

TEACHER'S GUIDE



A Place for Bats

Written by Melissa Stewart • Illustrated by Higgins Bond

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Ages 6–10 • Nonfiction • Nature

ABOUT THE BOOK

Sometimes people do things that make it hard for other creatures to survive. *A Place for Bats* clearly yet gently explains some of the ways human action and inaction can affect bat populations.

This book focuses on eleven North American bat species and shows each one in its natural habitat. Simple text describing each bat's struggle to survive is perfect for young children reading on their own. Sidebars with additional information extend the usefulness of the book to older children and to young children reading with a teacher or parent. Sections at the beginning and end of the book include information about how bats fly, the role of bats in food chains, and simple things readers can do to help protect bats and their habitats. The endpapers feature range maps for all of the bat species discussed in the book.

A Place for Bats introduces readers to a wide range of environmental issues, and its concrete examples of cause and effect show children how the choices we make can have far-reaching consequences for bats and other creatures that share our world.

SKILLS REINFORCED

- Compare and contrast
- Cause and effect
- Sorting and sequencing
- Size and scale

THEMES

- Bats
- Habitats
- Animal adaptations
- Food chains
- Predators and prey
- Interdependence of living things
- Plant and animal diversity
- Endangered species
- Human impact on the environment

TEACHING SUGGESTION

The two levels of text in this book make it ideal for Reading Buddy programs, which are now popular at many schools. For more information, please see: <http://www.melissastewart.com/pdf/scirdbuddies.pdf>
CCSS ELA RIT #1 & 2, NGSS PE K-ESS3-3

MEETING THE STANDARDS

The activities in this guide directly address a variety of standards across the curriculum. Following each activity, you'll find an abbreviation for the standard(s) it supports. For a complete list of the Common Core Math and English Language Arts Standards and Next Generation Science Standards addressed, please see page 6.

BEFORE YOU READ

Grades K–2

- After looking at the cover of the book and reading the title, ask students what they think *A Place for Bats* will be about. Write their responses on chart paper. **CCSS ELA RIT #2**
- Provide a list of vocabulary words and discuss their meanings. **CCSS ELA RIT #4**
- Look at the range maps on the endpapers and work with students to identify bats that live in your area.

Grades 3–5

- Ask students to predict the main idea of *A Place for Bats*. Write their responses on chart paper. **CCSS ELA RIT #1 & 2**
- Have the students discuss the following questions in small groups. Before reading the book, compile the groups' answers on chart paper.
 - What human actions positively affect bat survival? Explain how.
 - What human actions negatively affect bat survival? Explain how.
 - List some different habitats where you might find bats.
 - Does the survival of bats affect the survival of plants and other animals? Explain why or why not.
- Provide a list of vocabulary words. Encourage students to buddy up and work together as they look up the words in a dictionary and write definitions. **CCSS ELA RIT #4**

AS YOU READ

Grades K–2

Ask students to think about the main idea of the book. **CCSS ELA RIT #2**

Grades 3–5

- Encourage students to think about the main idea of the book. Do they hear details that can support that main idea? They may want to make notes on a piece of paper. **CCSS ELA RIT #2**
- Students should also think about the ideas you recorded on chart paper. Are there things they would like to change or add? They may want to make notes on a piece of paper.

AFTER YOU READ

Grades K–2

- Ask students to identify the main idea of *A Place for*

Bats. Work with them to find details that support that idea. List them on chart paper. **CCSS ELA RIT #1 & 2**

- Choose two bats in the book and ask students to compare them. Students should consider each bat's body size as well as its range, habitat, and food sources. Explain the usefulness of a Venn diagram (overlapping circles showing similarities and differences) and lead students in creating one. **NGSS PE K-LS1-1 & K-ESS3-1**

Grades 3–5

- Ask students to identify the main idea of *A Place for Bats* and recall details that support that idea. List them on chart paper. **CCSS ELA RIT #1 & 2**
- As a class or in smaller groups, have students add new information or erase incorrect information you recorded earlier on chart paper.

