

Combining Poetry and Science

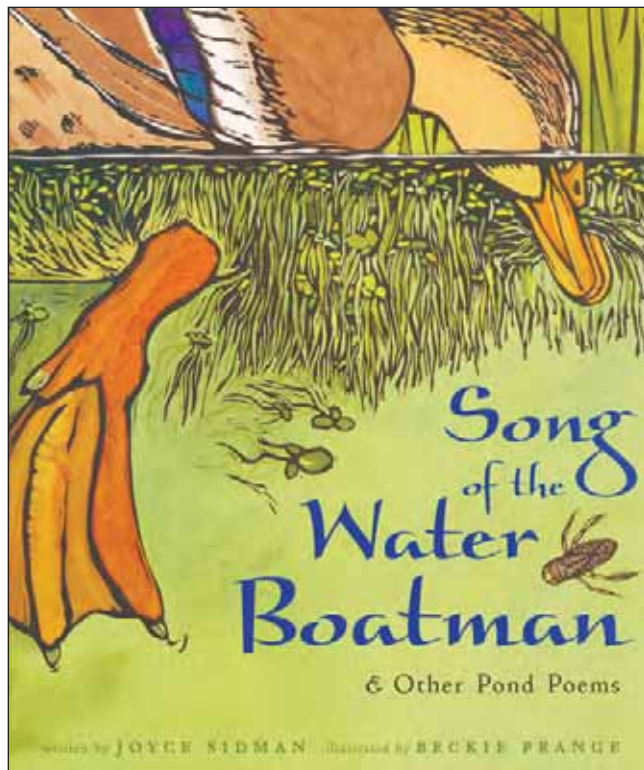
by Carole Prendergast and Debbi Dunne

Elementary school

Song of the Water Boatman by Joyce Sidman

Conk-a-ree. Squawk. Sounds of red-winged blackbirds and great blue herons fill the sky as we walk into the wetland. These sounds remind us of the poetry we shared from the picture book *Song of the Water Boatman and Other Pond Poems* by Joyce Sidman. In the classroom, poetry books can serve as a springboard for a science lesson or add a research or writing workshop

opportunity that enriches a science experience. Third-grade teachers at Tisdale School in Ramsey, New Jersey, integrate poetry, research, and a trip to a local wetland when they teach science. In the past, we showed slides of plants and animals before our field trip. This year we decided to read aloud the poems and nonfiction text from this 2006 Caldecott Honor Book before embarking on our excursion.



About the Book

Sidman began writing the poems in *Song of the Water Boatman* after noticing a pond that was drying up and wondering about the creatures that lived there. Each spread focuses on one pond creature, and Sidman employs

Sidman, Joyce. *Song of the Water Boatman and Other Pond Poems*. Illus. by Beckie Prange. 2005. 32p. Houghton, \$16 (0-618-13547-2). Gr. 2-6.

many poetic forms, from haikus to sea shanties. Accompanying nonfiction paragraphs could enhance any study of ponds, wetlands, or water birds. Beckie Prange's hand-colored woodcuts of animals at, above, or below water level are stunning. These oversize illustrations resemble Japanese prints and give the reader the feeling of visiting a pond firsthand. A glossary at the end extends the nonfiction text.

Poetry, Artwork, and Science

During our wetlands study, each student researches a plant or animal native to that habitat. Introducing *Song of the Water Boatman* as part of our wetlands study allows the students the opportunity to create a class book in the style of Sidman's title that features their own poetry, artwork, and nonfiction text as a culmination of their research.

Inquiry-based learning drives our students' scientific research. Returning from a field exploration of the wetland, we ask students to review their notes and observations. After they choose a plant, animal, or bird, their curiosity sparks questions that help them begin researching their topics. Within the pages of a special science journal, their questions evolve. Students create bibliographies and take notes. Personal reflections and sketches are recorded throughout the process to help the teacher assess how their research is progressing. Once research has ended, students plan an oral presentation to celebrate what they know and share it with their classmates. Now that they

possess a solid knowledge of their topic, we return to *Song of the Water Boatman*.

