

EARTH ACTION EDUCATION: TEACHER TOOL KIT



The Teacher Tool Kit compiled by Earth Works Institute guides teachers in finding resources and curriculum materials to support environmental and outdoor education in New Mexico. For more information on Earth Works Institute's Earth Action Education programs, please call 505-982-9806

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Much of the following curriculum is from EcoWISER, www.ecowiser.org
An environmental education resources site for New Mexico created by River Source (www.riversource.net).



WATERSHED AND WATER RELATED CURRICULUM ONLINE

Aquatic Wildlife Coloring Book – New Mexico Game & Fish:

(K-4): This coloring book has great illustrations of New Mexico aquatic wildlife such as fish and birds with an information blurb on the species and a map of its range.

<http://www.wildlife.state.nm.us/publications/documents/coloringbook/aquatic.pdf>

Bosque Guides - Sandia Mountain Natural History Center (written for grades 3-8, can be adapted for K-adult):

Changing River: In a directed class activity, students build a model of a section of the Rio Grande Valley (or can be adapted for a river near you) how it was before major human intervention, and then manipulate it to demonstrate today's river. Students will contrast the differences between managing the river for only human benefits and managing the river with broader objectives including ecosystem health and human needs.

http://www.nmnaturalhistory.org/BEG/ActivityPages/4_CR_pgs163-189.pdf

Bosque Search Bingo (Grades 3-8):

Students will discover and observe components of the bosque by taking a discovery walk in the bosque. Bosque Search Bingo cards to help focus the walk.

http://www.nmnaturalhistory.org/BEG/ActivityPages/3_BSB_pgs75-79.pdf

Reading the Bosque (Grades 3-8):

Students interpret the bosque on a field trip using individual informational clue cards. The clue cards give them things to look for (such as animal tracks, man-made structures, certain types of trees, etc.) and what each of these things tells us.

http://www.nmnaturalhistory.org/BEG/ActivityPages/3_RTB_pgs137-146.pdf

Project WET Resources:

This page offers water education resources for teachers for sale that complement the Project WET curriculum. These include colorful activity kits, "Healthy Water, Healthy People" packets which seek to make complex information about water quality easy to understand, Project WET kits that provide all the materials for Project WET activities, and the "Discover a Watershed" series.

<http://www.projectwet.org/publications.htm>

Who Grows Where? (Grades 3-8):

Students place plants into the proper habitat on the bosque model. As the model changes with human alteration, students add exotic plants and change the location of other plants based on changes in the habitat.

http://www.nmnaturalhistory.org/BEG/ActivityPages/4_WGW_pgs240-255.pdf

Who Lives Where? (Grades 3-8):

Students place animals into the proper habitat on the bosque model and then change the model with human alteration to see which animals thrive and which do not.

http://www.nmnaturalhistory.org/BEG/ActivityPages/4_WLW_pgs198-233.pdf



OUTDOOR CLASSROOM RESOURCES

The following resources support on-site, outdoor education programs. Some of the resources are specific to New Mexico, while others are national resources.

Composting and Double Digging:

This page, part of Priscilla Logan's Outdoor Classroom site, gives simple instructions on how to double dig and compost with classes.

<http://outdoorclassroom.org/double.htm>

Composting Resource Site:

This site offers great instructions on composting.

<http://www.compostguide.com/>

Compost This!:

This UK site lets you know what you can and can't compost (note: aubergine means eggplant).

<http://www.compostthis.co.uk/>

Cylinder Gardens:

This page gives instructions on how to plant small "bucket" gardens with kids to grow food, etc.

<http://aggie-horticulture.tamu.edu/kindergarden/Child/school/cylind.htm>

Planting Guide:

This guide indicates which season some common vegetables and flowers should be planted (it is not a list of plants native to New Mexico).

