

Year 6 Science: Food Chains and Ecosystems Assessment

Learning objective: To identify, describe, and explain how energy flows through food chains and the impact of environmental changes on living things.

Read each question carefully. Use your scientific knowledge to provide clear and accurate answers. Ensure you use appropriate terminology.

Nova the barn owl is observing a meadow ecosystem. She watches a field mouse eating seeds from a wild plant. A hungry fox watches the mouse from behind a bush. Nearby, Bea the honeybee visits a wildflower to collect nectar, while a ladybird eats aphids that were feeding on the plant's leaves.

Word bank: Producer · Consumer · Herbivore · Carnivore · Omnivore · Predator · Prey · Decomposer · Energy · Habitat

1. Using the passage provided, identify one producer and one consumer. Explain why the producer is essential to the food chain. (2 marks)

2. What is the primary source of energy for almost all food chains? Where does this energy go after it enters the producer? (2 marks)

3. Draw a food chain using the following organisms: grass, hawk, grasshopper, frog. Ensure the arrows point in the correct direction. (3 marks)

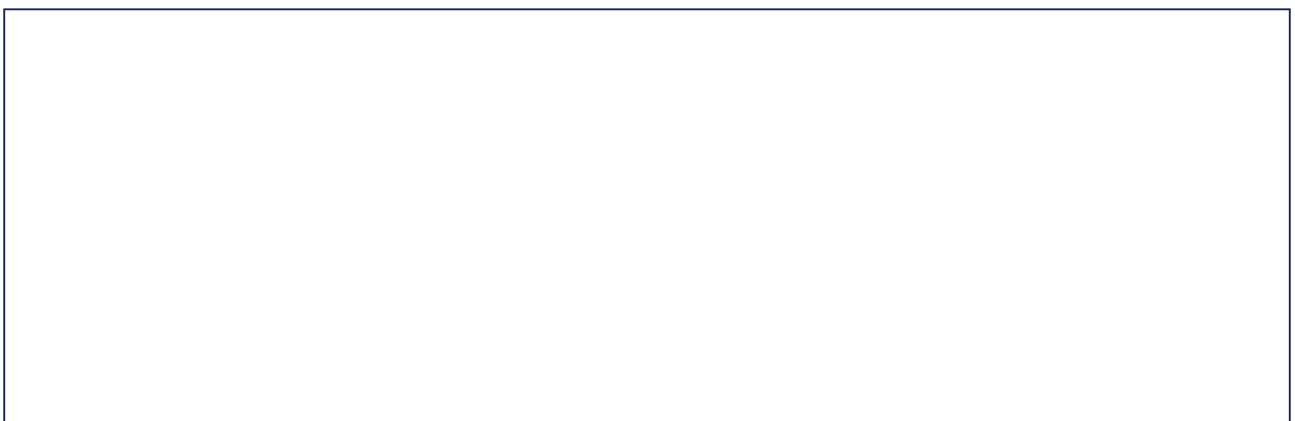
4. Define the term 'decomposer' and describe its role in an ecosystem. Give one example of a decomposer. (3 marks)

5. If a disease were to wipe out the entire population of frogs in a local pond, predict what would happen to the population of grasshoppers and the population of the predators that eat frogs. Explain your reasoning. (4 marks)

6. Max the monkey is looking at a complex food web. He says, 'If one animal is removed, it doesn't matter because there are plenty of other animals.' Evaluate this statement. Do you agree or disagree? Use scientific reasoning to support your answer. (4 marks)

7. Extended Writing: Imagine a meadow habitat where a new housing development is being built. Explain how this human activity might disrupt the local food chains. Discuss the impact on producers, consumers, and the overall balance of the ecosystem. Use at least four scientific terms from the word bank in your answer. (5 marks)

Draw: In the space provided, draw a diagram of a food web containing at least five organisms, including one plant, two herbivores, and two carnivores.



Extension challenge: Total: /25