

How the Forest Glows: A Study of Bioluminescence with Nova

Learning objective: To identify and explain the structural and language features of an explanation text.

Read the text below carefully. Nova the owl wants you to analyse how the author explains the scientific process of how glow-worms shine. Use the word bank to help you identify technical vocabulary.

Have you ever wondered why some creatures in the forest glow in the dark? This fascinating phenomenon is known as bioluminescence. It occurs when a living organism produces light through a special chemical reaction inside its body. First, a substance called luciferin reacts with oxygen within the creature's abdomen. This creates a brilliant, luminous glow that can be seen by other creatures. Scientists believe glow-worms use this light for two main reasons. Primarily, the light acts as a signal to attract a mate. Secondly, it can serve as a warning to a potential predator that the glow-worm might not taste very good! By controlling this reaction, the glow-worm can turn its light on and off, making it a true marvel of the natural world.

Word bank: bioluminescence · chemical reaction · abdomen · luminous · predator · sequence · organism

1. Identify two technical terms from the text that explain the scientific process. Why are these words important in an explanation text? (2 marks)

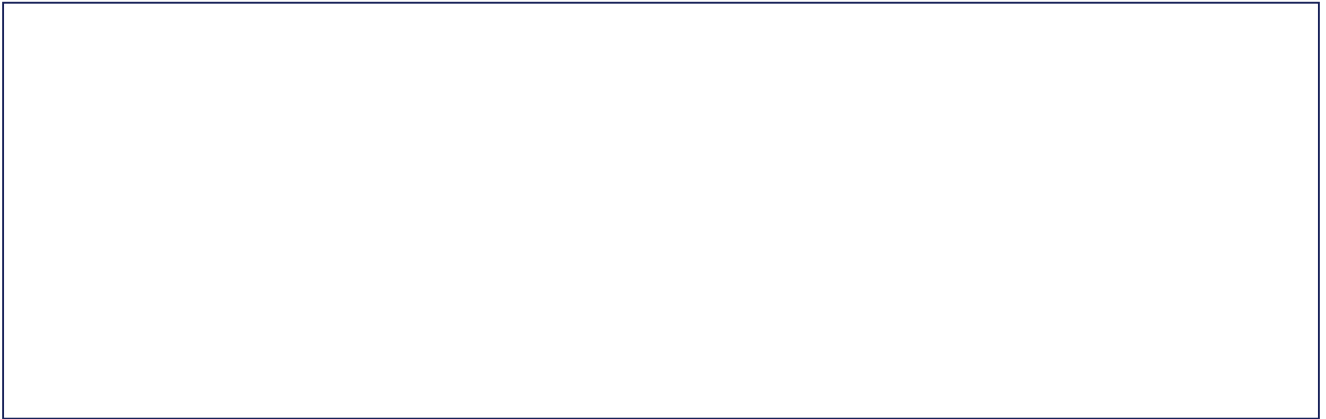
2. Explain the sequence of events that causes the glow-worm to shine, according to the text. (2 marks)

3. Compare and contrast the two reasons provided for why the glow-worm uses its light. Which reason do you think is more vital for survival and why? (3 marks)

4. The author uses the word 'primarily' in the text. What does this word tell the reader about the importance of the reasons listed? (2 marks)

5. Justify why the author chose to include a question at the beginning of the text. How does this impact the reader? (2 marks)

Draw: Draw a diagram of a glow-worm in its natural habitat, labelling the abdomen and adding arrows to show where the chemical reaction takes place.



Extension challenge: What might happen if a glow-worm could no longer control its bioluminescence? Write a short paragraph explaining the potential consequences for the glow-worm's safety and its ability to find a mate.