



CRS

COMMUNITY RESOURCES FOR SCIENCE

practical support for great science teaching

1611 San Pablo Avenue, Suite 10B
Berkeley, California 94702

(510) 527-5212 • www.crs-science.org

Sample Materials

Second Grade Earth Science

Audio Tape/CD

Sing the Science Standards

\$30-35

Science Explosion, Inc.

<http://www.scienceexplosion.com>

Join the "Science Explosion" as they sing over 50 songs written to the Science Standards. This is a great way for students in elementary and middle school to review the most important ideas in science. Over 50 songs are included on this double-CD which also includes lyrics and instrumental versions. Bring the Science Standards to life with "Sing the Science Standards with the Science Explosion." Also has another two disc Volume 2 CD. Songbook available for \$27.50.

Classroom Books

A Handful of Dirt

\$10-15

Amazon.com

<http://www.amazon.com>

ISBN: 0802786987

by Raymond Bial. Readers who take a good look at dirt through Bial's eyes (and his camera lens) will never again look down on this rich, lifeful, life-giving "element." The readable, informative text introduces dirt dwellers from the tiniest protozoans through myriad invertebrates to the mammals and reptiles whose burrows aerate the earth, all depicted in large, sharp, full-color photos. The author includes basic instructions for setting up a home compost heap, and urges his audience to feel the same rever

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Drylongso

Amazon.com

<http://www.amazon.com>

ISBN 0152015876

by Virginia Hamilton; Illustrated by Jerry Pinkey

This strikingly illustrated book takes a powerful look at what happens when rivers dry up. An unknown boy blows into a village with a severe dust storm, and tells the villagers his name is Drylongso. He tells them that he was born in a time of great drought, but that his mother told him wherever he goes "life will grow better." Drylongso has special information about drought cycles, agriculture, and ways to survive; he carries a "dowser," or divining rod

\$10-15

Alameda Co. Library
Call # J Hamilton.
Berkeley Public
Library Call # Fiction
Hamilton, J Oakland
Public Library Call #
juvenile fiction
Hamilton

Earth Science for Every Kid: 101 Easy Experiments That Really Work

Amazon.com

<http://www.amazon.com>

by Janice VanCleave. Intended for children in grades K to 6, it contains 101 thoroughly tested and safe experiments relating to earth science. Each experiment has a clear purpose, list of materials and step-by-step illustrated instructions. In addition, without giving too much away, it provides hints as to what may be expected from a given experiment and offers a full explanation of the outcome in understandable terms. Most materials necessary for the experiments are readily available around the house.

\$10-15

Also available in
libraries.

Let's Go Rock Collecting

Amazon.com

http://www.amazon.com/Collecting-LetS-Read---Find-Out-Science-Stage/dp/0064451704/ref=sr_1

ISBN: 0064451704

By Roma Gans (Author), Holly Keller (Illustrator). More than just the title has been changed in this updated edition of Gans's Rock Collecting (Crowell, 1984). The topics are the same: basic rock formation; the characteristics of igneous, metamorphic, and sedimentary rocks; the uses of rocks in the past (Roman roads, Egyptian pyramids) and the present (cement); and, finally, a bit about rock collecting. The excellent diagrams, full-color photographs of specimens, and minor textual changes clarify the concepts (for example, Mohs' scale of hardness) and extend the presentation. Gans barely introduces collecting rocks in the field and organizing and storing them, but the pair of youngsters featured in Keller's brightly colored illustrations certainly convey the joys of being a rock hound.

\$5-6

Life in a Bucket of Soil

Acorn Naturalists

<http://www.acornnaturalists.com/store/LIFE-IN-A-BUCKET-OF-SOIL-P2116C0.aspx>

#B-9164.

Silverstein. Healthy soils swarm with countless numbers of creatures, most of whom live and die just beneath the earth's surface. In a simple bucket of soil you can find tunnel-building earthworms, threadlike roundworms, snails, slugs, isopods, centipedes, beetles, spiders, ants, and countless numbers of smaller organisms. Illustrated with over 70 drawings, this fact-filled book will appeal to teachers and their students, young naturalists, biologists, and insect enthusiasts.

\$5-6

Los Fosiles Nos Hablan Del Pasado

Amazon.com

<http://www.amazon.com>

ISBN: 8426127592

By Aiki. Hardcover. Explains how fossils are formed and what they tell us about the past. Make sure to request the Spanish version. Colorful, eye-catching illustrations and simple text introduce children to the exciting world of fossils. How they were formed, what they tell us about the past, and where they can be found are some of the topics explored in this captivating book.

