EVERYDAY POETRY
by Sylvia M. Vardell

"Doing" Science with Poetry

At first glance it may seem odd to combine science and poetry, but they share one major attribute in common: the importance of keen observation. Poetry offers highly charged words and vivid imagery that tap the essence of a subject using sensory language. Poetry is also accessible to a wide range of ages and reading abilities and can help introduce or reinforce important science concepts. A brief consideration of a handful of poetry books will quickly lead one to discover many poems that connect with the sciences. In fact, there are numerous thematic poetry collections devoted to science-related subjects.

Science-themed poetry books can enhance your teaching of the science standards.

The National Science Education Standards identify seven major areas of science that are critical to the K–12 curriculum. (Visit http://www.nap.edu/readingroom/books/nses/6a.html for more information.) For each of these areas, poems can serve to initiate a topic or enrich and extend it. Below is just a sampling of science-related poetry books arranged by the seven science standard areas. For a complete list of titles mentioned here, turn to "Comprehensive Bibliography" on p.61.

Science as Inquiry

- *BrainJuice: Science, Fresh Squeezed!* by Carol Diggory Shields (Handprint, 2003)
- *Scien-trickery: Riddles in Science* by J. Patrick Lewis (Harcourt, 2004)
- *Spectacular Science: A Book of Poems*, selected by Lee Bennett Hopkins (Simon & Schuster, 1999)

These poetry collections can lay the groundwork for helping children develop their understanding about scientific inquiry. Students will also enjoy Rebecca Kai Dotlich's poetic picture book *What Is Science?* (Holt, 2006), an exploration of the field of science as well as the nature of scientific thinking. Students may enjoy choosing their favorite aspects of science and creating acrostic poems using the letters in the word *science*. Or, challenge their deduction skills by placing objects in a box and inviting them to describe and identify the objects. Then pair them with (or create) corresponding poems.

Physical Science

- *Central Heating: Poems about Fire and Warmth* by Marilyn Singer (Knopf, 2005)
- *Flicker Flash* by Joan Bransfield Graham (Houghton, 1999)
- *Splish Splash* by Joan Bransfield Graham (Houghton, 1994)
- *Winter Lights* by Anna Grossnickle Hines (Greenwillow, 2005)

As we introduce children to physical science and the concepts of motion, matter, energy, atoms, light, heat, electricity, and magnetism, poetry can help pave the way. Read by flashlight when you share Graham's poems in *Flicker Flash*, about the different ways that light appears in our world. Many of the poems in Graham's water-themed collection *Splish Splash* lend themselves to reading aloud with props such as soap bubbles, Christmas tree "icicles," or audio recordings of waterfalls or the ocean surf.

Life Science

- *Butterfly Eyes and Other Secrets of the Meadow* by Joyce Sidman (Houghton, 2006)
- *Hey There, Stink Bug!* by Leslie Bulion (Charlesbridge, 2006)
- *Insectlopedia* by Douglas Florian (Harcourt, 1998)
- *Song of the Water Boatman and Other Pond Poems* by Joyce Sidman (Houghton, 2005)

Life science focuses on the life cycles of organisms and cells, reproduction, heredity and evolution, populations and ecosystems, diversity and adaptations, and the interdependence of organisms and their environments. There are more poetry books in this area of science than any other, by far. The collections listed above introduce readers to creatures of the insect world in particular, through descriptive poems and beautiful illustrations. Bring a bug in a jar (with air holes) for children to study and describe. They

can create thumbprint insect characters or draw pictures to accompany their writing. Contact a local museum of natural history or children's museum to see whether they offer a "loan" program to borrow items (such as rocks, shells, animal skeletons, etc.) to pair and share with poems. Challenge children to use parallel informational books to look up the facts they glean from the poetry. Encourage them to use new facts in poems of their own.