In three subsequent lessons, we (1) examine Joyce Sidman's poetry, (2) have students create illustrations inspired by Beckie Prange's artwork, and (3) ask students to write a nonfiction piece using their research.

Writing a Poem

We place our favorite poem from the book, "Fly, Dragonfly!," on an overhead projector. Reading the poem as "writers," students tell us what they notice about the poem: line breaks, exclamation points, commas, hyphenated words, strong verbs, literary techniques, descriptive language, and scientific facts. Reading her poem again as "researchers," students are asked to tell us what kinds of questions Sidman might have written in her science journal, because we notice that she weaves scientific facts into her poems. Her questions are:

- What does the dragonfly look like?

- Where does it live?
- Who are its enemies?
- How does it behave at night?

Opening their journals and rereading their own questions, students then write poems using the elements they observed in "Fly, Dragonfly!"

Polishing and Illustrating the Poem

As we hand back the rough drafts, each student reads over his or her piece several times, editing, revising, and polishing, checking to make sure the poem includes the specific elements in *Song of the Water Boatman*. During one-on-one conferences, the student reads the poem aloud, and we offer positive feedback about the piece. Confusing parts are clarified, and trite words are changed into more powerful images through the use of a thesaurus. The main question that resonates in our writers' ears is, "Did your poem make me see it, hear it, feel it?"

Before creating the illustrations,

students are shown a real book dummy that a children's book illustrator donated to our school during a visit. Seeing a mockup of an actual book helps children understand the planning process that goes into bookmaking. We also talk about the unusual perspectives in Prange's illustrations, and how some images bleed off the edges of the page. Using rulers, we imitate the thick black line that she uses to frame her woodcuts. Just as illustrators do, we think about layout—placement of the poem as well as the nonfiction text. Each student then creates an illustration of a plant or animal that is intended to resemble Prange's, using a combination of watercolor and colored pencil.

Writing and Revising Nonfiction

Again using an overhead, we read Sidman's nonfiction text about the dragonfly and compare nonfiction writing to poetry. Students witness the process of constructing a nonfiction piece as we hang enlarged pages of a student's science journal in the



A student project inspired by *Song of the Water Boatman* and *Other Pond Poems*.

classroom. On those pages, we star our favorite facts. Using those facts, we model creating a nonfiction paragraph using a strong lead and closing, just as Sidman does. Then the children open their own science journals, star their favorite facts, and write a nonfiction paragraph about their chosen plant or animal. Peer conferencing and teacher conferencing help tighten and strengthen student pieces.

Song of the Water Boatman has added a powerful new dimension to our science lessons. Students creatively expressed the scientific information they gathered in their science journals. Third-graders created dazzling poetry, nonfiction, and artwork inspired by this book. When we first opened *Song of the Water Boatman* and leafed through the pages of poetry and stunning illustrations, we clearly saw the connection to our science curriculum. Browse through the poetry books in the bibliography listed below, and you will discover your own science connections.

Bibliography

Animals

Bulion, Leslie. *Hey There, Stink Bug!* Illus. by Leslie Evans. 2006. 48p. Charlesbridge, \$12.95 (1-58089-304-X).

Gr. 4–6. The insects featured in this poetry collection are fearsome and awe-inspiring. Bulion uses gory “eat-or-be-eaten” facts to pull readers into both the science and the poems. Prose paragraphs about the bugs accompany each poem, and striking block prints round out the collection.

Florian, Douglas. *Zoo’s Who*. 2005. 56p. Harcourt, \$17 (0-15-204639-9).

Gr. 1–5. Florian’s clever poetry and humorous collages make it fun to learn about animals from the zoo. Other Florian poetry collections that lend themselves to science units include *On the Wing: Bird Poems and Paintings* (Harcourt, 1996), *In the Swim* (Harcourt, 1997), *Insectlopedia*

(Harcourt, 1998), and *Lizards, Frogs, and Polliwogs* (Harcourt, 2001).

George, Kristine O’Connell. *Hummingbird Nest: A Journal of Poems*. Illus. by Barry Moser. 2004. 48p. Harcourt, \$16 (0-15-202325-9).

