

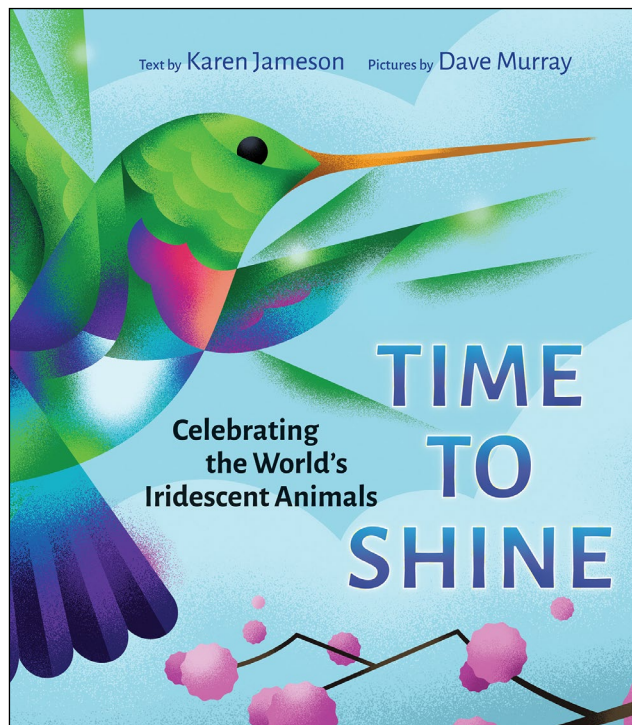


GROUNDWOOD STUDY GUIDES

Time to Shine

Written by Karen Jameson

Illustrated by Dave Murray



Let yourself be dazzled by creatures around the world in this brilliant nonfiction picture book about iridescence.

CURRICULUM CONNECTIONS

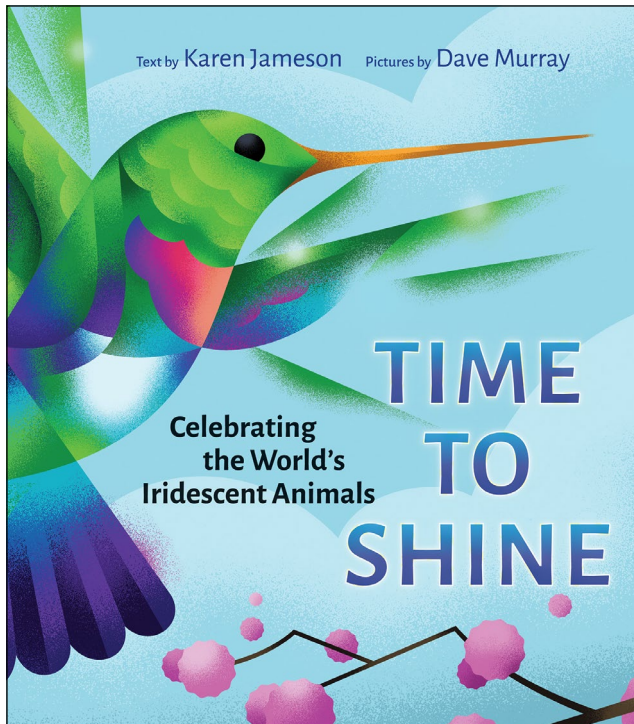
Ages 3 to 6 / Grades PreK to 1

JUVENILE NONFICTION / Animals / General / Science & Nature / Anatomy & Physiology / Biology

Full-color illustrations / 8.75 x 10 / 32 pages

Hardcover with jacket / \$19.99 / 978-1-77306-462-8 / ebook / 978-1-77306-463-5

groundwoodbooks.com



BOOK DESCRIPTION

Have you ever noticed the rainbow-like shimmer on certain bird feathers, insect bodies and animal scales? This dazzling form of animal adaptation, called iridescence, is used by creatures around the world to survive and thrive. In playful rhyming couplets, *Time to Shine* takes a closer look at these animals and their sparkly “clothes.” Jewel beetles, rainbow boas, mallard ducks and more burst from the pages of this unique STEM offering.

PRE-READING

INTRODUCE THE BOOK

Before reading the story, discuss the cover and the title. Use some of the following prompts to facilitate your discussion:

- What do you notice about the illustration on the front cover? Look closely at the bird. What do you notice? How would you describe its colors?
- Make a prediction on what you think the book will be about.
- Ask students to explain what the title of the book means.
- Ask: What does iridescent mean? Record student responses on chart paper.
- Read page 4 to students. Ask: How does the author define iridescent? Compare the author's definition to the student's charted definition. Compose a written definition of the word with the class.
- Take students through the book on a picture walk as you explore what iridescent means. Show students many examples of *iridescence* throughout the book.
- Ask students to think of other things that are iridescent.
- Explain to students that some animals use their iridescent colors to adapt to their environment.
- Ask students what words or phrases they would expect to see in a book about animal adaptation. Have students work with a partner to record a list of words on sticky notes. When student partners finish, have them to join another pair and combine their lists. Finally, create a class group of words.



