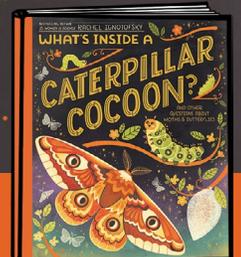




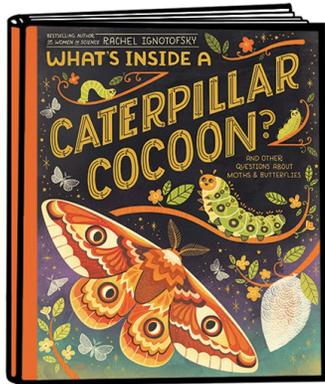
**We can protect nature  
with knowledge  
and care!**

**Creatures big  
and small are  
all important  
to our planet!**



# WHAT'S INSIDE A CATERPILLAR COCOON?

AND OTHER QUESTIONS ABOUT MOTHS & BUTTERFLIES



## ABOUT THE BOOK

Butterflies soar in the sunlight, whereas moths flutter under the moon and stars. Find out more about these mysterious and majestic insects' similarities and differences, and their awe-striking metamorphoses!

Rachel Ignotofsky's distinctive art style and engaging, informative text clearly answers any questions a child (or adult) may have about butterflies and moths. To learn more, visit [sites.prh.com/rachel-ignotofsky](https://sites.prh.com/rachel-ignotofsky).

## ABOUT THE CREATOR

Rachel Ignotofsky is the author and illustrator of many nonfiction books, including the *New York Times* bestseller *Women in Science* and *The Wondrous Workings of Planet Earth*. She is also the author of the picture book *What's Inside a Flower?*

Rachel grew up in New Jersey on a healthy diet of cartoons and pudding. After graduating from Tyler School of Art and Architecture, she began creating illustrations that make learning exciting. Rachel hopes this book will inspire kids to ask questions about their world and to explore science and nature! For more, visit her at [rachelignotofskydesign.com](https://rachelignotofskydesign.com).



## CLASSROOM ACTIVITIES

### METAMORPHOSIS IN MOTION

Talk with students about how dance is a way to communicate and share ideas with action and energy.

In developing a metamorphosis dance, they will need to express the different stages in the life cycle of a butterfly or moth. First, make sure everyone is familiar with the four different life stages of butterflies and moths. Refer to *What's Inside a Caterpillar Cocoon?* to review the life stages of a butterfly or moth: egg, caterpillar, pupa, and adult.

Next, brainstorm as a group. Discuss the movements a butterfly or moth makes throughout its life cycle. Have kids take a close look at Rachel Ignotofsky's illustrations, focusing on the movements of the caterpillars, butterflies, and moths throughout the book.

Give students the opportunity to build on those ideas and explore other movement possibilities. Have them demonstrate their interpretations of various insect activities to one another. As they become comfortable with creating movements, have them work solo or in pairs to develop a sequence of movements or a dance that depicts and celebrates the life stages of a butterfly or moth they want to portray and write down their movement ideas for each life stage. Offer plenty of time for dance rehearsal before your Metamorphosis in Motion dance recital!

**Take flight:** Butterflies sometimes use the movement of their wings to send a message. Some even "dance" to attract a mate! Have students investigate another insect, bird, or animal of their choosing and share what they learn about how it uses movement to communicate with movements of their own.

### WINDOW BOX BUTTERFLY GARDEN

Rachel Ignotofsky issues a call to action to help protect butterflies and moths. If students are energized to help these insect pollinators by increasing their habitat, "[Create a Schoolyard Habitat® for Monarchs and Other Pollinators from the National Wildlife Federation](#)" is a great resource to get students started on planting a pollinator-friendly monarch garden. But if schoolyard space isn't available for habitat development, students can still create a butterfly habitat in a window box!

After reading, talk with students about what they learned about butterfly habitats. Have them make a list of what butterflies need to survive and talk together about how your class could create a space outside your classroom window that provides food, water, shelter, and a place for egg laying.

You will need to:

- Research which butterfly species live in your area and what plants they like.
- Get a window box or another container that will fit in a sunny spot on the outside of your windowsill.
- Acquire some pesticide-free potting soil, a shallow bowl or jar lid, and some flat stones.
- Find plants native to your area using the [\*National Wildlife Federation's Native Plant Finder\*](#) or check in with your county for recommendations and get flower seedlings.