<http://aggie-horticulture.tamu.edu/kindergarden/Child/school/plantg.htm>

Project WILD:

Exploring School Nature Areas is a video available from Project WILD. This video helps bridge the gap between the classroom and the outdoors, enabling students to apply lessons learned inside to the world outside. With it, you can watch schools create their own nature areas and see how science, social studies, math, arts and other subjects are reinforced in school nature areas. Video:

<http://www.projectwild.org/WILDSchoolSites.htm>

School Garden Wizard:

This site allows teachers to browse frequently asked questions and to ask their own questions about school garden sites.

<http://www.schoolgardenwizard.org/>

Step by Step Guide for Starting a School Garden:

This page describes the steps to start your own school garden, as well as phone numbers for teachers to call for assistance.

<http://aggie-horticulture.tamu.edu/kindergarden/Child/school/step.htm>



In-Class and School Site Presenters

Many groups in Santa Fe and surrounding areas work directly with teachers and students, offering in-class or outdoor education guidance. This is just a sampling of the many groups offering in-class presenters and field trip opportunities – please see www.ecowiser.org for more options. Also note - many of these presentations are free, but some have associated fees – check with each group to verify.

Aquatic Education Resources Program – New Mexico Game & Fish (K-Adult):

The Aquatic Resources Education Programs (ARE) include the Fisheries Monitoring Program, aka Watershed Watch and the Fishing Skills Program. Both programs are sponsored by NM Department of Game and Fish through contractor services and Department staff. Watershed Watch provides high school teachers and students with opportunities to monitor streams in their watershed throughout the school year. Fishing Skills offers a variety of angling education programs and events for both K-12 and communities in NM. Classroom sessions provide broad watershed and aquatic ecosystem educational presentations. Field sessions offer opportunities for experiential learning. Community events include annual June Free Fishing Day, community and kids' fishing clinics, aquatic day at State Fair, pond studies and statewide childrens' water festival presentations. For more information, contact Colleen Welch at Colleen.welch@state.nm.us or call 505-476-8119.

Birds of Prey Program – Hawks Aloft (K-Adult):

This single visit program is designed to teach students of all ages about a variety of life science topics using two live, permanently disabled raptors and hands-on activities. Possible topics include, but are not limited to: environmental conservation, bird identification, migration, raptor adaptations, ecosystems and habitats, food webs. Grant funding is often available for this program within the Albuquerque metro area (but not for Santa Fe – costs are around \$225). For more information, email education@hawksaloft.org or call 505 828-9455.

Building with Alternative Materials – Santa Fe Children's Museum (K-6):

Use adobe, hay and recycled materials to build simple structures, and learn about energy efficiency, sustainability and the variety of building materials used around the world! For more information, email earthworks@santafechildrensmuseum.org or call 505-989-8359.

Clean Water Partners – River Source (9-12):

This free program is offered to high school students by River Source. The program consists of in-class education on water policy followed by a “Students for a Secure Water Future” day at the Santa Fe legislature, where students engage decision-makers in questions and conversation related to water policy. Students often then participate in activities such as letter writing, hands-on water-related projects at their schools, or researching and presenting water policy information to a community group or decision maker. For more information contact River Source at eliza@riversource.net, or call (505) 660-7928 or 660-9221.

Down and Dirty Soil Science – Santa Fe Children's Museum (3-6):

Preparing the soil for your garden is the first step in growing healthy, thriving plants. Learn about drainage and water retention, compost, humus and nutrients in the soil. Find out which plants grow best in certain types of soil. Experiment with soil samples and bring back the knowledge you've gained to your school garden. This program also involves a curriculum guide. For more information, email earthworks@santafechildrensmuseum.org or call 505-989-8359.



Living with the Landscape – Hawks Aloft (3-8):

Living with the Landscape (LWL) is a grant-funded, multi-visit program offered by Hawks Aloft to schools throughout New Mexico. The focus of the program is ecology and conservation education using live, permanently disabled raptors and hands-on activities to teach concepts such as animal and plant adaptations to their environments, ecosystems and habitats, food chains and human roles within ecosystems. During this program students take field trips to local natural areas, often with Hawks Aloft's partner organizations, and complete a conservation project, determined by the classroom with the help of Hawks Aloft educators. Past projects have included: habitat restoration, schoolyard habitat creation, endangered species releases, litter cleanups and school water conservation campaigns. For more information, [email education@hawksaloft.org](mailto:education@hawksaloft.org) or call 505 828-9455.