Earth and Space Science

- *The Earth Is Painted Green: A Garden of Poems about Our Planet*, selected by Barbara Brenner (Scholastic, 1994)
- *Shape Me a Rhyme: Nature's Forms in Poetry*, selected by Jane Yolen (Boyds Mills/Wordsong, 2007)
- *Sing of the Earth and Sky: Poems about Our Planet and the Wonders Beyond* by Aileen Fisher (Boyds Mills, 2003)
- *The Sun in Me: Poems about the Planet*, selected by Judith Nicholls (Barefoot, 2003)

The study of Earth and space is an important part of the science curriculum, including an examination of the properties of Earth's structure, energy, geochemical cycles, history, origin and evolution of the universe, the solar system, and changes in Earth and sky. Share the poetry collections listed above during Earth Day celebrations; children can choose favorite poems to copy onto "globe" shapes. Expand a display of favorite "earth poems" to include other poems about planets, stars, and space on shapes arranged strategically around the Earth. Poetry about space and the solar system can be found in Myra Cohn Livingston's *Space Songs* (Holiday, 1988), Seymour Simon's anthology *Star Walk* (Morrow, 1995), and Douglas Florian's *Comets, Stars, the Moon, and Mars: Space Poems and Paintings* (Harcourt, 2007).

Science and Technology

- *Click, Rumble, Roar: Poems about Machines*, selected by Lee Bennett Hopkins (Crowell, 1987)
- *Roll Along: Poems on Wheels*, selected by Myra Cohn Livingston (Simon & Schuster/Margaret K. McElderry, 1993)
- *Zoomrimes: Poems about Things That Go* by Sylvia Cassedy (HarperCollins, 1993)

The study of science also includes developing an understanding of technology, technological design, and distinguishing between natural objects and objects made by humans. A handful of poetry for children explores these concepts, including the older collections listed above, which are available in many libraries. Assemble a collection of toy vehicles, parts, and machines to display along with favorite poem selections.

For a completely different focus, link the poems in Joyce Sidman's *Eureka! Poems about Inventors* (Millbrook, 2002) with the fascinating profiles of accidental inventions in Charlotte Foltz Jones' *Mistakes That Worked* (Doubleday, 1991) and *Accidents May Happen* (Delacorte, 1996), or Judith St. George's humorous informational book *So You Want to Be an Inventor?* (Philomel, 2002).

Science in Personal and Social Perspective

- *Color Me a Rhyme: Nature Poems for Young People* by Jane Yolen (Boyds Mills/Wordsong, 2000)
- *Footprints on the Roof: Poems about the Earth* by Marilyn Singer (Knopf, 2002)
- *Old Elm Speaks: Tree Poems* by Kristine O'Connell George (Clarion, 1998)

The study of science also includes an examination of natural resources, environment quality, personal and community health, population growth, and local, national, and global challenges. Nature and environmental themes are the focus of the poetry collections listed above. After reading a selection of these poems, children can research ecological issues that touch their lives, such as recycling, or participate in clean-up efforts in a local park or roadside (with adult supervision).

History and Nature of Science

- *Behind the Museum Door: Poems to Celebrate the Wonders of Museums*, selected by Lee Bennett Hopkins (Abrams, 2007)
- *Trailblazers: Poems of Exploration* by Bobbi Katz (Greenwillow, 2007)

Finally, the science standards also include a component focused on science as a human endeavor, the nature of scientific knowledge, and science history. In Katz's collection children can seek out poetry about the people of science, such as scientist-astronaut Mae Jemison or oceanographer Sylvia Earle. Children can prepare dramatic readings dressed as the poem's character and research additional facts to learn more about these famous scientists. Alternatively, children could experience a virtual "field trip" through the poems in Hopkins' anthology.

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"Poetry is about feeling, science is about facts. They're nothing to do with each other!" The A-level students in a school I visited last week were passionate on this point. Behind them was Keats, urging them on.Â Maybe the relationship between poetry and science provokes passion because it is parental. Poetry was the first written way we addressed such questions as what is the world made of, and how did it come to be? In the sixth and fifth centuries BC, the pre-socratics reworked these questions, writing on physics, chemistry, geology, astronomy, theology, metaphysics and epistemology; and often in verse. Science was born in poetry.