Reading Comprehension 15- Passage
Garde 5

How Fireflies Glow

On a warm summer night, have you ever seen tiny lights flickering in the darkness? These magical lights belong to fireflies, also known as lightning bugs. But have you ever wondered how these tiny creatures glow? The answer lies in a fascinating natural process called **bioluminescence**.

Fireflies produce light inside their bodies. This happens through a chemical reaction in special light-producing organs located in their lower abdomen. When oxygen combines with a substance called **luciferin**, with the help of an enzyme called **luciferase**, it creates a glow. This light is known as **cold light** because it does not produce heat like a light bulb.

Fireflies do not glow just for fun. Their flashing lights serve important purposes. Male fireflies use their glow to attract females of the same species. Each species of firefly has a unique blinking pattern, just like a secret code! The females respond by flashing back if they are interested. This glowing communication helps them find a mate.

Fireflies also use their light as a warning signal to predators. The chemicals inside their bodies make them taste bad to birds and other animals. By flashing their lights, they send a message: *I am not tasty, so don't eat me!* This helps them stay safe from danger.

Not all fireflies glow in the same way. Some blink on and off in patterns, while others glow continuously. Some fireflies even synchronize their flashes, creating a breathtaking display of twinkling lights in trees and fields.

Sadly, fireflies are disappearing in many places due to habitat loss and pollution. Bright city lights can confuse fireflies, making it harder for them to find each other. Scientists encourage people to protect fireflies by reducing light pollution and preserving natural habitats.

The next time you see a firefly glowing in the night, remember that this tiny insect holds a little bit of magic inside it—thanks to the wonders of bioluminescence!

Comprehension-Based Questions

1. What is the special process that allows fireflies to glow?

2. Where are the light-producing organs of fireflies located?
3. What three elements are needed for fireflies to produce light?
4. Why do male fireflies use their glow?
5. How do fireflies warn predators?
6. Why are fireflies disappearing in some areas?
7. What is unique about how different species of fireflies glow?
8. What can people do to help protect fireflies?

Vocabulary-Based Questions

1. Find a synonym for **"tiny"** from the passage.
2. What is the meaning of **"synchronize"** in the passage?
   a) To mix up
   b) To glow faster
   c) To flash at the same time
   d) To turn off
3. Find a word from the passage that means **"a special chemical reaction that produces light."**
4. Use the word **"fascinating"** in your own sentence.
5. What is the opposite of **"appear"** as used in the passage?

Grammar-Based Questions

1. Identify **one proper noun** from the passage.
2. Find a **past tense verb** from the passage.
3. Change this sentence into present continuous tense:
   - "Fireflies used their glow to attract females."
4. Identify the **adjective** in this sentence:
   - "Fireflies create a breathtaking display of twinkling lights."

5. Rewrite this sentence in passive voice:
    - "Scientists encourage people to protect fireflies."

Answer Key

Comprehension-Based Answers

1. The process is called **bioluminescence**.
2. The light-producing organs are located in the **lower abdomen** of fireflies.
3. Fireflies need **oxygen, luciferin, and luciferase** to produce light.
4. Male fireflies glow to **attract females** of the same species.
5. Fireflies warn predators by **flashing their lights**, signaling that they taste bad.
6. Fireflies are disappearing due to **habitat loss and pollution**.
7. Different species of fireflies have **unique blinking patterns**, and some even synchronize their flashes.
8. People can help protect fireflies by **reducing light pollution and preserving natural habitats**.

Vocabulary-Based Answers

1. **Tiny** = **small**
2. **c) To flash at the same time**
3. **Bioluminescence**
4. *(Example sentence)* The documentary about the deep sea was fascinating.
5. The opposite of **"appear"** is **"disappear"**.

Grammar-Based Answers

1. **Proper noun**: **"Lightning Bugs"**
2. **Past tense verb**: **"used"**
3. **Present continuous tense**: "Fireflies are using their glow to attract females."
4. **Adjective**: **"breathtaking"**
5. **Passive voice**: "People are encouraged by scientists to protect fireflies."