

Insects in Hiding

BROWARD COUNTY ELEMENTARY SCIENCE BENCHMARK PLAN

Grade 1—Quarter 2

Activity 13

SC.F.1.1.4

The student understands that structures of living things are adapted to their function in specific environments.

SC.F.2.1.2

The student knows that there are many different kinds of living things that live in a variety of environments.

SC.H.1.1.1

The student knows that in order to learn, it is important to observe the same things often and compare them.

SC.H.1.1.5

The student uses the senses, tools, and instruments to obtain information from his or her surroundings.

ACTIVITY ASSESSMENT OPPORTUNITIES

The following suggestions are intended to help identify major concepts covered in the activity that may need extra reinforcement. The goal is to provide opportunities to assess student progress without creating the need for a separate, formal assessment session (or activity) for each of the 40 hands-on activities at this grade level.

1. Tell students to imagine an insect that lives in the desert. Ask, *What might the insect look like?* (It might be brownish-colored and have rough skin to look like sandy soil, or it might be green and have spiky skin to look like part of a cactus plant.) Continue, *How does camouflage help insects stay alive?* (It lets them blend in with their surroundings so other animals can't find them to catch and eat them.)
2. Use the Activity Sheet(s) to assess student understanding of the major concepts in the activity.

In addition to the above assessment suggestions, the questions in bold and tasks that students perform throughout the activity provide opportunities to identify areas that may require additional review before proceeding further with the activity.

Insects in Hiding

OBJECTIVES

By coloring and hiding paper butterflies, students learn how insects use camouflage and mimicry for protection.

The students

- ▶ cut out and color paper butterflies
- ▶ hide the butterflies around the room
- ▶ see how many of the camouflaged butterflies they can find

SCHEDULE

About 30 minutes

VOCABULARY

camouflage
mimicry

MATERIALS

For each student

- 1 Activity Sheet 13
- markers* or crayons, different colors
- 1 pair scissors*

For the class

- 1 Insects Chart
- 1 Insects Guide
- photographs of many kinds of butterflies and moths (optional)*

*provided by the teacher

PREPARATION

- 1 Make a copy of Activity Sheet 13 for each student.
- 2 Flag the following pages in the Insects Guide so you can find photographs quickly when leading a class discussion.
 - ▶ **Camouflage:** page 16, lantern fly, sphinx moth (left), and bark mantis
 - ▶ **Mimicry:** p. 6, Australian walking stick; p. 7, walking stick; p. 16, sphinx moth (right); p. 17, hover fly and hornet moth
- 3 Place the scissors, crayons or markers, and any teacher-supplied photographs at the distribution center.

BACKGROUND INFORMATION

Many insects hide by camouflaging themselves to match their surroundings. Some are brightly colored like flowers; others are mottled like tree bark or the forest floor.

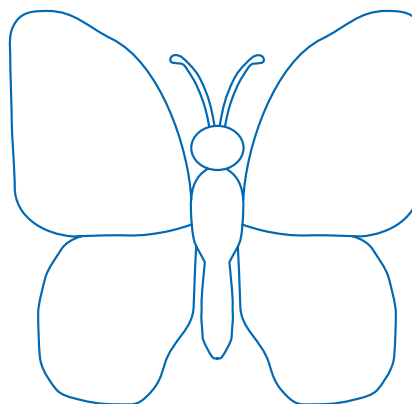
Some insects closely resemble parts of plants in both color and shape. For example, inchworms look like twigs.

Many insects mimic other things quite exactly, usually something inedible or dangerous, to discourage predators from bothering them. Some butterflies have large eye spots on their wings to startle a predator with the apparent face of a larger animal. Certain flies closely resemble stinging bees, and some butterflies mimic other butterflies that are foul tasting. Some insects even imitate foul-tasting bird droppings.

