

Energy Pathways: Understanding Food Chains

Learning objective: To identify and construct food chains, identifying producers, consumers, and predators within a habitat.

Read each question carefully and use your knowledge of habitats and energy transfer to provide detailed answers. Remember that arrows in a food chain represent the flow of energy.

N/A

Word bank: Producer · Consumer · Predator · Prey · Herbivore · Carnivore · Omnivore · Photosynthesis

1. Bea the honeybee explains that all food chains must start with a producer. Explain why a plant is considered a producer and identify the ultimate source of energy for almost all food chains. (2 marks)

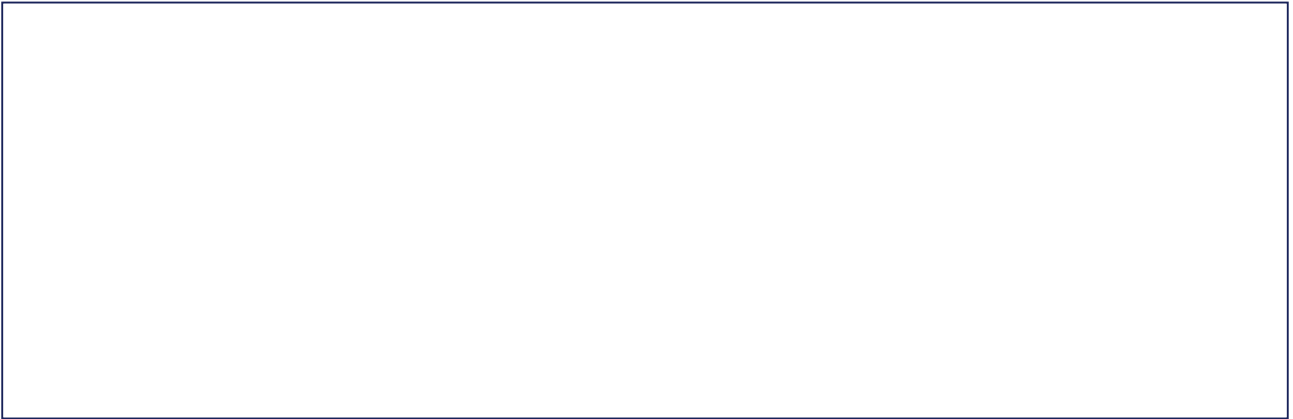
2. Max the monkey is looking at a woodland habitat. He finds these organisms: grass, rabbit, fox, and hawk. Construct a food chain using these four organisms, ensuring the arrows point in the correct direction. (2 marks)

3. In the food chain you created above, identify which organism is the primary consumer and which organism is the apex predator. (2 marks)

4. If a disease were to drastically reduce the population of rabbits in the woodland, what would happen to the population of foxes and the population of grass? Explain your reasoning. (3 marks)

5. Nova the owl is studying a pond ecosystem. Give an example of an organism that acts as an omnivore in this habitat and explain what defines an omnivore. (2 marks)

Draw: Draw a balanced food web for a garden habitat including at least one producer, two primary consumers, and one secondary consumer. Label each organism correctly.



Extension challenge: Research what happens to a food chain if a non-native species is introduced to an environment. Write a short paragraph explaining the impact on the existing food web.