Before students start planting, get them excited to get their hands dirty! Have them dig into Rachel Ignatofsky's [\*What's Inside a Flower? And Other Questions About Science & Nature\*](#) to learn more about how plants and insects are connected and about what their garden will mean to butterflies.

When you're ready to plant, have students work in pairs or small groups, assigning each group a step or part of a step to complete in setting up and caring for the window box garden.

Step 1: Fill the window box with potting soil almost to the top.

Step 2: Press the shallow bowl or jar lid into the soil without burying it. Put in a layer of soil, then add water. Butterflies will drink from this mud puddle and get nutrients from the soil. Keep it wet at all times, freshening with a little new soil every few days.

Step 3: Transplant the native plants and flowers that you have chosen into your window box. Group several plants with the same type of flower together.

Step 4: Arrange the flat stones in the soil around the flowers so butterflies have a spot to rest.

Step 5: Work with custodial staff to secure the garden box outside a window where students will be able to tend the plants and observe. The garden box needs to be watered regularly, especially when it is hot and dry.

**Take flight:** Have students keep a journal to observe and describe the butterflies, insects, and any other creatures that visit the window box garden and note any questions they have. They can also sketch or share their own ideas and feelings about the connections they are making to the natural world.



## BUTTERFLIES VS. MOTHS

As you read aloud or as students explore the book, have students take note of the similarities and differences between butterflies and moths. Together, compile a list of the traits of both butterflies and moths.

Have students use that list to complete the Butterflies vs. Moths Venn diagram or draw one on the board to complete together.

**Take flight:** Encourage students to create additional Venn diagrams of their own that compare and contrast butterflies or moths with other insects and animals—or even humans!

