

Investigating Energy Flow: Food Chains with Bea the Bee

Learning objective: Construct and interpret a variety of food chains, identifying producers, predators, and prey.

Use this writing frame to describe a food chain you have observed in your local habitat. Refer to the word bank for scientific vocabulary and complete the questions to explain how energy moves through the ecosystem.

In the vibrant meadow, the sun acts as the primary source of energy, allowing plants to grow and start the food chain.

Word bank: producer · primary consumer · predator · prey · herbivore · carnivore · energy source · photosynthesis · consequently · furthermore · subsequently

1. Identify your producer and explain its role: The producer in my chosen food chain is... because... (2 marks)

2. Describe the journey of energy: The energy is transferred from the producer to the first consumer when... (2 marks)

3. Explain the relationship between predator and prey: In this habitat, the predator is... which hunts the prey, known as... (2 marks)

4. Justify your answer: Why is it accurate to describe the sun as the ultimate source of energy for this food chain? (3 marks)

5. Compare and contrast: How would the food chain be affected if the producer were removed from the ecosystem? (3 marks)

6. What might happen if a new, top-level predator was introduced to this specific chain? Explain your reasoning. (3 marks)

Extension challenge: Imagine a complex food web rather than a single chain. Write a short paragraph explaining why most animals rely on more than one type of food source to survive, using the term 'interdependence' in your explanation.