.

Use this fact-file to compare the life cycles of four different animal groups. Research the stages of development for each creature and use scientific terminology to describe how they reproduce and grow. Use your own words to explain the key differences.

Word bank: Metamorphosis · Gestation · Larva · Incubation · Mammal · Amphibian · Offspring · Development

1. Mammal Life Cycle: Describe the process of reproduction and birth in mammals. Explain why most mammal offspring require significant parental care. (3 marks)

2. Amphibian Metamorphosis: Compare the life cycle of a frog to that of a mammal. What are the key stages in an amphibian's transition from egg to adult? (3 marks)

3. Bird and Insect Comparison: Justify why both birds and insects lay eggs, yet their life cycles are considered fundamentally different. Use the term 'metamorphosis' in your answer. (4 marks)

4. Explain why some species produce a large number of offspring with little parental care, while others produce fewer offspring but provide extensive care. What might happen to the population if these strategies were reversed? (4 marks)

5. Compare and contrast the life cycles of a butterfly and a bird. Which stage is most vulnerable to predators and why? (3 marks)

6. Nova the owl is curious about how environmental changes affect reproduction. Propose an explanation for how a sudden change in habitat temperature might disrupt the life cycle of a specific animal group you have studied. (4 marks)

Extension challenge: Choose one animal from each of the four groups (mammal, amphibian, insect, bird). Create a detailed diagram or flow chart that illustrates the life cycle of each, labelling the key stages of growth and development accurately.