Plant and Botany Resources – Plants of the Southwest:

Plants of the Southwest in Santa Fe and Albuquerque offers field trips and in-class presentations. Topics include plants, botany, flowers, etc. They can also assist in school gardens. Please call 505-438-8888 for more information.

Water Quality Presentations - New Mexico Environment Department (NMED):

NMED can provide classroom presentations with models on river morphology, non-point source pollution and ground water. For more information, [email Jill Turner at NMED at jill.turner@state.nm.us](mailto:jill.turner@state.nm.us) or call NMED at 800-219-6157.

Worms! – Santa Fe Children's Museum (K-6):

Dig, observe, experiment and discover the benefits of having an abundance of worms in your garden. This program is designed to enhance or create momentum for your school gardening projects. Each class will bring worms back to its school to continue observing how worms affect soil and compost. A curriculum guide is also available. For more information, [email earthworks@santafechildrensmuseum.org](mailto:earthworks@santafechildrensmuseum.org) or call 505-989-8359.

General Environmental Education Websites

There is a wealth of useful, creative and fun environmental education websites. Here are some recommendations from the Environmental Education Association of New Mexico, EcoWISER, and others.

EcoWISER New Mexico:

Be wise, and visit EcoWISER! This site offers New Mexico-specific resources for teachers that include lists of organizations that offer resources such as in-class presenters and field trips for students, as well as links to curriculum and teacher training activities. www.ecowiser.org

ENature.com

Is the only time you feel connected to nature during a Jeep commercial? Then perhaps it's time to escape the concrete jungle, or at least visit ENature.com during your lunch break while playing a nature sounds CD. This handsome site is brought to you by the publisher of the National Audubon Society Field Guides. ENature.com helps you identify over 5000 species of plants and animals by listing them in a searchable field guide. Learn all about habitats from Wetlands to Deserts. There are even local guides that list birds, reptiles, amphibians, and mammals in your area.

<http://www.enature.com/home/>



Environmental Education Association of New Mexico

Ample information on professional development, environmental education resources and links to great sites.

www.eeanm.org/

ERIC:

Clearinghouse for Science, Mathematics, and Environmental Education. Our goal is to provide access to the best information available for teaching and learning about science, mathematics, and the environment. <http://www.ericse.org/>

Kids Planet

Species fact sheets, "wild games", web of life, how kids can help defend the environment, even a Wildlife Adoption Center. <http://www.kidsplanet.org/>

EcoKids:

EcoKids is Earth Day Canada's environmental education program for youth who care about the planet. It offers interactive, fun, educational games and activities that utilize participants' willingness to learn. Children are encouraged to form their own opinions, make decisions, get involved and understand the impact their own actions have on the environment. <http://www.ecokidsonline.com/pub/index.cfm/>

Kids Regen:

Kids Regen is a place for children to interact with other kids, play, and have fun while learning the important connections between healthy soil/environment, healthy food, and healthy people. Kidsregen.org is part of The Rodale Institute's Youth Educational Program. <http://www.rodaleinstitute.org/>

The Green Squad:

This NRDC website shows how to identify and solve environmental problems. Explore a colorful virtual school room by room, and use the mouse to locate potential hazards. Site offers a wide range of fact sheets and environmental resources. http://www.nrdc.org/greensquad/intro/intro_1.asp

The Big Blue Bus:

The Big Blue Bus is a fun way for kids to learn about protecting the world's water sources. Kids ages 8 to 16 can sign up as Water Wizards, with a Small Fry Club for kids under 7. Cartoon characters introduce games and activities while teaching about "all things watery." This site is put out by the Government of Canada. http://www.dfo-mpo.gc.ca/canwaters-eauxcan/bbb-lgb/index_e.asp

Global Warming Kids Site:

This EPA site explains what global warming is and what causes it, and what you can do to help stop it. Educational but not overwhelming, the site provides definitions of each scientific term used and features simple global warming-themed games. <http://epa.gov/climatechange/kids/index.html>