\$10-15

Podria Ser Una Roca (It Could Still Be a Rock)	\$20-25
Amazon.com	
<i>http://www.amazon.com</i>	
Rock identification	
Sand	\$15-20
Amazon.com	
<i>http://www.amazon.com</i>	
ISBN: 0792271041	
by Prager, Ellen J. Engaging hardcover picture books on introductory science topics. Combines important scientific information with colorful, kid-friendly illustrations. Each book includes a do-it-yourself experiment with easy-to-follow, illustrated steps. Imaginative subject presentation will captivate 4- to 8-year-olds and make them eager to learn more. Reviewed by early education consultants for age-appropriate vocabulary, concepts, and relevance to K-2 science curriculum. Hardcover, special order.	
Simon Underground	FREE
Oakland Public Library	
<i>http://www.oaklandlibrary.org</i>	
Juvenile Fiction Ryder	
by Joanna Ryder. Out of print, available at OPL only. HarperCollins Children's Books. As the winter approaches, Simon the mole begins digging under the ground to build the tunnels where he will live throughout the cold months. There he eats and sleeps, safe in his home. Only as spring approaches does Simon emerge from his underground burrow.	
Simple Earth Science Experiments with Everyday Materials	\$5-6
Amazon.com	
<i>http://www.amazon.com</i>	
by Louis V. Loeschig. Although the presentations do not reflect true scientific methodology and analysis, the material is well organized, with each activity divided into sections: "You need," "What to do," "What happens," and "Why." A wealth of activities and demonstrations, with many classic classroom ones, are presented, touching on everything from earthquakes and glaciers to time, soil, gravity, and conservation. The headings for chapters and activities are appealing (though not particularly informative	
The Living Earth	\$6-7
Amazon.com	
<i>http://www.amazon.com</i>	
ISBN: 0735813159	
By Eleonore Schmid. Schmid continues her nature series by considering the ecology of Earth. She concentrates on the importance of topsoil and describes the complex interactions of plants and animals that maintain this resource's viability. In her discussion of the impact of humans on the Earth, she crosses the scientific with the social. The author notes that some farmers carefully plant their crops to restore the earth but faults large-scale agricultural use of artificial fertilizers and other practices for reducing the land's natural productivity. She also warns against squandering resources such as coal and oil. As in Air and Water, softly colored, double-page spreads of panoramic views and poetic language emphasize the wonder and beauty of the natural world.	

What Happened to the Dinosaurs

\$5-6

Amazon.com

<http://www.amazon.com/Happened-Dinosaurs-Lets-Read---Find-Out-Science/dp/0064451054/ref=ISBN: 0064451054>

By Franklyn M. Branley (Author), Marc Simont (Illustrator) The newest Let's-Read-and-Find-Out Book demonstrates the strengths of this dependable series: an understandable question and clear exposition of the answers that never fail to help readers to think like scientists throughout. Series originator Branley carefully lays out a number of scientific theories that answer the question posed in the title, giving the most space to theories developed after the discovery of large amounts of soot and iridium in rock layers. Simont's well-placed drawings and watercolors carefully amplify and expand the text.

Computer Software

Sidewalk Science: Dirt

\$35-40

Tom Snyder Productions

<http://www.tomsnyder.com>

Dirt: Explorations in Earth Science features six neighborhood kids -- Ben, Kevin, Kate, Lee, Nora, and Susan -- and their pets. The action in Dirt centers around the neighborhood park and the "sidewalk scientists" efforts to improve it. In the process, the friends get hands-on experience with dirt -- by digging in it, examining its properties, using it for planting, building, painting and sculpting, by watching natural forces move it and by trying to clean it up.

Kits & Modules

4Rs Teaching Kit

FREE

StopWaste.org

<http://www.stopwaste.org>

Kit includes "Kids Talkin' Trash" and "Do the Rot Thing" videos; Reduce, Reuse, Recycle, Rot: pictograms/ discussion guide; A Teacher's Guide to Compost Activities: "Do the Rot Thing"; Poster - Classroom compost poster; "Teaching Waste Reduction Through Children's Literature" : a review of 67 children's books for their links to waste reduction messages.

Complete Soil Test Kit

\$50-60

Acorn Naturalists

<http://www.acornnaturalists.com/store/COMPLETE-SOIL-TEST-KIT-P2096C0.aspx#TEST-6390>

Includes all materials needed for rapid, accurate testing of soils, including laminated color charts to measure concentrations of nitrogen, phosphorous, potassium (15 tests each) and soil pH (30 tests). Garden guide and the LaMotte Soil Handbook are also included to help you interpret results. This kit offers accuracy, speed, and ease of use.

