

Year 5 Science Assessment: The Wonders of Life Cycles

Learning objective: To demonstrate understanding of the life cycles of mammals, amphibians, insects, and birds, and the process of reproduction in plants and animals.

Read each question carefully. Use your scientific knowledge to provide detailed explanations. If you need to make calculations regarding time or growth, show your working clearly.

Nova the owl has been observing the local woodland throughout the spring. She has noticed that many creatures are beginning their life cycles, from the tiny seeds germinating in the meadow to the frogspawn appearing in the pond. Max the monkey is curious about how these different organisms ensure their species continue to thrive.

Word bank: reproduction · metamorphosis · fertilisation · germination · pollination · asexual · mammal · amphibian

1. Nova observes a frog laying eggs in a pond. Explain the stages of the frog's life cycle, specifically mentioning metamorphosis. (3 marks)

2. Compare and contrast the life cycles of a mammal, such as a lion, and a bird. How does the development of their young differ before and after birth/hatching? (3 marks)

3. Bea the honeybee plays a crucial role in plant reproduction. Describe the process of pollination and explain why it is vital for the survival of flowering plants. (3 marks)

4. Some plants reproduce asexually, such as spider plants or strawberry runners. Define asexual reproduction and explain one advantage this might have for a plant living in a stable environment. (3 marks)

5. Max finds a packet of seeds that cost £2.50. If he buys 4 packets to grow a wildflower patch, how much will he spend? Why is the dispersal of these seeds away from the parent plant important for their growth? (3 marks)

6. Explain why reproduction is considered one of the seven life processes (MRS GREN). What might happen to a species if it lost the ability to reproduce? (5 marks)

7. Justify your answer: Is it more beneficial for an organism to have a large number of offspring with little parental care, or a small number of offspring with significant parental care? Use examples to support your reasoning. (5 marks)

Draw: Draw and label a diagram of a flowering plant, clearly indicating the stamen, carpel, and where pollination occurs.



Extension challenge: Design a 'Life Cycle Journal' entry for an imaginary creature. Describe how it reproduces and how it cares for its young. Explain why its specific reproductive strategy is perfectly adapted to its habitat. Total: /25