POST-READING DISCUSSION QUESTIONS

- After reading the story, discuss the meaning of the title again. What do you think that the author means when she says *Time to Shine*? Ask: Do you think that iridescent colors on a creature are meant just to be pretty? Why or why not? What are some reasons that a creature may have iridescence?
- As a class, discuss the animal on each page. Discuss how each animal uses its iridescent colors to survive and adapt to the environment.
- Ask students how what an animal looks like relates to the way it has its needs met. Give examples.
- Ask students why it is particularly important for animals to be able to adapt to their surroundings, especially if the surroundings change.
- Discuss how color plays a part in the survival of different kinds of animals.
- Have students form small groups and share which animal they found the most interesting.
- Ask students how the author and the illustrator made the book interesting, fun and full of facts about animals. Discuss the use of rhyme and facts on each spread. Ask students how this combination helped them to learn about animal adaptation and behavior.
- Create a class chart to categorize animals that use their colors to attract mates, animals that use their colors to blend in with the environment, and animals that use their colors to survive.
- Discuss with students the commonalities with and the differences between the animals in the book.
- Turn to page 16. Why do you think iridescence is necessary for photosynthesis?
- Discuss how the illustrations are filled with detail and help convey the meaning of the book. Have students explain how the illustrations and facts help them learn about adaptation, citing specific references in the book.

EXTENSION ACTIVITIES

WRITING AN EXPLANATION

Have students write an explanation about how a particular animal uses its iridescent colors to adapt and survive, using the prompt: **How the _____ (name of animal) adapts.** Provide the students with a template detailing how to plan and write an explanation. Remind them to start by naming the animal and where it is found, and then explaining how its needs are met.

Name _____

Getting Organized to Write

What is my topic? _____

What do I want to explain? _____

Where will I find information? _____

Getting Started

General Statement: What am I explaining? _____

Explanation of the adaptation _____

SPEAKING AND LISTENING

Have students take turns explaining how each animal uses their iridescent colors to adapt to the environment. The tasks can be completed in partner pairs. Encourage partners to refer to the book when they speak.

VOCABULARY

Have students refer to the group word lists made prior to reading the book. Have students work with a partner using each of the words on the list in a sentence.

IMAGINATION AND CREATIVITY

Have students work in small groups to design an animal that lives in a particular habitat, and ask them to list the features the animal would have. Have them create a visual representation of their design. Have a gallery walk through for students to share their creation with other groups.

RESEARCH

Invite students to investigate other birds and tropical fish that also show examples of iridescence. Encourage students to prepare a talk for classmates to share their new knowledge.

IRIDESCENT BUBBLES

Bubbles are another example of iridescence. Using bubble soap and a bubble wand, have students investigate bubbles and their iridescent colors. Next, add paint to bubbles in order to print the bubbles onto a paper as they pop. Are the bubbles colors still iridescent? Why or why not?

LIGHT AND COLOR INVESTIGATION

Have students investigate and explore how light and color are interrelated by researching the following questions: What is color? How does reflection work?

IRIDESCENT COLLAGE

Ask students if they have ever noticed that some insects, birds or fish seem to change color as they move. What is happening? What you see is the light hitting the surface and ultraviolet rays bouncing back from different angles. If the animal's covering (scales, shells or feathers) reflects light at several different angles, they are often iridescent.

Encourage students to look for pictures of insects that have one main color but seem to reflect different colors when they move. Create a class collage of iridescent insects.



Reed frog takes some time to rest in its sun-reflecting vest.

In dry season, the reed frog's iridescent skin reflects the sun to keep its body cooled to the right temperature. That's called thermoregulation.

AUTHOR & ILLUSTRATOR BIOGRAPHIES



KAREN JAMESON is a children's author, a poet and a literacy advocate whose lyrical picture books include *Moon Babies*, illustrated by Amy Hevron; *Woodland Dreams*, illustrated by Marc Boutavant; and *Farm Lullaby*, illustrated by Wednesday Kirwan. Karen is a former classroom teacher and an active member of SCBWI.



DAVE MURRAY is a digital illustrator known for his graphic, highly stylized work. His growing list of clients include the NHL, Canada Post and Airbnb. When he's not in his Toronto studio, Dave can be found cycling, playing hockey, walking his dog and cheering for the Montreal Canadiens.