Gr. 2–6. George began writing these descriptive poems during the eight weeks that an Anna’s hummingbird built a nest on her patio and hatched and raised two babies. Moser’s gentle watercolors match the understated quality of the poems. An author’s note with additional information and a bibliography are included. Classes studying trees will find inspiration in George’s book *Old Elm Speaks* (Clarion, 1998).

Heard, Georgia. *Creatures of Earth, Sea, and Sky*. Illus. by Jennifer Owings Dewey. 1992. 32p. Boyds Mills, paper, \$10.95 (1-56397-635-8).

Gr. 2–6. Heard’s poems feature everything from lighthearted whale

chants to the endangered Galápagos tortoise and will inspire a reverence for the natural world. Dewey’s love for sketching the outdoors is evident by her detailed colored-pencil illustrations.

Sierra, Judy. *Antarctic Antics: A Book of Penguin Poems*. Illus. by Jose Aruego and Ariane Dewey. 1998. 32p. Harcourt, \$16 (0-15-201006-8); paper, \$6 (0-15-204602-X).

Preschool–Gr. 2. As the title implies, this collection of 13 poems describes the antics of baby penguins in their icy Antarctic home. Short, medium, and longer poems are included, and there are also some riddles describing penguin predators. Aruego and Dewey’s watercolor-and-ink drawings extend the fun.

Wings on the Wind: Bird Poems. Selected and illus. by Kate Kiesler. 2002. 40p. Clarion, \$14 (0-618-13333-X).

K–Gr. 5. With poems by well-



ISBN 1-58089-304-X \$12.95 HC

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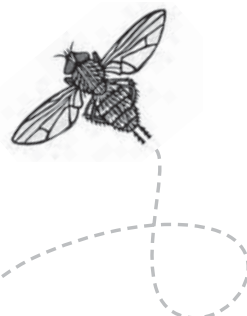
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—School Library Journal



known writers as well as anonymous verse, Kiesler's collection showcases different types of birds (sandpiper, parrot, heron, parakeet, blackbird, barn swallow) and different types of bird movement. Her vivid oil paintings capture these fine-feathered friends and their world.

Worth, Valerie. *Peacock and Other Poems*. Illus. by Natalie Babbitt. 2002. 48p. Farrar, \$15 (0-374-35766-8).

Gr. 2–8. Worth's collection captures the essence of subjects such as a prism, milkweed, a snake, an onion, a katydid, and the ocean in very few words. Babbitt's black-and-white pen-and-ink drawings mirror the quiet, reflective mood of the poetry.

Yolen, Jane. *Least Things: Poems about Small Natures*. Photos by Jason Stemple. 2003. 32p. Boyds Mills, \$17.95 (1-59078-098-1).

Gr. 2–5. Yolen collaborated with her son on this book inspired by a quote from Pliny: "Nature excels in the least things." Fourteen haikus celebrate small insects and animals and are accompanied by large color photographs and nonfiction paragraphs. Have students take digital photos of animals, create their own haikus, and write nonfiction about them. Other science-themed poetry books by Yolen include *Birdwatch* (Philomel, 1990), *Water Music* (Boyds Mills, 1995), and *Fine Feathered Friends* (Boyds Mills, 2004).

Habitats and Regions

Asch, Frank. *Cactus Poems*. Photos by Ted Levin. 1998. 48p. Harcourt, \$18 (0-15-200676-1).

Gr. 2–6. As they did for the Everglades in *Sawgrass Poems* (Harcourt, 1996), a poet and a nature photographer portray the North American desert in simply phrased rhyme and sharply focused wildlife portraits. Levin appends descriptive notes on the flora and fauna he captured, enhancing the book's value for nature study.

Got Geography! Selected by Lee Bennett Hopkins. Illus. by Philip Stanton. 2006. 32p. Greenwillow, \$15.99 (0-06-055601-3).

Gr. 3–7. Granted, the main focus of this poetry collection is on geography, but there are four poems that are scientific in nature: "Awesome Forces" by Joan Bransfield Graham (about volcanoes), "North Atlantic" by Carl Sandburg, "The Mountain" by David Harrison, and "For Forest" by Grace Nichols. Stanton's brightly colored, oversize paintings make this good for groups.

