Nova’s Woodland Food Web Investigation

Learning objective: To construct and interpret food chains and food webs, identifying producers, primary consumers, and predators.

Use your scientific knowledge to illustrate the flow of energy through a woodland ecosystem. Ensure your arrows point in the correct direction (from the food source to the consumer).

Draw: Draw a multi-layered woodland scene. At the bottom, include a sun and a variety of green plants. Use clear, directional arrows to show the energy moving from the plant to a herbivore (like a caterpillar or beetle), then to a secondary consumer (like a small bird or frog), and finally to an apex predator (like a fox or an owl). Use coloured pencils to differentiate between the levels of the food chain.

Label words: Producer · Primary Consumer · Secondary Consumer · Tertiary Consumer · Apex Predator · Energy Flow · Herbivore · Carnivore

Steps:

1. Step 1: Draw a green plant as your producer. Label it and explain why a plant is considered the foundation of every food chain.
2. Step 2: Draw a caterpillar eating the plant and a small bird eating the caterpillar. Label these as the Primary and Secondary consumers.

3. Step 3: Draw an arrow to connect the sun to your producer. Explain why the arrow represents the transfer of energy rather than 'who eats whom'.

4. Justify your answer: What might happen to the bird population if the plant species in this food chain were completely removed from the habitat?

5. Compare and contrast a food chain with a food web. Why is a food web a more accurate representation of a real-life ecosystem?

6. Explain why apex predators are vital for maintaining the balance of a woodland ecosystem, even though they sit at the very top of the chain.