Kids Go Wild:

Wild news, wild animal facts, environmental games. KidsGoWild.com also gives kids the chance to get involved in con



-servation by joining Conservation Kids, where you learn about saving wild animals and the environment! Sponsored by The Wildlife Conservation Society, headquartered at the world famous Bronx Zoo. <http://www.kidsgowild.com/>

Nature Challenge for Kids:

This David Suzuki Foundation website starts out with ten simple ways you can protect nature, followed by four challenge activities that offer first-hand experience with the natural world. The “Cool Links” page connects with other environmental websites. <http://www.davidsuzuki.org/kids/>

Recycle City:

You can create your own Recycle City scavenger hunt or go to the Activities area and see other ways you can explore Recycle City. A great way for kids to learn the basics of recycling. <http://www.epa.gov/recyclecity/mainmap.htm>

Roots & Shoots:

This program is about making positive change happen—for our communities, for animals and for the environment. And it all starts with you! With tens of thousands of young people in almost 100 countries, the Roots & Shoots network branches out across the globe, connecting youth of all ages who share a common desire to help make our world a better place. This powerful, youth-driven network fosters a fun, flexible and supportive environment where young people and adults alike come together to share ideas and inspiration, implement successful community service projects and participate in special events and global campaigns. <http://www.rootsandshoots.org/>

Tunza:

This U.N. Environment Programme magazine for young people focuses each month on a specific topic related to sustainable living. Read articles written by and for teens around the world.

Environmental Education for Kids - EEK!, an online magazine for grades four to eight, contains articles and activities about animals, plants and environmental issues. <http://www.unep.org/Tunza/>

EPA Student Center:

Offers information on a wide range of environmental issues. This site includes a section on environmental careers. Or, click on "Fun Activities" to play environmental games. <http://www.dnr.state.wi.us/org/caer/ce/eeek/index.htm>

Dr. E's Energy Lab:

A monkey named Dr. E will teach you about renewable energy and energy efficiency at this U.S. Department of Energy site. Dr. E offers up online resources for everything from alternative fuels to solar energy.

Field Trip Earth - Travel the world via interviews, discussion groups, field reports, essays, slide shows and educator resources. Start on the "Choose a Field Trip" page, and use the airplane cursor to select a wildlife conservation project you'd like to visit. <http://www.eere.energy.gov/kids/>

Field Trip Earth:

Travel the world via interviews, discussion groups, field reports, essays, slide shows and educator resources. Start on the “Choose a Field Trip” page, and use the airplane cursor to select a wildlife conservation project you'd like to visit.

<http://www.fieldtripearth.org/index.xml>



Children of the Earth:

Promotes a greater understanding and respect for animals, plants, water, soil, air and energy systems. Helps children comprehend the positive and negative environmental effects of our actions. <http://www.childrenoftheearth.org/>

Flying WILD:

A bird education offering for middle schools giving students the opportunity to learn through researching, planning, and hosting a school bird festival. Flying WILD is an initiative of the Council for Environmental Education (CEE) Project WILD program. <http://www.flyingwild.org/>

Treetures:

The “Treetures” are tiny guardians of the forest who teach about trees and how important they are to the environment. Try out tree-themed activities, listen to the Treeture theme song, or send a TreeMail message to your favorite character. <http://www.treetures.com/>

Web Rangers:

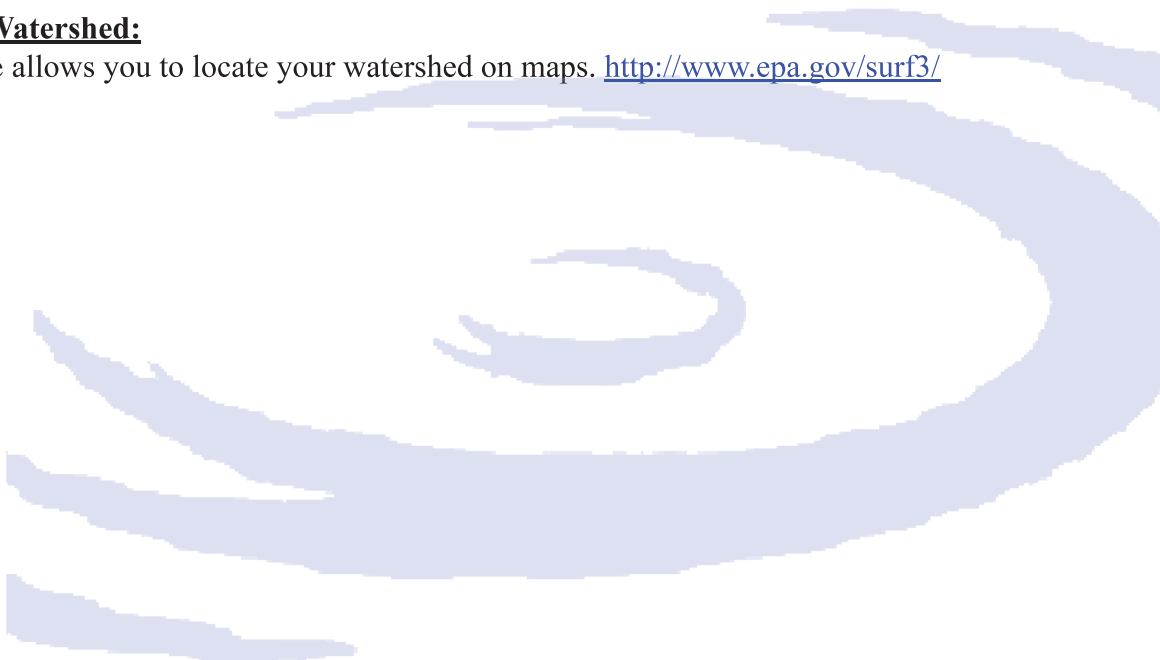
This is the National Park Service’s site for kids of all ages. Activities are presented for three age groups (6+, 10+, 13+) in categories Adventure, Exploration and Discovery. Challenges, puzzles, games and activities designed to educate children about nature and stewardship. <http://www.nps.gov/webrangers/index.html>

Earth Matters 4 Kids:

Earth Matters correlates science with basic environmental principles, helping teachers, students (K-6) and community members gain a full understanding of how science works in natural surroundings, by bringing a virtual natural world into the classroom. <http://www.earthmatters4kids.org/main.html>

Surf Your Watershed:

This website allows you to locate your watershed on maps. <http://www.epa.gov/surf3/>





POTENTIAL FUNDING RESOURCES

Sites that Compile Grant Opportunities:

Environmental Education Association of New Mexico:

This page lists potential grants for teachers to implement environmental education.

<http://www.eeanm.org/grants.htm>

The Environmental Protection Agency:

The Environmental Protection Agency has a site that links to federal and non-federal funding sources for your projects and ideas, at <http://www.epa.gov/teachers/grants.htm>. A direct link to their own Environmental Education grants program is <http://www.epa.gov/enviroed/grants.html>.

GRANTS.GOV:

GRANTS.GOV provides searchable federal grant information at <http://grants.gov>.

The North American Association for Environmental Education:

The North American Association for Environmental Education site has a list of grant opportunities for teachers, students and organizations. Check it out at <http://eelink.net/pages/EE-Link+Introduction>

Teachers Network:

Teachers Network offers a list of teaching awards and grants for science education at http://www.teachersnetwork.org/Grants/grants_science.htm.

Foundations: This list includes foundations that often fund environmental education and related activities in New Mexico.

BP's A+ for Energy Grants:

BP, "Beyond Petroleum" offers grants for programs to teach students about energy and energy conservation. For an article on the grants, go to <http://www.allbusiness.com/retail-trade/food-stores/4490736-1.html>. To access BP's site about this grant, see <http://www.aplusforenergy.net/AplusNet/>.