Katz, Susan. *Looking for Jaguar and Other Rain Forest Poems*. Illus. by Lee Christiansen. 2005. 40p. Greenwillow, \$15.99 (0-06-029791-3).

Gr. 2–4. A variety of poetic forms take readers on an amazing expedition to rain forests around the world. Christiansen's pastels bring out the lush, rich colors of the jungle and depict the plants and animals found around the earth's equator. Facts about the flora and fauna appear in endnotes.

Sidman, Joyce. *Butterfly Eyes and Other Secrets of the Meadow*. Illus. by Beth Krommes. 2006. 48p. Houghton, \$16 (0-618-56313-X).

Gr. 3–5. Sidman follows *Song of the Water Boatman and Other Pond Poems* with this picture-book collection of verse that celebrates a meadow. Scratchboard illustrations, fact-filled prose paragraphs, and an appended glossary extend the poems.

Siebert, Diane. *Mojave*. Illus. by Wendell Minor. 1988. 32p. HarperTrophy, paper, \$7.99 (0-06-443283-1).

Gr. 2–6. Siebert's rhythmic poems celebrate the beauty of the desert and its plants, animals, and changing vistas. Minor's spectacular paintings are an effective accompaniment. Other science-themed poetry books by Siebert include *Sierra* (HarperCollins, 1991) and *Cave* (HarperCollins, 2000).

Astronomy

Pollock, Penny. *When the Moon Is Full: A Lunar Year*. Illus. by Mary Azarian. 2001. 32p. Little, Brown, \$15.95 (0-316-71317-1).

Gr. 1–4. Pollock uses Native American moon names, and the beliefs and customs that inspired them, as the basis for her original poetry. Azarian's beautiful hand-colored woodcuts depict moonlit nature scenes. The final spread features 20 questions and answers about the moon. For more on this topic, see "Moon Journeys" on p.28.

The Sun, the Moon, and the Stars. Selected and illus. by Nancy Elizabeth Wallace. 2003. 40p. Houghton, \$12 (0-618-26353-5).

Preschool–Gr. 2. This collection of poetry about heavenly bodies includes works by Walter de la Mare, Eleanor Farjeon, and Christina Rossetti as well as Aileen Fisher and Russell Hoban. Wallace wrote 7 of the 33 selections, and her cut-paper collages add warmth and delight.

Energy

Graham, Joan Bransfield. *Flicker Flash*. Illus. by Nancy Davis. 1999. 40p. Houghton, \$16 (0-395-90501-X); paper, \$6.95 (0-618-31102-5).

Gr. 2–6. Brighten up the school year with Graham's collection of concrete poems about light. Davis' vibrant, whimsical illustrations are a perfect accompaniment. Another book by Graham is *Splish Splash* (Houghton, 1994), a collection of poetry about water in all its forms.

Singer, Marilyn. *Central Heating: Poems about Fire and Warmth*. Illus. by Meilo So. 2005. 48p. Knopf, \$15.95 (0-375-82912-1).

Gr. 3–5. Fire is the subject of this companion to Singer's *Footprints on the Roof: Poems about the Earth* (Knopf, 2002) and *How to Cross a Pond: Poems about Water* (Knopf, 2003). *Central Heating* features 19

poems about the diverse uses of fire. Teachers studying volcanoes, deserts, or geology could start a lesson with these spare poems illustrated with delicate linocuts washed in fire-engine red.

Geology

Baylor, Byrd. *Everybody Needs a Rock*. Illus. by Peter Parnall. 1974. 32p. Simon & Schuster/Atheneum, \$16.95 (0-684-13899-9); Aladdin, paper, \$6.99 (0-689-71051-8).

Gr. 1–4. Baylor’s work is not cataloged as poetry, but her books certainly work as a literary accompaniment to an earth science lesson. How do you choose the perfect rock? Straightforward text features 10 rules for selecting one for pleasure and play. Parnall’s earth-colored illustrations dramatize the narrator’s surroundings.