CLASSROOM ACTIVITIES

MATH

Grades K–2

- Using the following table, students should create two bar graphs. The first graph should compare the bats' weights. The second should compare wingspans. Ask students if bats with longer wings weigh more than bats with shorter wings. **CCSS Math MD A.1 & A.2**

Bat	Weight (in paperclips)	Wingspan (in inches)
Evening bat	6	11
Indiana bat	7	10
Eastern pipistrelle	8	9
Gray bat	9	11
Little brown bat	10	9
Big brown bat	17	13
Northern yellow bat	17	17

- Divide the students into groups of three or four and give each group a box of paperclips. Ask them to compare the sizes of the bats. Are they surprised by the weight of bats? If so, did they think bats would weigh more or less? **CCSS Math MD A.1 & A.2**
- Invite students to choose three bats and draw

them to scale. They can also color the bats using the art in *A Place for Bats* as a guide. **CCSS Math MD A.2**

Grades 3–5

Give students a copy of Activity Sheet 1 at the end of this guide and ask them to solve the problems.

CCSS Math OA A.1 & A.2, MD A.2

Answers:

1. a. 6 times faster; b. 54,000 times
2. a. 1,200 times; b. 28,800
3. a. 16 moths; b. 2,400 moths; c. Answers will vary depending on students' weights. If students aren't sure of their weight, send one or two volunteers to the nurse's office to be weighed. Or consider bringing a bathroom scale to school.

SCIENCE

Grades K–2

- Bats eat a variety of foods—insects, fruit, fish, frogs, even blood. As a class, do some research to find out what the bats in *A Place for Bats* eat. Then divide the class into small groups. Assign a different bat to each group and have students create a menu poster for their bat. Group members can work together to draw pictures of their bats or find photographs on the Web. Below these images, they can draw or glue cutouts of the foods they've selected for their bat to eat. **CCSS ELA Writing #7, NGSS PE K-LS1-1**
- Using information in *A Place for Bats*, invite students to work in pairs or small groups to create 11×17 inch posters that show how people in your community (including the students themselves) can help local bats live and grow. **NGSS PE K-ESS3-3**
- Young children can often see and evaluate the actions of others, but they may have trouble understanding the impact of their own behaviors. And yet, they need that awareness before they can get involved in meaningful conservation.

To help students develop their thinking in this direction, encourage them to discuss how they might be harming the environment without even realizing it. They can use some examples from *A Place for Bats* as thought starters. Then encourage students to suggest ways they might change their behavior to help protect animals and preserve natural environments in your community. **NGSS PE K-ESS3-3**

- Invite students to pretend they are bats. Ask them to describe what it feels like to flit through the air. Then ask what they wish people would do to help them live and grow. Consider recording a few children's responses with the video setting on a digital camera. These recordings can be replayed later on your interactive whiteboard. **CCSS ELA SL #2 & 3, NGSS PE K-LS1-1**

Grades 3–5

- Divide the class in half and have each team create a Book Fact Scavenger Hunt for the other team. Have students look through *A Place for Bats* and other books about bats. (See the Related Reading at the end of this guide for suggestions.)

Each team should choose a few interesting facts and turn them into questions. Here are some examples:

—In *A Place for Bats*, how many kinds of bats live in the United States?

—In *Bat Loves the Night* by Nicola Davies (Candlewick, 2004), what species is the little lost bat?

Type each team's questions, print them out, and cut them so each question is on a separate strip of paper. Place the questions in two bags or boxes, so the students can pick one question at a time and compete to see which team can answer the most questions. **CCSS ELA RIT #9, Writing 7 & 8**

- Have each student research one of the bats discussed in the book and write a report. Each report should include unique/important body features, habitat and range, diet, and any fun facts the student discovers. **CCSS ELA Writing #2, 4, 7 & 8**

LANGUAGE ARTS

Grades K–2

- Have students create as many words as possible with the letters in *A Place for Bats*. Ask the children to sort the words by number of letters in each word, vowel sounds or word families, such as at, eat, ace, and ate (suggestions below). They can also alphabetize the words. **CCSS ELA FS #2**
 - First round: at, pat, fat, cat, cats, bats
 - Second round: eat, seat, beat, bleat, bleats
 - Third round: ace, lace, laces, place
 - Fourth round: ate, fate, late, rate
- Give students a copy of Activity Sheet 2 at the

end of this guide and ask them to complete it.

