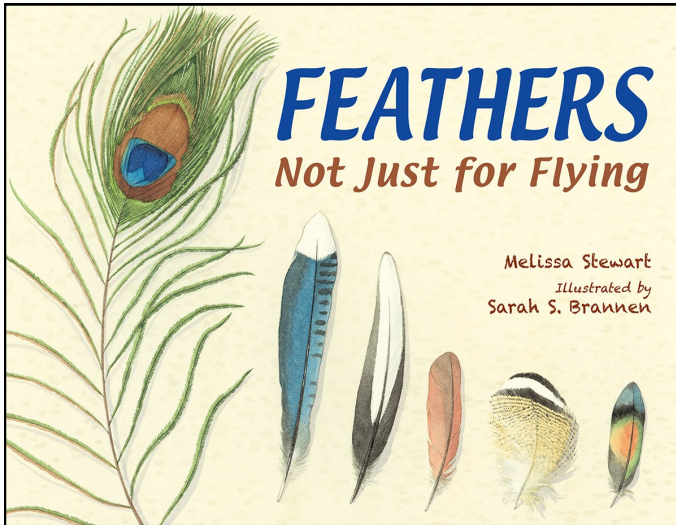


FEATHERS

Not Just for Flying

A TEACHER'S GUIDE

Developed by Melissa Stewart



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Ages 6–9

Feathers aren't just for flying. They can also protect a bird's skin like sunscreen, attract attention like fancy jewelry, or even distract a predator like a bullfighter's cape. *Feathers: Not Just for Flying* introduces young readers to sixteen birds. From the sleek emperor penguin to the fluffed-up blue jay, discover just how positively practical feathers can be.

 A Junior Library Guild Selection

★ "A focused and thorough examination that highlights the striking beauty of these often-unnoticed natural objects."

—*Publishers Weekly*, starred review

TABLE OF CONTENTS:

About This Guide	2
Before You Read, As You Read, After You Read	3
Curriculum Connections	4–6
Science Activities	4
Math Activities	5
English Language Arts Activities	5–6
Art Activities	6
Related Reading	6
About the Creators	7
Migration Math Activity Sheet	8

About This Guide

Feathers: Not Just for Flying utilizes a dual-layered text to appeal to readers of a wide range in age and grade level. Throughout this guide you'll find activities to use with younger children (kindergarten to grade two) as well as older readers (grades three to five).

The activities directly address a variety of standards across the curriculum (see list below). After each activity you'll find an abbreviation of the standard addressed by that activity.

Teaching Tip! The two layers of text in this book make it ideal for Reading Buddy programs. For more information, please visit www.melissa-stewart.com/pdf/scirdbuddies.pdf.

Common Core State Standards for English Language Arts (CCSS ELA):

- Reading Informational Text #1 and 2: Identifying Key Ideas and Details
- Reading Informational Text #4: Craft and Structure
- Reading Informational Text #7: Integration of Knowledge and Ideas
- Reading Literature #4: Craft and Structure
- 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 #2: Phonological Awareness
- Foundation Skills #3: Phonics and Word Recognition
- Speaking and Listening #2 and 3: Comprehension and Collaboration

Next Generation Science Standards Performance Expectations (NGSS PE):

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive
- 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
- 1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs
- 1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive
- 1-LS3-1. Make observations to construct an evidence-based account that shows how young plants and animals are like, but not exactly like, their parents
- 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction

Common Core Math Standards (CCSS Math):

- Operations & Algebraic Thinking A.1, A.2
- Measurements & Data B.4

CCSS were drawn from the Common Core State Standard Initiative at www.corestandards.org.
NGSS were drawn from the Next Generation Science Standards at www.nextgenscience.org.

Before You Read . . .

Grades K–2:

- After looking at the cover of the book and reading the title, ask students what they think *Feathers* will be about. Write their responses on chart paper. (CCSS ELA RIT #1 and 2)
- Provide a list of vocabulary words and discuss their meanings. (CCSS ELA RIT #3)

Grades 3–5:

- Ask students to predict the main idea of *Feathers*. Write their responses on chart paper. (CCSS ELA RIT #2)
- Have students discuss the following questions in small groups. Compile the groups' answers on chart paper. (NGSS PE 4-LS1-1)
 - * What are feathers?
 - * How do birds use their feathers?
 - * Do all birds fly?
 - * Do all birds have feathers?
 - * What other kinds of animals have feathers?
 - * What other kinds of animals can fly?

As You Read . . .