Peters, Lisa Westberg. *Earthshake: Poems from the Ground Up*. Illus. by Cathie Felstead. 2003. 32p. Greenwillow, \$16.99 (0-06-029265-2).

Gr. 2–4. Inspired by a broad range of topics, from the earth in space to a rock at the side of the road, the 22 poems in this oversize book all pertain to geology. Whether students are exploring plate tectonics, faults, fossils, rocks, meteors, or volcanoes, the clever language of these poems makes a great introduction. Bright, whimsical collages and endnotes that briefly explain the scientific concepts round out the collection.

The Seasons

Lin, Grace, and Ranida T. McKneally. *Our Seasons*. Illus. by Grace Lin. 2006. 32p. Charlesbridge, \$15.95 (1-57091-360-9).

Gr. 1–3. This attractive picture book demystifies seasonal changes with questions and answers and interpretive haiku. Each spread’s poem

and boldfaced question is accompanied by smoothly written paragraphs of explanation. Energetic paintings feature four child characters and add to the appeal.

General Science

Lewis, J. Patrick. *Scien-trickery: Riddles in Science*. Illus. by Frank Remkiewicz. 2004. 32p. Harcourt, \$16 (0-15-216681-5).

Gr. 1–4. What better way to get students hooked on science than through this collection of 18 riddles in verse? Electricity, constellations, matter, and sound are a few of the topics covered in poems set against a colorful background of watercolor-and-pencil illustrations that give clues to the riddles’ answers. Additional notes at the back further explain the scientific concepts.

Perry, Andrea. *Here’s What You Do When You Can’t Find Your Shoe: (Ingenious Inventions for Pesky Problems)*. Illus. by Alan Snow. 2003. 32p. Simon & Schuster/Atheneum, \$16.95 (0-689-83067-X).

Gr. 3–5. Having a science fair? Introducing the scientific method? Read aloud one of the silly poems in this collection and get students thinking about what they might invent. Or, for a nutrition lesson, read “Veggies Be Gone!” and discuss what might happen if we never ate vegetables. Other poems cover spiders, insects, and animals. Playful pen-and-ink illustrations add to the fun.

Scieszka, Jon. *Science Verse*. Illus. by Lane Smith. 2004. 40p. Viking, \$16.99 (0-670-91057-0).

Gr. 3–5. In this companion to *Math Curse* (Viking, 1995), a boy is stricken with a “curse of science verse.” What follows is a series of poetic parodies on scientific topics. Smith’s zany artwork extends the detail and humor. A CD narration

WEB CONNECTIONS

Several authors, including Joyce Sidman, have personal Web sites that offer teaching guides for their works, printable classroom materials, and tips for enlivening science instruction with poetry. For a list of selected author sites, visit the **Book Links Web site at <http://www.ala.org/BookLinks> and click on “Web Connections.”**

packaged with the book includes extra poems.

Shields, Carol Diggory. *Science, Fresh Squeezed! 41 Thirst-for-Knowledge-Quenching Poems*. Illus. by Richard Thompson. 2003. 64p. Handprint, \$14.95 (1-59354-005-1).

Gr. 2–6. Use these short, funny poems to open a science lesson on fossils, volcanoes, the periodic table, or matter. The organization into sections—earth science, life science, chemistry, and physics—makes it quick and easy to find exactly the poem one needs. Thompson’s cartoon-style line drawings perfectly capture the humor.

Spectacular Science: A Book of Poems. Selected by Lee Bennett Hopkins. Illus. by Virginia Halstead. 1999. 40p. Simon & Schuster/Aladdin, paper, \$6.99 (0-689-85120-0).

Gr. 1–4. Hopkins includes two of his own poems along with the work of Valerie Worth, Carl Sandburg, Lillian Moore, and others to describe the science behind snowflakes, stars, magnets, prisms, and rocks. Large, whimsical pastel-and-colored-pencil drawings capture the fun and creativity of science.

Carole Prendergast recently retired from her position as library media specialist at Wesley D. Tisdale School in Ramsey, New Jersey. *Debbi Dunne* is a third-grade teacher at Wesley D. Tisdale School.