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## INSECTS IN DISGUISE

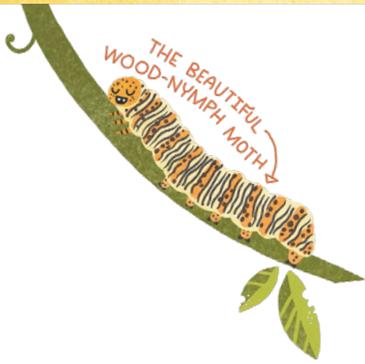
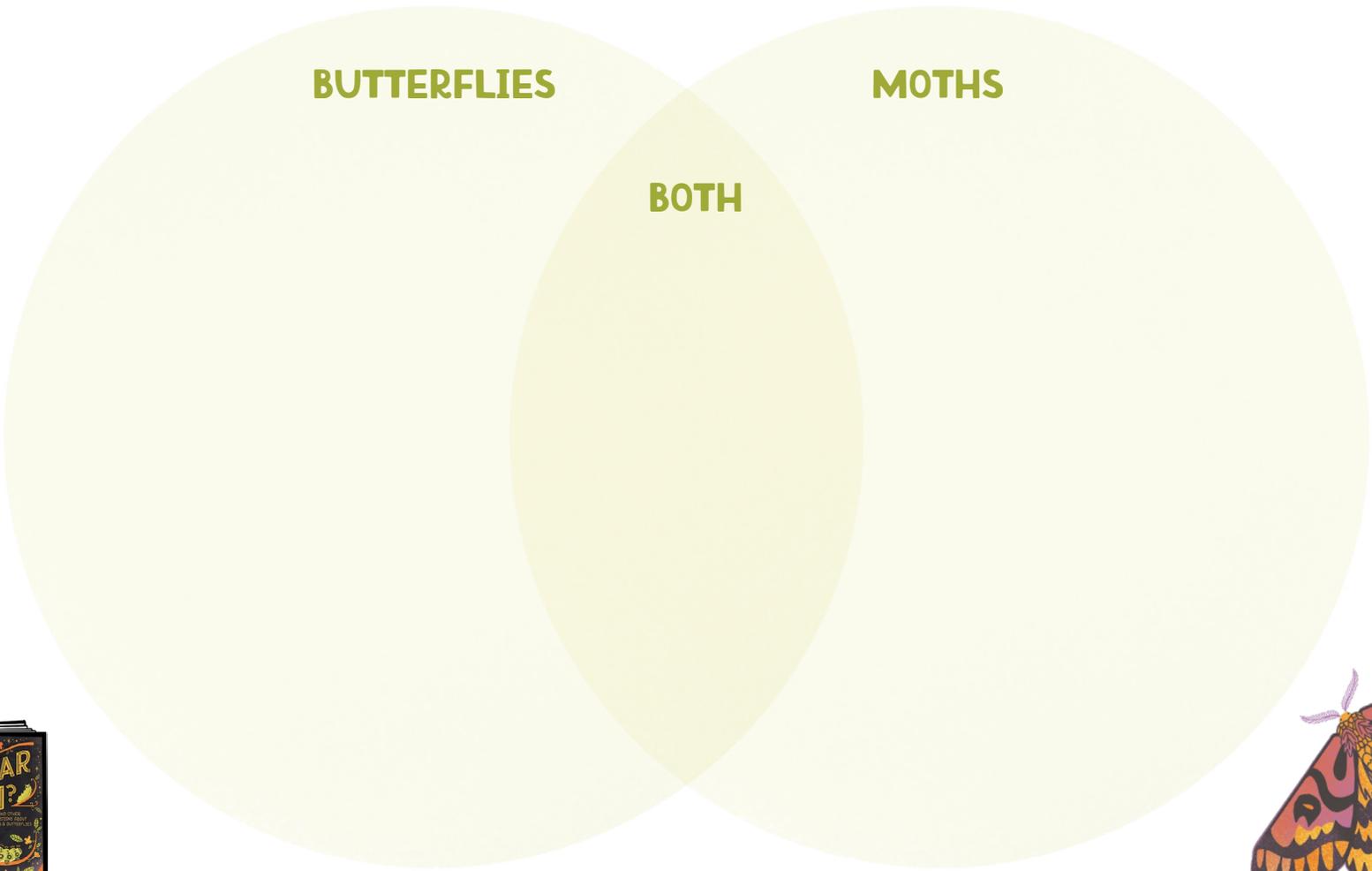
Ask students to imagine that their classroom (or the playground) is the natural habitat of various species of butterflies and moths that use camouflage to blend in with their surroundings and stay safe from predators. Give each student a copy of the caterpillar and moth shapes. Have students draw patterns and add color to the shapes with markers, crayons, or colored pencils so that their insects will have disguises that help keep them hidden in the habitat.

After they cut out their insects, students should place them in the habitat where they will be hidden only by their camouflage. Once all insects are settled in the habitat, invite your principal, librarian, or students from another class to see how many camouflaged critters they can find.

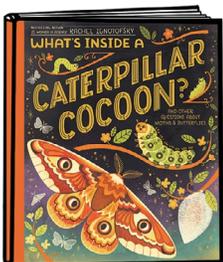
**Take flight:** Talk about how scales give the wings of butterflies and moths their colors and patterns. Provide colored paper, scissors, hole punches, and glue, and have students choose a specific insect from the book and use collage to create its colors and patterns on the shapes.

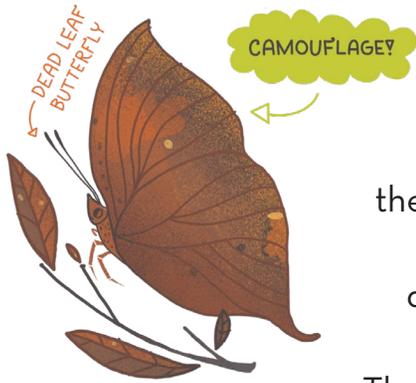
# COMPARE & CONTRAST

Compare and contrast the characteristics of butterflies and moths. How are these insects alike? How are they different? Use the Venn diagram to sort out the facts you learned from reading *What's Inside a Caterpillar Cocoon?* into butterflies only, moths only, or both.



