

## **Grade 2 Spring Big Backyard Walk Insect Detectives**

### **Objectives:**

Students will:

- Observe and compare the diversity of habitats and insects found in the school yard
- Make observations and collect data on insect and plant interactions
- Find evidence that plants and animals depend on their surroundings to get what they need
- Make a scientific sketch (a detailed drawing of “what you see”) of a plant and/or insect

### **Working toward the following science understandings:**

- There are many different kinds of living things in any area and they exist in different places on land and in water.
- Insects have body structures that can look different but function in similar ways.
- One way to classify animals is based on the observable characteristics of that animal.
- Animals depend on their surroundings to get what they need, including food, water, shelter, and a favorable temperature.
- Animals depend on plants or other animals for food. They use their senses to find food and water and their body parts to gather, catch, eat, and chew the food.

### **Focus Questions:**

- What can we learn about insects and their behavior through field research?
- Are insects important? Why or why not?

### **Preparation:**

This walk is best done when warmer temperatures arrive in later May or early June. There will be more insect activity later in the morning/afternoon so later walks are best.

### **The BBY Coordinator will:**

- Identify areas in the school yard where flowers might be found. (early bloomers such as dandelion, daffodils, tulips, red clover, tree blossoms) This will be the best place to observe insect and plant interactions.

The Big Backyard walk will last about 35 - 45 minutes.

\*Note: the teacher will inform you if there are any bee allergies and if needed an Epi Pen will be with the teacher.

### **MATERIALS**

Walk leader:

- 1 Lexington Alive Field Guide
- ~4 bug boxes and hand lenses

Students:

## Grade 2 Spring Big Backyard Walk Insect Detectives

- 1 Pencil and Clipboard per student for on site recordings
- 1 Insect Detectives recording sheet per student

### PRE-WALK ACTIVITIES

To be led by teachers prior to the walk.

- Ask students to share their thoughts on where insects might be found in the school yard and why. (Under rocks, on flowers, under leaves, in the grass, in the sun, in the shade. Insects look to their habitat for the air, water, food, shelter and appropriate amount of heat needed for survival.)
- *What are the behaviors we might observe if we find insects?* (eating, crawling, flying, hiding, etc.)
- Share the book, On One Flower, by Anthony Fredericks.
  - **Before reading**, ask students to share what they know about the topic of the book just from looking at the illustration on the cover.
    - Ask students to share additional ideas they have about being an insect detective. *What might make it challenging to find insects?* (their size, their ability to blend in using camouflage, their ability to move fast, their ability to hide or be still)
  - **After reading**: *What strategies do insects use to protect themselves? Can you give examples from the story?* (the stinkbug's smell, the camouflage of the spider and the ambush bug, the butterfly's speed, the large black "eyes" on the ladybug's back)
  - *Were there any creatures on the flower that would not be considered an insect? How do you know?* (spider and tick, number of legs)
  - Explain to students that the Insect Detective walk will allow them to further investigate insects found in the Big Backyard. They can compare the insects they find outside to what they know about the painted lady butterfly.
  - Why is the book called One One Flower? (The one flower is a habitat to many different organisms?)

### WALK ACTIVITIES

Students have been studying one type of insect, the painted lady butterfly, in the classroom. They have been observing the life cycle of the butterfly and the life cycle of Wisconsin Fast Plants to explore the relationship between insects and plants. The goal of the walk is to observe a variety of habitat areas within the school yard to gather additional evidence that plants and insects depend on one another.

#### **Once outside:**

- Ask students to think about their focus questions for the walk.

## Grade 2 Spring Big Backyard Walk Insect Detectives

- *What can we learn about insects and their behavior through field research?*
- *Are insects important? Why or why not?*
- *If we want to find insects, where might we look in the school yard? Are all areas in the school yard the same? (open areas, woods, field, blacktop, cultivated plants vs wild plants, sunny, dry, cool, shady?)*
- *Would we find different animals in different habitats? (yes, some like cool, some like hot, some like moist, some like dry, all want to avoid predators)*
- *What If we were to gather in one space, all the animals that make the school yard their home, what kind of animals would be most common? (insects but they are not all easily seen)*

**Lead group to the field site:** (The edge of an unmowed field or flower bed with noticeable insect activity. This location will be identified prior to the walk.)

- Tell students they will head to an area where they may find more insects. Ask them to look for signs of insects on the way.
- As you approach the area, tell students that as field scientists, in addition to sight, sound might be helpful in locating evidence of insects.
- Ask students to be as still as possible to make observations. Students can cup their ears and sit still to listen carefully.
- *Why do you think we are hearing and seeing more insect activity in some areas? (suitable habitats have the air, water, food, space and shelter needed)*
- Get a few impressions from the group.
- *What other signs of animals might we find? (nests or leaf damage)*

### **At field site:**

*To learn more about insects in the school yard, we will look carefully in one habitat to collect data on the insects we see and their behavior.*

- Students will work in pairs but record individually on their student sheet. Students can sit to record and sketch.
- Each time they notice an insect, they can mark an  $\surd$  on the sheet next to the behavior they observe.
  - *What are they doing? Are they staying in one place, moving, finding food?"*
- Students should explore the site and look for plants and insects. If it is possible to catch an insect in the magnifier box without harming the insect or putting any child at risk, allow students to take a closer look at insects.
  - *Can you find an insect, can you sketch what you see? You can focus on just the insect or if it is on a plant, include both. The questions on your student sheet will help you to look closely.*

