

# Observing Fireflies

Taking children outdoors to watch fireflies on a summer evening gives them a chance to observe these amazing insects firsthand. This experience will help children better connect to the text because they will have seen the firefly structures and behaviors referred to in the book with their own eyes.

**SAFETY NOTE:** Be sure to bring flashlights on your firefly watch. Do not allow children to conduct a firefly watch without adult supervision.

## Materials (per child)

[Firefly Watch Observation Sheet](#)

Flashlight

Net

Clear plastic jar or bug box with air holes at the top and a moist paper towel in the bottom

Fireflies Up Close activity sheet

Pencil

Hand lens

Clipboard

Firefly Structures and Behaviors T-Chart

## Framework for K-12 Science Education Connections

Life Sciences 1.A: Structure and Function  
**By the end of grade 2.** All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

**By the end of grade 5.** Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction.

## Procedure

### Part 1: Observing Firefly Behavior

- Give each child a copy of the [Firefly Watch Observation Sheet](#) from the Boston Museum of Science Firefly Watch website, a clipboard, and a pencil.
- Have them record the date, time, location, and weather conditions on their observation sheets.
- Next, have them record the color and number of fireflies they observe on the “Firefly Observation” section of the sheet.
- Ask the children to each focus on one firefly that they will refer to as “Firefly A.” Then, they should fill in the appropriate data for that firefly in the “Focused Firefly Reporting” section of the sheet.
- Have them repeat the procedure with two other fireflies (“Firefly B” and “Firefly C”).
- Have the children compare their data to others’ observations.
- Ask, why do you think fireflies flash? (Answers will vary.)

### Part 2: Observing Firefly Structures

- Give each child a net, a clear plastic jar or bug box, a copy of the Fireflies Up Close sheet, a clipboard, and a pencil.
- Model how to catch a firefly with a net and gently push it from the net into the container.
- Have the children each catch one firefly and put it in their containers.
- Next, have them make a drawing of the firefly (labeling any parts they know) and answer the questions on the sheet. Give each child a hand lens to get a closer look.

- When they are finished with the Fireflies Up Close sheet, have students release their fireflies.
- Discuss their observations and their ideas about firefly structures and behaviors with guiding questions such as,
  - Why do you think fireflies have such large eyes?
  - Did you see some fireflies flying and others sitting on the ground or in a bush? Why do you think they were doing this?
  - Did all the fireflies flash with the same color? Pattern? Brightness? Why do you think this was the case?

### Part 3: Read Aloud

- Explain to students that all animals, including fireflies, have adaptations, or characteristics that help them survive in their environments. Some of these adaptations are actual structures on the animal, which we call **structural adaptations**. Another kind of adaptation is a **behavioral adaptation**, which is a behavior the animal exhibits that helps it survive.
- Tell students that you have a nonfiction book about fireflies that can help them learn about firefly structures and behaviors. As you read *Next Time You See a Firefly* aloud, have the children signal (e.g., touch their noses or raise their hands) when they hear about a firefly adaptation. Stop to discuss each adaptation and whether it is a structural adaptation or a behavioral adaptation. After the reading, have students fill in the Firefly Structures and Behaviors T-Chart. Then, have them choose one of the structures listed in the T-chart and explain how it helps a firefly survive. Next, they should choose a behavior from the T-chart and explain how it helps a firefly survive. For example, the lantern is a *structure* that allows the firefly to produce light and signal a mate, and flashing its lantern in a specific pattern is a *behavior* that helps the firefly find a mate of its same species. This structure and this behavior work together to help the survival of the firefly species.

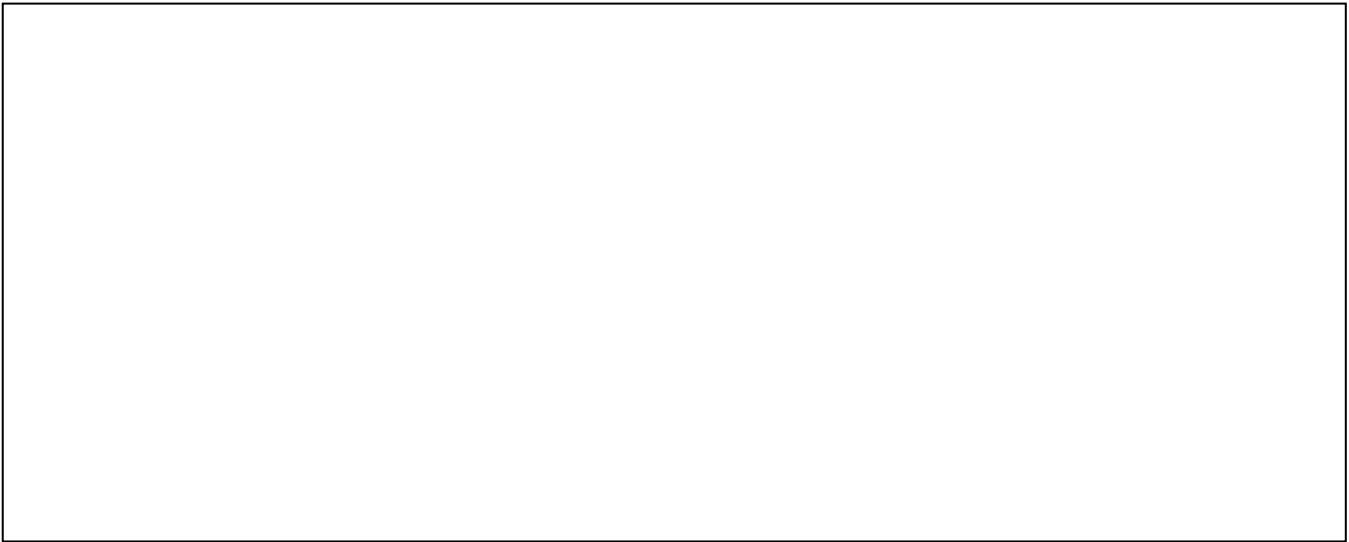
**Firefly Structures and Behaviors T-Chart**

| Structures | Behaviors                            |
|------------|--------------------------------------|
| Lantern    | Flashing                             |
| Wings      | Flying                               |
| Legs       | Sitting                              |
| Large eyes | Clinging to a blade of grass or leaf |
| Antennae   |                                      |

Name: \_\_\_\_\_

## Fireflies Up Close

Draw a picture of the firefly you caught and label the following parts: legs, eyes, wings, antennae, and lantern (part that glows). Use a hand lens to get a closer look. Then, answer the questions below.



1. How many legs does your firefly have? \_\_\_\_\_
2. How many wings does it have? \_\_\_\_\_
3. How many antennae does it have? \_\_\_\_\_
4. What colors do you see on the firefly? \_\_\_\_\_  
\_\_\_\_\_
5. How many eyes does it have? \_\_\_\_\_
6. Would you say its eyes are large or small compared to the rest of its face?  
\_\_\_\_\_

Name \_\_\_\_\_

# Firefly Structures and Behaviors T-Chart

In the t-chart below, list some structures and behaviors of fireflies featured in *Next Time You See a Firefly*.

| Structures | Behaviors |
|------------|-----------|
|            |           |

Choose one of the structures listed in your T-chart and explain how it helps a firefly survive. Then choose a behavior from the T-chart and explain how it helps a firefly survive.

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