CCSS ELA RIT #5

Answers: 1. D; 2. E; 3. A; 4. F; 5. B; 6. C.

- Work with students to create seesaw books about two different bats, such as Indiana bats and eastern yellow bats.

On the first left-hand page, they might write: "Indiana bats sleep in caves." On the facing right-hand page, they could write: "Eastern yellow bats sleep in palm trees." The next page would read: "Both kinds of bats sleep during the day."

Subsequent pages should continue to compare the two species—size, behavior, range, habitat, etc. Students can use webs to help them organize their thoughts. **CCSS ELA Writing #2, NGSS PE K-LS1-1 & K-ESS3-1**

Grades 3–5

- Have students imagine what it's like to be a bat. Ask them to write what it feels like to fly through the air at night when most people are asleep. Ask them to explain how they catch insects and what the bugs taste like.

Encourage students to use examples from the book (wind turbines, letting pets run wild, cutting down dead trees, etc.) to explain the challenges of surviving. In a concluding paragraph, students should suggest ways humans can help bats and improve their habitats. **CCSS ELA Writing #3, NGSS PE3-LS4-4 & 5-ESS3-1**

- Create an *A Place for Bats* nonfiction text structure class book. Make eleven copies of the map and one copy of the cover sheet (at the end of this guide, between Activity Sheets 2 and 3). Then bind all twelve pages into a book.

Divide students into pairs or small groups. Using *A Place for Bats*, students can write down the name of each bat species as well as the human **cause** that's helping that bat and the specific **effect** on the animal. **CCSS ELA RIT #5, NGSS PE5-ESS3-1**

Note: Even though the endpapers contain twelve maps, the Mexican free-tailed bat does not have an accompanying cause and effect page. So, it's best not to include this bat in your students' books.

- As an alternative to the nonfiction text structure class book, you could have each student create an individual book. For each student in your class,

make eleven copies of the map and one copy of the cover sheet (at the end of this guide, between Activity Sheets 2 and 3). Then bind all twelve pages into a book.

Using *A Place for Bats*, students can write down the name of each bat species as well as the human **cause** that's helping that bat and the specific **effect** on the animal. **CCSS ELA RIT #5, NGSS PE5-ESS3-1**

Note: Even though the end papers contain twelve maps, the Mexican free-tailed bat does not have an accompanying cause and effect page. So, it's best not to include this bat in your students' books.

- Activity Sheet 3 asks students to compare and contrast how humans interacted with bats in the past and present. Ask each student to complete a copy of the worksheet. **CCSS ELA RIT #5**
- Have students write letters to author Melissa Stewart, telling her what they liked best about *A Place for Bats*. Send the letters to Author Fan Mail, Peachtree Publishers, 1700 Chattahoochee Ave., Atlanta, GA, 30318-2112. If you include an e-mail address, Melissa will send an e-mail to your class. If students send drawings, she will choose a few to post. **CCSS ELA Writing #1**
- Divide the class into teams of three or four for a game of Bat Boggle. Choose one bat species name and give students three minutes to think of as many words as possible from the letters in the name. One member of each team should record the answers while the others manipulate the letters.

As each group reads its words, other teams cross off any repeats. The team with the most original words wins. Repeat the game with other species names, so that each student has a chance to be the recorder. **CCSS ELA FS #3**

GEOGRAPHY

Grades 3–6

Have students study the range maps shown on the endpapers of the book. Ask them to list all the bats that live in your area. Emphasize that the bats discussed in this book represent only some of the species that live in North America. Have the students do research to find out about additional species in your area.

ART**Grades K–2**

- Using the instructions at <http://artsmart.ci.manchester.ct.us/easy-bat/easy-bat.html>, lead your students in making origami bats.
- Have students create an image of one of the bats in *A Place for Bats* and its habitat, highlighting what the animal needs to live and grow. Make materials with a variety of textures available, including paints, magazines, and fabric. Some students might like to use plastic wrap for water or vinyl for the bat's wings or cotton balls for clouds. Encourage them to use their imaginations. **NGSS PE K-ESS3-1**

Grades 3–5

Have students look carefully at the background art on each two-page spread of *A Place for Bats*. As a class, list all the questions the book's illustrator, Higgins Bond, had to ask herself about each spread before beginning her paintings.

