

Class 4 Science Assessment: Living Things and Their Habitats

Learning objective: To demonstrate understanding of classification keys, environmental changes, and the impact of human activity on habitats.

Read each question carefully. Use your scientific knowledge to provide clear explanations. Ensure you use appropriate scientific vocabulary.

Nova the barn owl has been observing the local woodland. She has noticed that the local pond, which once had many frogs and water insects, is now quite cloudy. Some rubbish has been left near the bank, and a new path has been built through the middle of the wildflower meadow.

Word bank: Vertebrate · Invertebrate · Classification · Environment · Habitat · Pollution · Conservation · Adaptation

1. Nova wants to classify the animals she sees. Explain the main difference between a vertebrate and an invertebrate. Give one example of each. (2 marks)

2. Using Nova's observations, identify two ways the local environment has changed. Why might these changes be harmful to the living things in that habitat? (3 marks)

3. If the water in the pond becomes polluted, explain what might happen to the frog population. Use the word 'adaptation' in your answer. (3 marks)

4. Bea the honeybee is worried about the meadow. Suggest two ways that humans could help protect this habitat for local wildlife. (2 marks)

5. Compare and contrast a forest habitat with a desert habitat. How do the plants in these areas differ in their survival strategies? (4 marks)

6. Look at the following list of animals: Earthworm, Fox, Spider, Hedgehog. Create a simple classification key to sort these animals into two groups. (4 marks)

7. Extended Writing: Imagine you are a conservation scientist. Write a short report (approx. 100 words) explaining why it is vital for humans to protect habitats. Justify your answer by discussing the impact of habitat loss on the food chain. (5 marks)

Draw: Draw a diagram of a simple food chain that might be found in a woodland, including at least one producer and two consumers.



Extension challenge: Total: /25. Challenge: What might happen if a top predator were removed from a local ecosystem? Write a detailed justification for your prediction, considering the balance of the entire food chain.