Grades K–2:

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

Grades 3–5:

- Ask 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 before reading the book. 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 *Feathers*. Work with them to find details that support that idea. List them on chart paper. (CCSS ELA RIT #1 and 2)
- Have students make a list of ways birds use their feathers. Ask them to draw a picture showing one use that surprises them. (NGSS PE 1-LS1-1 and 1-LS1-2)

Grades 3–5:

- Working in groups of three or four, have students compare the way two different birds use their feathers. Does a bird's size, feeding habits, predators, or habitat affect how it uses its feathers?

Curriculum Connections

Science Activities:

Grades K–2:

- Have students observe and draw birds in the schoolyard, around their neighborhood, or at a local park. They should pay close attention to how the birds use their feathers. The children should also try to figure out what the birds eat and where they nest. Using a field guide, work with students to identify the birds in the pictures they bring to class. (NGSS PE K-LS1-1 and 1-LS1-1)
- Ask students to look closely at the nests, eggs, and chicks shown in *Feathers*. Then have them work in groups to create a picture story of a bird’s lifecycle. How are young birds similar to their parents? How are they different? (NGSS PE 1-LS3-1)
- Invite students to pretend they are birds. Ask them to describe what it feels like to soar through the sky. Consider recording a few children’s responses with the video setting on a digital camera. These recordings can be replayed later on your SmartBoard. (CCSS ELA SL #2 and 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. Students should look through *Feathers* and other books about birds. (See the bibliography on page six for suggestions.) They should choose a few interesting facts and turn them into questions. Here are some examples:
 - * In *Feathers*, what kind of bird uses its feathers like a sponge?
 - * In *A Place for Birds* by Melissa Stewart, what do cardinal eggs look like?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 and 8)
- Have each student research one of the birds discussed in the book and write a report. Each report should include the duration of each life stage, habitat and range, food sources of adult and young birds, the viability of the species, and any fun facts they discover. (CCSS ELA Writing #2, 4, 7 and 8)

All Grades:

- Birds eat a variety of foods—insects, fruit, seeds, frogs. As a class do some research to find out what the birds in *Feathers* eat. Then divide the class into small groups. Assign a different bird to each group and have students create a menu poster for their bird. Group members can work together to draw pictures of their birds or find photographs on the internet. Below these images they can draw or glue cutouts of the foods they’ve selected for their bird to eat. (CCSS ELA Writing #7, NGSS PE K-LS1-1)
- Have students look closely at the shape of each bird’s beak. Ask them to answer the following questions orally or in writing: What connections do you see between the shape of a bird’s beak and the kind of food it eats? How do you think a bird’s beak helps it survive in its habitat? (NGSS PE 1-LS1-1, 4-LS1-1)
- To help students learn to identify the birds discussed in *Feathers*, have them play Bird Bingo. Make the cards by photocopying the bird images on each page or find images of birds online at <http://www.birds.cornell.edu/AllAboutBirds>. To win, older students should tell you a fact about each species in their “line.” If you make two sets of cards, students can also play Concentration. Older students may enjoy the added challenge of matching nests and/or eggs with the proper adult bird.

Curriculum Connections (cont.)

Math Activities:

Grades K–2:

- Find images of various birds drawn to scale, cut them out, and laminate them. Ask students to sort the birds by size. Then have the children re-sort the birds by color. (CCSS Math OA.A.1 and A.2)

Grades 3–5:

- Divide the class into teams of three or four and give each group a copy of the Migration Math Activity Sheet on page eight of this guide. Using a ruler and a map of North America with a key, have students determine the distances between the locations. Then ask the teams to calculate the total distance of North American birds' migration and the average number of miles traveled each day. (CCSS Math MD B.4)

English Language Arts Activities:

Grades K–2:

- Have students create as many words as possible with the letters in “Feathers: Not Just for Flying.” Ask the children to sort the words by number of letters in each word, vowel sounds, or word families, such as *at*, *ate*, or *ear* (suggestions below). They can also alphabetize the words. (CCSS ELA FS #2)
 - * First round: *at, sat, rat, fat, flat, that, hat, hats*
 - * Second round: *ate, fate, rate, late, state*
 - * Third round: *ear, fear, tear, hear, hears, rear, near*
- Ask students to compare this book to another bird-themed book they have read. How are the books similar? How are they different? Which book did they like better? Why?

Grades 3–5:

- Have students do research to learn more about one of the birds mentioned in *Feathers*. Use a digital camera with a video setting to film the students as they present reports orally. Then work with the class to create short videos using Adobe Premiere Elements or another inexpensive video editing software program (see examples at www.melissa-stewart.com/video). The videos can be posted on the school website, a classroom blog, or TeacherTube (www.teachertube.com). Author Melissa Stewart would also be happy to post them on her website. You can contact her at mas@melissa-stewart.com. (CCSS ELA SL #2 and 3)
- Read and discuss “A Bird” by Emily Dickinson with your students (see below). Then ask them to observe a bird and write a poem about it. (CCSS ELA RL #4)

A Bird

A bird came down the walk:
He did not know I saw;
He bit an angle-worm in halves
And ate the fellow, raw.
And then he drank a dew
From a convenient grass,
And then hopped sidewise to the wall
To let a beetle pass.