Geology

\$15-20

California Academy of Sciences

<http://www.calacademy.org/teachers/erk.php>

Explore the physical properties of rocks, minerals, and sand through hands-on observation and investigation. Discover the difference between igneous, metamorphic, and sedimentary rocks, learn about the rock cycle, and trace the mineral resources used to manufacture objects that you use every day. While appropriate for grades 2 - 5, this kit emphasizes 4th grade science content standards.

Lending Fee: \$20 - Loan period: 3 weeks

Kit Reservations: Advance reservation required. Call (877) 227-3311

Introduction to Soil Science Kit

\$25-30

Acorn Naturalists

<http://www.acornnaturalists.com/store/INTRODUCTION-TO-SOIL-SCIENCE-KIT--P6087C0.aspx#KIT-9517>.

Investigate how healthy plants respond to different soil textures, soil pH, and nutrient concentrations. Investigators plant seeds, perform soil tests, record growth, and learn proper plant care. Includes supplemental activities, games, recipes, and internet links. Perfect introduction to botany and soil science for students ages 8-13.

Science in a Nutshell® Soil Studies

\$35-40

Delta Education

<http://www.delta-education.com/750-2802>

Examine different types of soil and determine their composition and properties. Investigate weathering, the causes of erosion, and learn how to prevent it.

Soil Texture Test Kit

\$60-70

Acorn Naturalists

<http://www.acornnaturalists.com/store/SOIL-TEXTURE-TEST-KIT-P2113C0.aspx#TEST-4185>.

SOIL TEXTURE TEST KIT. Most books on gardening or soil science discuss plant needs in terms of sand, silt and clay content. Now there is a way that you can determine what kind of soil you have or prepare special soil mixes for plant experiments that require various soil types. This kit separates soil samples into sand, silt and clay fractions using dispersing and flocculating reagents in calibrated conical tubes. Kit includes all necessary reagents, clear plastic test tube holder and a booklet containing complete instructions. Approximately 40 tests.

Posters/Pictures/Slides

Sandy Beach Slide Set (MARE)

\$35-40

Lawrence Hall of Science

lawrencehallofscience.org

MAR115SLIDES

Enjoy breathtaking views of nature with these fabulous slide presentations, each accompanied by an easy-to-follow script. These tools will enhance any demonstration or presentation, and are a great companion set to our various guides. Format: Each is a 20 slide set packaged in an archival plastic jacket with a corresponding script (carousel not included).

Specimen

Fossil Kit \$8-9
Carolina Biological
<http://www.carolina.com>
GEO8406
Fascinate your students with the study of fossils. Kit includes 21 plastic reproduction fossils that students measure, identify, and classify according to geologic era of origin. Includes a teacher's guide.

How Soils Are Formed Set \$25-30
Carolina Biological
<http://www.carolina.com>

Item # GEO750 -- Contains 15 primary rocks, soil samples, and derivatives of primary rocks. Effects of weathering and differences in soil particle sizes are shown. Specimens are about 1 1/2" x 1 1/2" and are number coded and keyed to a list on the inside cover of the compartmented container.

Introduction to Rocks Study Kit \$10-15
Carolina Biological
<http://www.carolina.com>

Item # GEO111 A great kit for studying the basic rock types. Includes 5 each of igneous, sedimentary, and metamorphic rocks; an activity guide; and a magnifying glass.

Rock Cycle - Past Life (2B) \$5-6
Math Science Nucleus
<http://www.ms-nucleus.org>
RC-PL2B
Learn how fossils are made and discover the components of a fossiliferous rock. Module includes 8 bags of one abalone, 3 types of marine snails, clam, scallop and one labeled bag with 8 pieces mudstone with fossils.

Teacher Guide/Reference/Curriculum

DIG IN! \$20-25
Acorn Naturalists
<http://www.acornnaturalists.com/store/DIG-IN-Hands-On-Soil-Investigations-P2102C0.aspx#B-10064>.
Hands-On Soil Investigations. Natural Resources Conservation Service. This activity book will have kids in grades K-4 up to their elbows in the study of soil formation, habitats, soil animals, land use and soil conservation. Includes teacher-tested lesson plans, assessment methods and suggestions for further study. Integrates science with art, geography, language arts, math and social studies. Perfect introduction to soil study for young children who usually need little encouragement to go play in the soil.

Discover Fossils Study Guide \$30-35
Delta Education
<http://www.delta-education.com/>
201-3406
Encourages students to look at fossils as records of all the plants and animals that have ever lived and reviews behavior patterns of the earliest creatures. Covers fossil identification and collection in detail.