Lowe's Toolbox for Education Grants:

Lowe's offers teacher grants for projects such as reading gardens, vegetable gardens, walking trails, a parent involvement center, or art space. See <http://www.toolboxforeducation.com/> for more information.

Target:

Target provides education grants, including their fieldtrip grants. They have info online at <http://sites.target.com/site/en/company/page.jsp?contentId=WCOMP04-031763>.

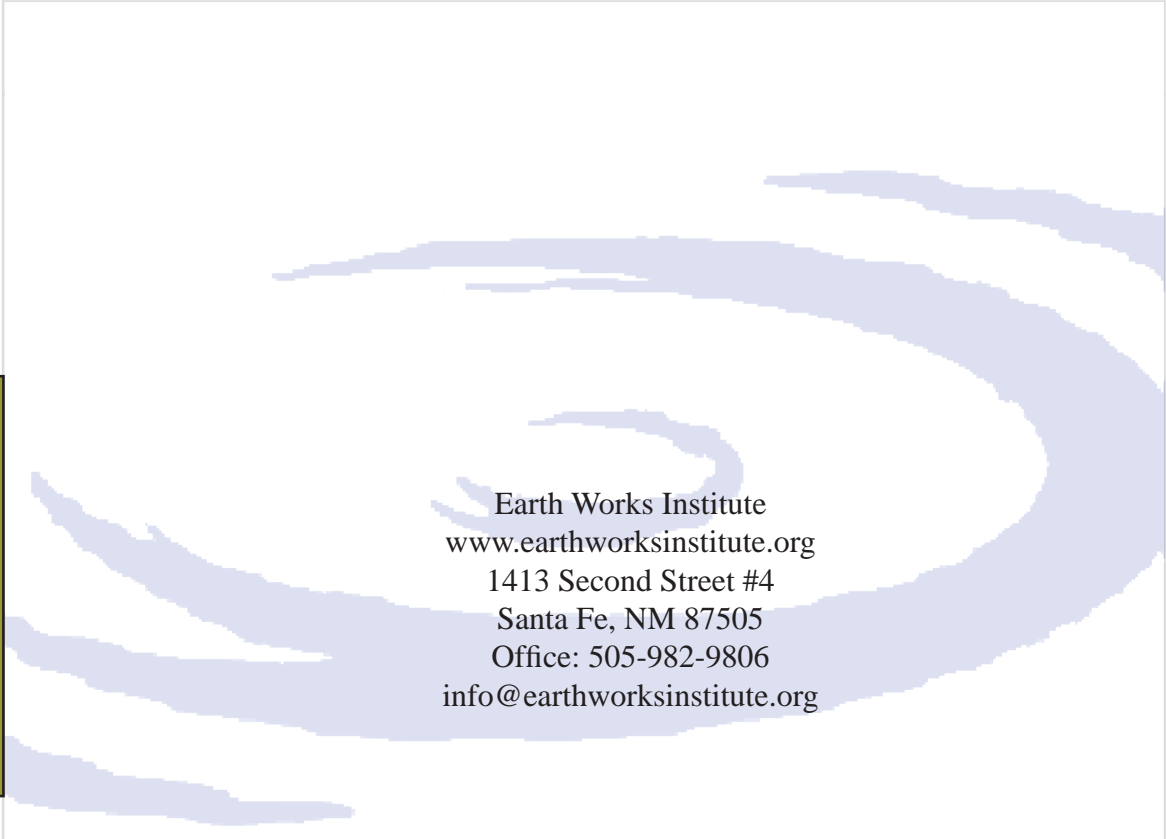
Let your walks now be a little more adventurous!

– *Henry David Thoreau*

ABOUT EARTH WORKS INSTITUTE

Earth Works Institute (EWI) is a non-profit environmental services organization that fosters EcoWise Communities. EcoWise communities actively address the causes and impacts of climate change and natural resource degradation to promote healthy ecosystems and healthy communities.

It is EWI's mission to help communities build capacity to restore, protect, and live in harmony with their natural environment. We implement this mission through an integrated approach: bringing together education community-driven land stewardship, watershed restoration, land-use planning and policy work and a climate change conservation corps.



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