

The Mechanism of the Meadow: Explaining Photosynthesis with Bea

Learning objective: To identify and organise the structural features of an explanation text, including causal conjunctions and technical vocabulary.

Bea the Honeybee needs your help to assemble her guide on how plants create energy. Look at the scrambled sentences below. Your task is to reorder them into a logical sequence, ensuring the cause-and-effect structure is clear. Then, identify the technical terms used to explain the process.

Word bank: Chlorophyll · Photosynthesis · Carbon dioxide · Glucose · Oxygen · Stomata · Energy · Absorb

1. Arrange these steps in the correct chronological order to explain photosynthesis: A) Sunlight is absorbed by the leaves. B) The plant releases oxygen into the air. C) Water is taken up through the roots. D) The plant converts these ingredients into glucose. E) Carbon dioxide enters through the stomata. (5 marks)

2. Explain why the use of causal conjunctions (such as 'consequently', 'therefore', or 'as a result') is essential when writing an explanation text. (2 marks)

3. Justify why a plant would struggle to survive if its leaves were covered in dust, preventing the absorption of sunlight. (3 marks)

4. Compare and contrast the role of the roots and the role of the stomata in the process of photosynthesis. (3 marks)

5. What might happen to the ecosystem of a meadow if plants suddenly stopped producing oxygen? Predict the consequences. (3 marks)

6. Identify two technical nouns from the word bank and write a sentence for each that demonstrates their function within the plant's system. (4 marks)

Draw: Draw a diagram of a plant, using labels to indicate where each part of the photosynthesis process occurs (e.g., arrows for sunlight entering the leaf, water entering roots).



Extension challenge: Imagine you are explaining a different complex process to a younger student, such as how a rainbow forms or how a clock keeps time. Write a short, one-paragraph explanation using at least three causal conjunctions and two technical terms.