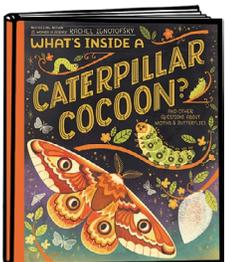
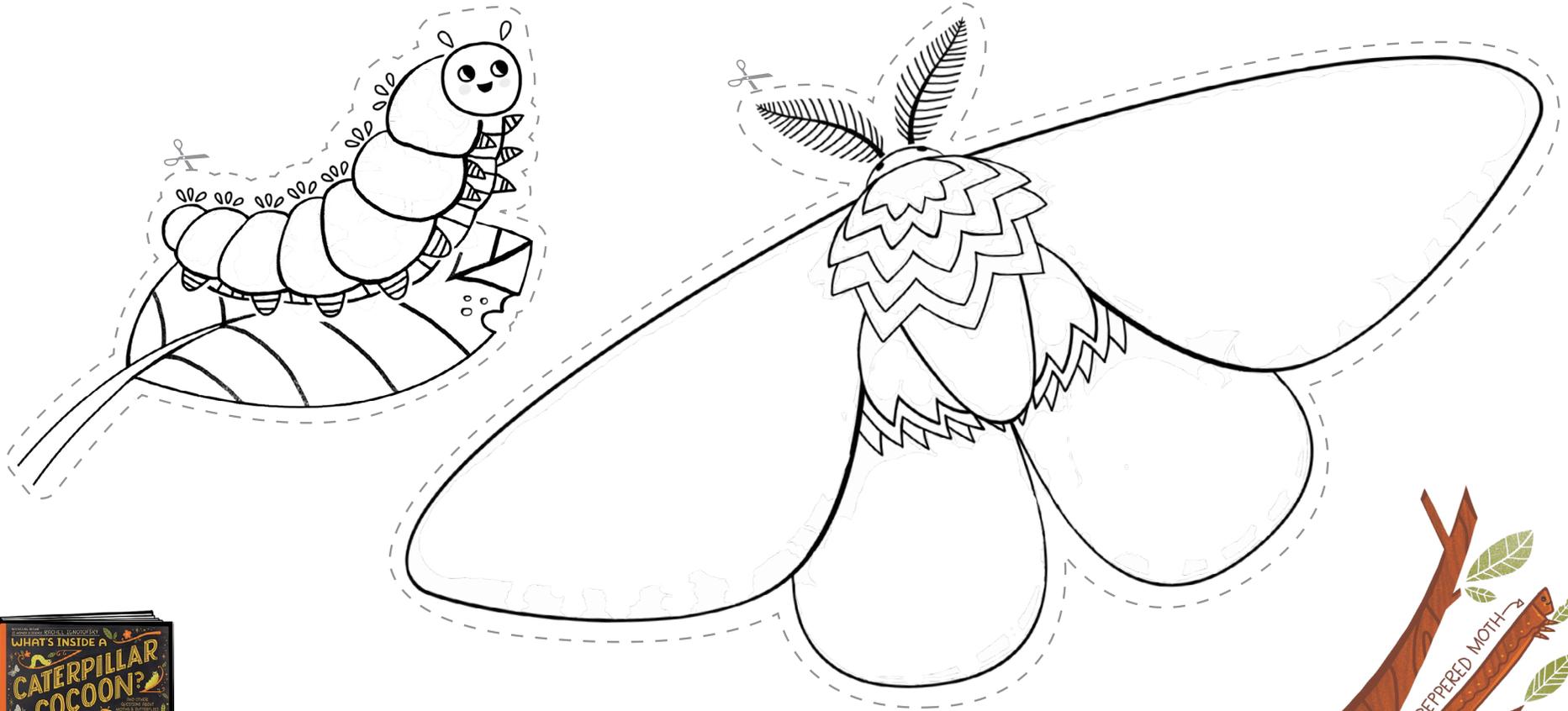
PAINTED SAWTOOTH BUTTERFLY





# INSECTS IN DISGUISE

Many species of butterflies and moths use camouflage. Looking like their surroundings helps them hide from predators. In nature, some insects look like leaves or sticks or tree bark. What kind of camouflage would disguise these insects in your classroom? Color and create patterns on these insect shapes that will blend into your classroom surroundings. Then cut them out, hide them in plain sight, and see if anyone can find them!



Rachael Walker (belleofthebook.com) created this guide. She consults on a wide variety of educational programs and multimedia projects, and develops educational materials and reading resources for children, parents, and teachers.

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