Life Cycles and Reproduction: Science with Nova and Bea

Learning objective: To describe the differences in the life cycles of a mammal, an amphibian, an insect, and a bird, and to identify the main stages of reproduction in flowering plants.

Read each question carefully and use your knowledge of life cycles to provide detailed scientific explanations. Remember to use the key terms provided in the word bank.

Word bank: asexual · sexual · metamorphosis · pollination · germination · offspring · fertilisation · mammal

1. Nova the owl is observing different animals. Explain the main difference between sexual and asexual reproduction in terms of how many parents are involved. (2 marks)

2. Bea the bee is busy visiting flowers. Describe the process of pollination and explain why it is essential for the reproduction of flowering plants. (3 marks)

3. Many insects, such as butterflies, undergo metamorphosis. Name the four stages of a complete metamorphosis life cycle. (2 marks)

4. Compare the life cycle of a mammal with that of a bird. How do they differ in how they care for their offspring during the early stages of development? (3 marks)

5. If a farmer has a plant that reproduces asexually (like a strawberry runner), will the new plants be genetically identical or different to the parent plant? Explain your reasoning. (2 marks)

Draw: Draw a labelled diagram showing the life cycle of a flowering plant, including the stages of pollination, seed dispersal, and germination.

Extension challenge: Research a specific animal species that is endangered. Write a short paragraph explaining how its specific reproductive habits or life cycle stages might make it vulnerable to changes in its habitat.