Possible questions include: Where is the habitat? What plants grow there? What time of day is it? What time of year is it? What other animals should be shown? What are the bats in the illustration doing?

Using their list of questions, have students research and create a mural that depicts a natural bat habitat in your community. **CCSS ELA RIT #7**

MUSIC**Grades K–2**

Lead your students in this fun song about bats. Students may wish to act out each line of the song.

Bats Are Sleeping

(Tune: Frère Jacques)

Bats are sleeping

Bats are sleeping

Upside down.

Upside down.

Sleeping in the morning.

Waiting for the evening.

To fly around, fly around.

ADVANCED ACTIVITIES

- Have students research organizations that support the protection of one of the bat habitats

mentioned in this book. They should contact one organization and find out about its recent work. Students should write a report and deliver an oral presentation about what they have learned. **CCSS ELA Writing #6 & 8, NGSS PE 5-ESS3-1**

- Have students make a list of some of the things people do to harm the bats discussed in this book. Then have them list ways people could change their behaviors to help bats. Next, ask students to list some things they do every day that could harm the environment or the animals that share our world. (Possibilities include wasting electricity; wasting water; forgetting to recycle; littering; using straws, Styrofoam cups, and heavily packaged foods, such as drink boxes; throwing out old clothes, games, toys, bicycles instead of donating them to charities.) Can they think of ways to modify their behavior? **CCSS ELA RIT #5**
- Have students write a letter to a town official or congressperson asking them to change a policy or make a law that will positively impact the habitat where bats live. **CCSS ELA Writing #1 & 4, NGSS PE 3-LS4-4**
- Divide students into teams of three or four and ask each group to pretend it is a news team. They should make a video of a mock news report about a local effort to preserve and protect bats or other creatures and/or open space. **CCSS ELA Writing #7 & 8, NGSS PE 5-ESS3-1**

RELATED READING

Davies, Nicola. *Bat Loves the Night*. Cambridge, MA: Candlewick, 2004.

Earle, Ann. *Zippping, Zapping, Booming Bats*. New York, NY: HarperCollins, 1995.

Markle, Sandra. *Little Lost Bat*. Watertown, MA: Charlesbridge, 2009.

Markle, Sandra. *Outside and Inside Bats*. New York, NY: Walker & Company, 2004.

Stewart, Melissa. *How Do Bats Fly in the Dark?* Tarrytown, NY: Bechmark Books, 2009.

Williams, Kim, Rob Mies, and Donald and Lillian Stokes. *Stokes Beginner's Guide to Bats*. New York, NY: Little, Brown & Company, 2002

THE ACTIVITIES IN THIS GUIDE DIRECTLY ADDRESS THE FOLLOWING STANDARDS:

COMMON CORE FOR ENGLISH LANGUAGE ARTS STANDARDS

- Reading Informational Text #1 and 2: Identifying Key Ideas and Details
- Reading Informational Text #4: Craft and Structure
- Reading Informational Text #5: Identifying Text Features and Structures
- Reading Informational Text #7: Integration of Knowledge and Ideas
- Writing #1, 2, and 3: Text Types and Purposes
- Writing #4 and 6: Production and Distribution of Writing
- Writing #8 and 9: Research to Build and Present Knowledge
- Foundation Skills: Phonological Awareness #2
- Foundation Skills: Phonics and Word Recognition #3
- Speaking and Listening: Comprehension and Collaboration #2 and 3

COMMON CORE FOR MATH STANDARDS

- Operations & Algebraic Thinking A.1, A.2
- Measurements & Data A.1, A.2

NEXT GENERATION SCIENCE STANDARDS PERFORMANCE EXPECTATIONS

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.
- K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.
- K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
- 3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.
- 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.



ABOUT THE AUTHOR

Melissa Stewart is the award-winning author of more than 150 books for children. She has a B.S. in biology from Union College in Schenectady, NY, and a M.A. in science journalism from New York University. Melissa speaks frequently at conferences for educators and serves on the Society of Children's Book Writers and Illustrators' board of advisors. Melissa has taught fiction and nonfiction writing classes for children and adults, and is available for school visits.