## Grade 2 Spring Big Backyard Walk Insect Detectives

- *What do you notice about your insect? How many legs? What do you notice about the body of the insect? How are they similar to or different than the painted lady butterfly you have been studying in the classroom?*
- *What about the plants? Do you see flowers, leaves, etc.? Any additional sign of insect behavior (bite marks on leaves, nests, insect droppings)*
- *The insects clearly need plants for food and water. What about the plants, are insects harmful or helpful to plants? (They help in pollination but they also eat plants and some insects can become a problem if there are too many.)*
- *What do you predict will happen in this area as the season changes? (The insect life cycle continues. As winter nears, some insects hibernate, protected by the leaf litter or underground, some overwinter in the egg, larva or pupal stage to emerge in spring, some insects, like the monarch, migrate to warmer climates.)*

### Wrap up and Return to School:

- Have students circle up to share their findings.
  - *What did you observe? What was similar and different in our findings? How is what we observed similar or different than what we are observing in the classroom? What new wonderings do you have?*
  - *Are insects important? Why or why not? (The insects clearly need plants for food and water. Plants need insects, they help in pollination but they also eat plants and some insects can become a problem if there are too many.)*
  - *What makes for a good insect habitat? Is this a place for butterflies like the painted lady? What other insects or organisms can make their home here?*
  - *“How might people and communities help protect and support healthy butterfly habitat?” (planting butterfly gardens, protecting open spaces and fields, etc.)*

### Post Walk Integration Opportunities:

To be chosen and led by the teacher.

Read aloud, [A Place for Butterflies](#), by Melissa Stewart.

This book details the different habitats that support different species of butterflies and how people can preserve and protect these habitats. The book highlights the interconnectedness of our world and how impact on one species can inadvertently harm another. To focus on the pages most connected to this walk, read up to the monarch butterfly and then pick up the story again with Harris’s checkerspot. To keep students engaged, share only some of the informational detail in the sidebars. (Of interest: *A Butterfly’s Life*, pg. 2, Eastern Tiger

## **Grade 2 Spring Big Backyard Walk Insect Detectives**

Swallowtail, pg. 3, Karner Blue, pg. 7, Monarch, pg. 12, Harris's Checkerspot, pg. 21, Plants Need Butterflies, pg. 25, Other Animals Need Butterflies, pg. 26) ·

Use Monarch and Milkweed. by Helen Frost and Leonid Gore for an [interactive Read-Aloud](#).

Plant milkweed seedlings that were grown in the classroom to support conservation efforts to support the declining Monarch population.

Read aloud, Under One Rock, by Anthony Fredericks. Ask students to think about the characteristics that all insects have in common. As you read, ask students to think about which of the organisms are insects and why.

## Grade 2 Spring Big Backyard Walk Insect Detectives

Name \_\_\_\_\_

Date \_\_\_\_\_

**Weather:** (circle one) Sunny / Cloudy / Rainy

Temp: \_\_\_\_\_

**Stop and look around you. What do you observe?**

---

---

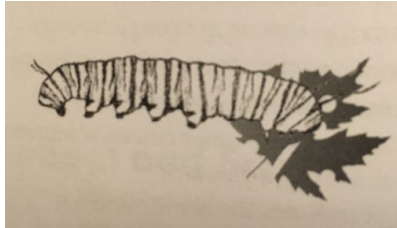
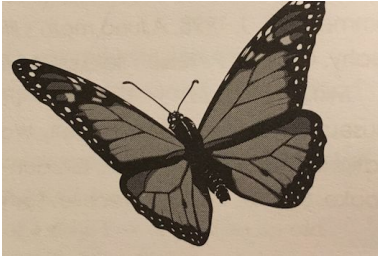
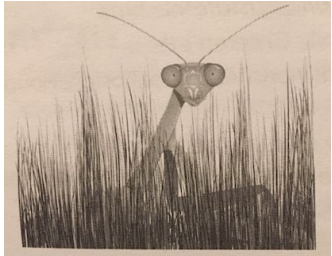


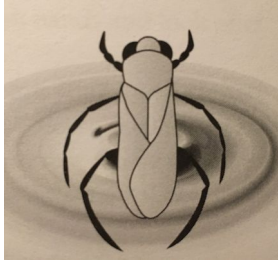
**Are there insects present?** Yes \_\_\_\_\_ No \_\_\_\_\_

**If there are no insects, why might that be?**

---

---

Observe the insects around you and place a  $\checkmark$  under the picture each time you observe that behavior.

<b>Eating</b> 	<b>Flying</b> 	<b>Hiding</b> 
<b>Pollinating</b> 	<b>Crawling</b> 	<b>Other</b> 

**Grade 2 Spring Big Backyard Walk  
Insect Detectives**

**Circle the behavior you observed most often.**

**Take a Closer Look:**

Compare an insect you discovered outside to the painted lady butterfly.  
What is similar, what is different? Draw and or describe your observations.

<b>Similar</b>	
<b>Different</b>	
<b>Painted lady butterfly</b>	<b>Field insect</b>