Fossils, Rocks, and Time	FREE
USGS Distribution Center	
<i>http://www.usgs.gov/pubprod/94-0054</i>	
This 24-page booklet explains the basics of how fossils are used in establishing time sequence in geology. Topics include: Putting Events in Order, The Relative Time Scale, Rocks and Layers, Fossils and Rocks, Fossil Succession, the Numeric Time Schale, and Further Reading. Online resources at http://pubs.usgs.gov/gip/fossils/contents.html	
GEMS Terrarium Habitats	\$10-15
Lawrence Hall of Science	
<i>lawrencehallofscience.org</i> 0-924886-51-X	
K-6. Five activities, 92 pages. These life science activities bring the natural world into your classroom and deepen children's understanding of and connection to all living things. Students investigate soil, design, and populate terrariums, and observe and record changes over time.	
GrowLab: Activities for Growing Minds	\$20-25
National Gardening Association	
<i>http://www.garden.org</i> #10-4008	
This K-8 curriculum will bring plant-based inquiry to life by helping you spark students' curiosity about plants and engage them in thinking and acting like scientists, whether you're growing on a windowsill, in a greenhouse or in one of our GrowLab Indoor Gardens. Concepts Covered: Beginning with Seeds, Basic Needs, The Soil Connection, Transport and Support, Plants as Food Makers, Plants from Seeds and Parts, Adaptations, Diversity, Interdependence, and Human Impact on the Global Garden. Subjects from language arts to drama are woven into investigations. Includes reproducible record-keeping sheets and assessment sheets.	
Rocks and Soil Thematic Unit	\$6-7
Amazon.com	
<i>http://www.amazon.com/Rocks-Soil-Thematic-Unit-Units/dp/1557342652/ref=sr_1_1?s=books&ie=</i>	
By Janet Hale. Rocks & Soil provides lesson plans and cross-curricular activities based on the following pieces of literature: How to Dig a Hole to the Other Side of the World, The Magic School Bus™ Inside the Earth. This reproducible resource is filled with ready-to-use lessons and cross-curricular activities. Also included are management ideas, creative suggestions for the classroom, and a bibliography.	
Sing the Science Standards Songbook	\$25-30
Science Explosion, Inc.	
<i>http://www.scienceexplosion.com</i>	
Join the "Science Explosion" as they sing over 50 songs written to the Science Standards. This is a great way for students in elementary and middle school to review the most important ideas in science. Songbook includes lyrics for the over 50 songs on the double-CD. Bring the Science Standards to life with "Sing the Science Standards with the Science Explosion."	
Teacher's Guide to the Sandy Beach (MARE)	\$60-70
Lawrence Hall of Science	
<i>lawrencehallofscience.org</i> MAR115	

Visit the hidden world of the sandy beach without leaving your classroom. This guide contains 16 hands-on activities covering earth, physical, biological and environmental sciences. See the MARE Teacher's Guide to the Rocky Seashore description for information on what additional resources are included in this guide.

Tools/Equipment

Dinosaur Globe

\$3-4

Math Science Nucleus

<http://www.ms-nucleus.org>

MSN-022

Vinyl inflatable globe that shows where the bones of specific dinosaurs are found. Helps show students that dinosaurs, like animals today, lived in different parts of the globe.

Fossil Rubbing Plates

\$10-15

Acorn Naturalists

<http://www.acornnaturalists.com/store/FOSSIL-RUBBING-PLATES-P973C0.aspx>

KIT-10218

FOSSIL RUBBING PLATES (includes fish, ammonite, trilobite, crinoid, bird, plant, amphibian and Allosaurus). Rubbing plates offer a creative way for children to learn about science and nature while having fun. To make artistic rubbings, simply lay a sheet of paper over the top and rub with colored pencils. Includes with directions and ideas for expanding this art form into many creative projects and lessons. These rubbing plates measure 7" x 7". Hours of creative hands-on learning fun for children ages 5-12

Video

Bill Nye: Fossils

\$35-40

Disney Education Products

<http://www.edustation.disney.com>

68E32VL00

Discover the relationship between dinosaurs and birds, and find out that rhinoceroses once lived in Nebraska. Bill also tracks down dinosaur footprints with paleontologist Gracy Irby and travels to the La Brea Tar Pits to see what's underneath all that tar.

Can borrow from the Alameda County Office of Education, some titles available at public libraries. Berkeley school teachers can borrow from the Central Media Library at Berkeley High School.

Bill Nye: Insects DVD

\$45-50

Disney Education Products

<http://www.edustation.disney.com>

77A13VL00

In "Insects," Bill talks to special guest Queen Latifah, who's abuzz about her other favorite queens--bees. The lab kids go exploring at an insectorium and go digging for insect fossils. In addition to the complete 26-minute episode of "Insects," this disk is loaded with incredible DVD features like:

*Fully indexed "chapters" correlated to National Science Standards.

*Interactive glossaries and quizzes.

*Bonus footage of never-before-seen segments, interviews, and demos.

*Spanish translation