▼ Activity Sheet 13

Insects in Hiding

1. How many butterflies did the class hide? Answers will vary. _____
2. How many butterflies could you find? _____
3. How many butterflies did you miss? _____



Guiding the Activity

- 1 Show the class photographs in the Insects Guide in which insects are using camouflage or mimicry to hide. Ask, **Can you find the insects in these pictures? What makes them difficult to see?**

Ask, **How does being hard to see help an insect?**

Write the word *camouflage* on the board. Ask, **Does anyone know what camouflage is?**

Write the word *mimicry* on the board. Cover the last two letters in the word with your hand so that only *mimic* shows. Then ask, **What does it mean to mimic something?**

Additional Information

Most students will realize that the insects are hard to see because they blend in with their background, they appear to be a stick or other object rather than an insect, or they look like another insect that is dangerous.

Being hard to see protects the insect from predators.

*Some students will know that **camouflage** is color, shape, or pattern that allows something to blend into its surroundings.*

Some students may know that mimicking means to look like or act like something else.

Guiding the Activity

Show students the insects using mimicry in the Insects Guide. Ask, **Can you tell what these insects are mimicking?**

- Challenge students to see how well they can hide a butterfly using camouflage or mimicry.

Give each student a copy of Activity Sheet 13, a pair of scissors, and crayons or markers. Make the Insects Guide and any other reference materials available to students.

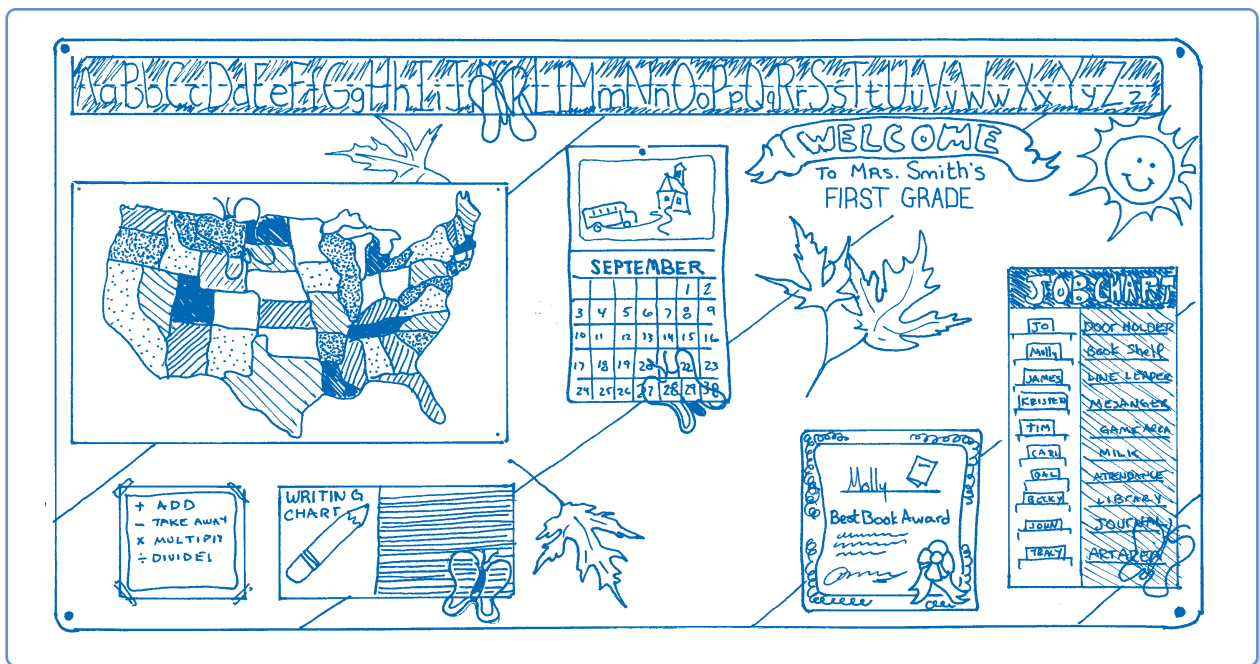
- Instruct each student to choose a place in the room to hide the butterfly. Then have students cut out the butterfly at the bottom of the activity sheet and color it to blend in with the surroundings or to mimic a nearby object, such as a flower, a leaf, or a picture on a bulletin board.

