Year 6 Science Assessment: Habitats and Adaptation

Learning objective: To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Read each question carefully. Use your scientific knowledge to explain your answers clearly. Write your answers in the spaces provided.

Nova the owl is studying the snowy tundra and the tropical rainforest. She notices that a polar bear has a thick layer of blubber and white fur, while a tree frog in the rainforest has bright colours and sticky toe pads. Max the monkey is also observing these creatures, trying to calculate how much energy each animal needs to survive in its specific home.

Word bank: adaptation · environment · evolution · characteristic · predator · prey · camouflage · survival · inherited

1. Define the term 'adaptation' in your own words. (2 marks)

2. Nova observes that a polar bear has a thick layer of fat (blubber). Explain why this is a vital adaptation for the polar bear's survival. (3 marks)

3. Give one example of how a plant might adapt to living in a very dry environment, such as a desert. (2 marks)

4. Explain the difference between an inherited characteristic and an adaptation developed during an animal's lifetime. Give an example of each. (4 marks)

5. Why might an animal that is perfectly adapted to its environment struggle if the environment changes suddenly (for example, due to deforestation or climate change)? (4 marks)

6. Max the monkey says: 'Evolution happens over a very short time.' Is Max correct? Explain your reasoning using your knowledge of how species change over many generations. (5 marks)

7. A snowy owl lives in the Arctic. Suggest two physical features that help it hunt and stay warm, explaining the purpose of each. (5 marks)

Draw: Imagine a new creature that lives in a volcanic environment. Draw your creature and label three specific adaptations that help it survive near hot lava.

Extension challenge: Total: /25