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ABOUT THE ILLUSTRATOR

Higgins Bond, who has illustrated books for children for more than twenty-five years, attended Phillips University in Oklahoma and received a BFA from the Memphis College of Art. She has also created illustrations for magazines and posters, calendars, ads, brochures, figurines, dolls, and individual paintings for various companies. Her school visit presentation, "Yes, It Is Possible to Make a Living as an Artist," is perfect for aspiring artists of any age.

www.higginsbond.com

AUTHOR & ILLUSTRATOR VISITS

**We have authors and illustrators
who visit schools and libraries.**

**For information regarding
author appearances, please contact
Christine Baum at 800-241-0113 or
Christine@peachtree-online.com**

AWARDS

- AAAS/Subaru Science Books & Film Prize for Excellence in Science Books Finalist
 - Correll Book Award for Excellence in Early Childhood Informational Text
 - Cybils Award Nominee
 - Green Earth Book Award, Honor Book
 - National Science Teachers Association Recommended Title
 - Parents Choice Award, Recommended
-

REVIEWS

“An effective introduction.” —***Booklist***

“In the classroom this book could be used as an independent reading selection for strong readers or as a resource for students researching bats.”

—***NSTA Recommends***

“...An essential science addition for a classroom library.” —***Reading Today***

Peachtree Teacher's Guide for
A PLACE FOR BATS
prepared by Melissa Stewart

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P E A C H T R E E
P U B L I S H E R S

A Place for Bats

Math: Activity Sheet 1

BAT MATH

Name: _____

Date: _____

1. When you run, your heart beats about 150 times a minute. When a bat flies, its heart beats about 900 times a minute.
 - a) How much faster does a bat's heart beat? _____
 - b) How many times does a bat's heart beat a second? _____
2. When a bat hibernates, its heart rate drops to about 20 beats per minute.
 - a) How many times will a hibernating bat's heart beat in one hour? _____
 - b) How many times will it beat in one day (24 hours)? _____
3. Insect-eating bats often eat half their total body weight in insects each night.
 - a) If a bat weighs 16 grams and a moth weighs 0.5 grams, how many moths will the bat eat before it is full? _____
 - b) If the bat ate only moths, how many moths could it eat from May to September (150 days)? _____
 - c) A hamburger weighs about 0.25 pounds. If you ate like a bat, how many hamburgers would you eat every single night? _____

A Place for Bats

Language Arts: Activity Sheet 2

NONFICTION TEXT FEATURES MATCH

Name: _____

Date: _____

Text features help readers understand a text. Read the name of each text feature included in *A Place for Bats* in the left-hand column. Then, find the correct definition in the right-hand column. Write the letter of the correct definition next to each text feature.

- | | | | | |
|----|--------------|-------|----|--|
| 1. | Bibliography | _____ | A. | This text helps reader learn more about the topic. |
| 2. | Close-up | _____ | B. | This large type contains the most important information in the book. |
| 3. | Text Box | _____ | C. | Gives readers visual geographic clues that help readers know where animals live. |
| 4. | Heading | _____ | D. | Helps readers understand how the author gathered the book's information. |
| 5. | Main Text | _____ | E. | Helps readers see details in something small. |
| 6. | Maps | _____ | F. | Gives readers clues about what he or she will learn from the text. |



Name of Bat: _____

Cause: _____

Effect: _____

A Place for Bats

by: _____

A Place for Bats

Language Arts: Activity Sheet 3

NONFICTION TEXT STRUCTURES, COMPARE AND CONTRAST

Name: _____ **Date:** _____

Author Melissa Stewart uses a cause and effect nonfiction text structure in the main text of *A Place for Bats*, but in the text boxes, she compares and contrasts past human actions to present human actions.

Directions: Find the text boxes listed below. For each text box, compare and contrast then to now.

Example: Gray Bat

Then: When cave explorers entered caves, scared mother bats flew away from their babies and they didn't come back. The pups starved.

Now: Workers build bat-friendly gates, so people stay out of caves when mother gray bats are caring for their young.

Big Brown Bat

Then: _____

Now: _____

Virginia Big-eared Bat

Then: _____

Now: _____

Western Red Bat

Then: _____

Now: _____

Hoary Bats

Then: _____

Now: _____

Indiana Bats

Then: _____

Now: _____

Bonus Question:

Look at the names of the bats in the book. Are they written in bold or italic print?