When all of the students have completed their butterflies, demonstrate two or three ways to tuck butterflies around the room so they will be camouflaged even though still visible. (See Figure 13-1.)

Additional Information

Examples: The walking stick on page 7 looks like twigs. The caterpillar on page 8 looks like a larger animal with big eyes.

Encourage students to make the two halves of the butterfly symmetrical in color and pattern, as a real butterfly is.



▲ Figure 13-1. Camouflaging butterflies.

Guiding the Activity

Give students a few minutes to walk around the room, position their butterflies, and return to their seats.

- 4** When all students are back in their seats, have them record the total number of butterflies hidden in question 1 on the activity sheet. Then ask, **How many butterflies can you see from your seat?**

Tell students that they will have 3 minutes to walk around the room looking for more butterflies. Ask them to count how many butterflies they spot in that time, either by making check marks on the activity sheet or by counting to themselves. When students return to their seats, have them record the total number of butterflies they saw in question 2. Have them subtract the second number from the first number and record the number of butterflies they couldn't see in question 3.

- 5** Let students, one by one, collect their butterflies while the rest of the class watches, noting which butterflies they missed.

If there are some butterflies that almost no one saw, ask, **Why did that butterfly's camouflage or mimicry work so well?**

Additional Information

Encourage students not to watch where other students put their butterflies.

Encourage students to count quietly to themselves and not to touch or even point at the butterflies.

Students should be able to point out colors, patterns, or disguises that helped the butterfly hide.

REINFORCEMENT

Count 20 toothpicks of each color from a box of colored toothpicks. Toss them all onto a lawn or a multi-colored carpet. Give students 30 seconds to collect them. Which colors were easy to find? Which ones were hard to see? Why?

SCIENCE JOURNALS

Have students place their completed activity sheets in their science journals.

CLEANUP

Return the Insects Guide and Insects Chart to the kit. Students might want to keep the butterflies, or you may want to use them to decorate a bulletin board.

SCIENCE AT HOME

Have students look to see if they have clothes that have colors or patterns that would allow them to be camouflaged in a room at home. Do they have any clothes that would camouflage them in the schoolyard or anywhere else they can think of?

Connections

Science Challenge

Have students draw realistic pictures of natural environments that include camouflaged insects. Pairs of students can trade drawings and search for their partner's insects in hiding.

Science Extension

Take a field trip to a location rich in insects and challenge students to find examples of insects using camouflage or mimicry. Make a master list of specific camouflage or mimicry techniques you observe.

Science and the Arts

What if people could camouflage themselves? Or how might they mimic objects in their neighborhood? Students may enjoy designing “city camouflage” that would help them blend into brick walls or city streets. Or they can design a costume that mimics a mailbox, trashcan, or gas station pump when the person wearing it sits down. Have students draw themselves in camouflage or mimicry that would help them blend into their own neighborhoods.

Science and Language Arts

Some mimicry is a form of communication. By imitating the coloring of another, dangerous species, an insect may avoid being eaten itself, even though it is not poisonous. For instance, some flies masquerade as bees, some moths resemble wasps, and a number of butterflies resemble the foul-tasting Monarch butterfly.

Other insects have large eyespots on their wings. These eyespots confuse possible predators in two ways. First, by suddenly displaying large eyes—like an owl's—the insect may frighten away a bird or other predator. Secondly, the eyes may be placed near the tail of the insect rather than on the head, so that the predator miscalculates when it tries to catch the insect.

What do people communicate by appearance? What do clothing and hairstyles communicate? Do people ever use mimicry to look like something or someone they are not? Do they use clothing to communicate belonging? Do people ever use camouflage to try to disappear into a crowd?