—Emily Dickinson

Curriculum Connections (cont.)

English Language Arts Activities (cont.):

Grades 3–5 (cont.):

- Divide the class into teams of three or four for a game of Bird Boggle. Choose one bird 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)

All Grades:

- Download a copy of the Readers Theater script written to accompany *Feathers* from the author's website (www.melissa-stewart.com) and lead the class in performing it. (CCSS ELA RIT #4 and SL #2 and 3)
- Have students write letters to or draw pictures for author Melissa Stewart, telling or showing her what they liked best about *Feathers*. Send the letters to Melissa Stewart, c/o Charlesbridge Publishing, 85 Main Street, Watertown, MA, 02472. If you include an e-mail address, Ms. Stewart will send an e-mail to your class. (CCSS ELA Writing #1)

Art Activities:

Grades K–2:

- Have students create an image of one of the birds in *Feathers* 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 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 *Feathers*. As a class, list all the questions the book's illustrator, Sarah Brannen, had to ask herself in order to do research to make her art realistic and accurate. Possible questions include: Where does each bird live? What time of day is it? What time of year is it? Using their list of questions, have students research and create a mural that depicts a natural habitat in your community. (CCSS ELA RIT #7)

Related Reading:

- Arnold, Caroline. *Birds: Nature's Magnificent Flying Machines*. Watertown, MA: Charlesbridge, 2003.
- Aston, Dianna Hutts. *An Egg is Quiet*. San Francisco, CA: Chronicle, 2006.
- Boring, Mel. *Birds, Nests & Eggs*. Minnetonka, MN: NorthWord Books, 1998.
- Collard III, Sneed B. *Wings*. Watertown, MA: Charlesbridge, 2008.
- Harrison, George H. and Kit. *Backyard Bird Watching for Kids: How to Attract, Feed, and Provide Homes for Birds*. Minocqua, WI: Willow Creek Press, 1997.
- Peterson, Roger Tory. *Peterson's First Guide to Birds of North America*. Boston: Houghton Mifflin, 1998.
- Stewart, Melissa. *A Place for Birds*. Atlanta, GA: Peachtree Publishers, 2009.

About the Creators



Melissa Stewart is the award-winning author of more than 150 books for children. She holds degrees in biology and science journalism and serves on the board of advisers for the Society of Children’s Book Writers and Illustrators. Melissa speaks frequently at conferences for educators and is available for school visits. Visit her online at www.melissa-stewart.com.



Sarah S. Brannen has illustrated more than a dozen books for children. She is the author and illustrator of *Uncle Bobby’s Wedding* and the illustrator of *Digging for Troy: From Homer to Hisarlik*; *At Home in Her Tomb: Lady Dai and the Ancient Chinese Treasures of Mawangdui*; and *The ABC Book of American Homes*. She lives in Massachusetts. Visit her online at <http://sarahbrannen.yellapalooza.com>.

A note about collecting in nature: Gathering and keeping feathers from native wild birds is prohibited. In some cases you may collect feathers after obtaining a specific permit or license. Please be mindful of the laws that protect birds and their environment.

Migration Math Activity Sheet

Name: _____

Date: _____

Sample: Wood Duck Migration

Directions:

1. Use a map and a ruler to find out how far a migrating wood duck travels each week using the locations listed below.
2. Calculate the distance of its entire northward journey.
3. Determine the average number of miles a wood duck travels each day over the four weeks of migration.

Week 1: New Orleans, Louisiana, to Jackson, Mississippi

Number of Miles: _____

Week 2: Jackson, Mississippi, to Nashville, Tennessee

Number of Miles: _____

Week 3: Nashville, Tennessee, to Peoria, Illinois

Number of Miles: _____

Week 4: Peoria, Illinois, to Duluth, Minnesota

Number of Miles: _____

Total Miles flown: _____

Average Miles Flown Daily: _____

Now choose a different North American bird and calculate its migration journey.

Migration of the _____

Directions:

1. Use a map and a ruler to find out how far your bird travels each week during its migration.
2. Calculate the distance of its entire northward journey.
3. Determine the average number of miles your bird travels each day.

Week 1: _____

Number of Miles: _____

Week 2: _____

Number of Miles: _____

Week 3: _____

Number of Miles: _____

Week 4: _____

Number of Miles: _____

Total Miles flown: _____

Average Miles Flown Daily: _____