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The Planet Protectors Teacher's Study Guide

We hope that you and your students will enjoy our show *The Planet Protectors*. Our goal is to present, in an enjoyable way, information about the world and its fragile environment, and ways that we all can help protect it. Fears about the environment can be overwhelming for young children. One of the best cures is involvement and positive action. By giving students things that they actually can do to help, we are empowering them, letting them know that they really can make a difference, and that by their actions the world can be made a better place.

There is much debate, even among scientists, about how the environment works and its many interactions and variables. In such a short time, only a few of the most basic concepts can be presented. While the show and study guide present some very concrete things that kids and adults can do, the main purpose is to spark enough interest in your students so that they will want to learn more. We hope that after we leave your school children will continue thinking, talking and reading about ways they can help the planet.

Problems That Face The Planet

To much Garbage

- About 90% of our garbage is buried in landfills.
- The average American throws away 1200 pounds of garbage a year.
- 20% of our garbage could be composted, 50% could be recycled.
- Enough disposable diapers are thrown away in a year to reach the moon and back 7 times. -
- Enough styrofoam cups are made in a year to circle the earth 436 times.
- We toss enough garbage everyday to fill the New Orleans Superdome from top to bottom, twice.

Wasted Energy and Natural Resources

- A leaky faucet can waste 3000 gallons of water a year.
- A leaky toilet can waste 20,000 gallons of water a year.
- *A bath uses twice as much water as a shower.
- The average American uses 150 gallons of water a day.
- *40% of the water used in your home goes down the toilet.
- A 100 watt light bulb will bum 600 pounds of coal in its life.

Too Much Pollution

- *Most cars create as much air pollution as they weigh in just 1 year.
- Most of that pollution is carbon dioxide, the main source of global warming.
- Cars make the worst pollution in the first 5 minutes that they are running. Half of all car rides are less than 5 miles long.
- Most electric companies bum coal to make electricity. That makes air pollution which contributes to the greenhouse effect and acid rain.
- Most lakes, even those far away from the cities are polluted. Air pollution from cars and power plants falls into them when it rains.
- Lighting an average light bulb for a year creates about 1000 pounds of carbon dioxide and other gases.

How You Can Help

1. Check out the Checkoff list. Take the list home and see how many things you are already doing to help the planet. Then do some new things from the list.
2. Start a club. It's easier to do something when your friends are doing it with you. Your teacher has a list of places you can write to so that you can start your own environmental club or chapter of a national club.
3. Learn some more. Ask your teacher for a list of books about helping the Earth's environment. Then look them up in your library.
4. Write a letter. Adults make laws that effect the Earth, sometimes in good ways, sometimes in bad ways. Adults listen to kids, especially if a lot of them write letters. If you know of a law that lets people hurt the earth, write a letter to your lawmakers. Better yet, have your whole class write.

Helping the Planet by Doing the 3 R's

Recycling

It takes much less energy to make something out of recycled materials than from new materials. Recycling helps save our natural resources such as the land, air and water. It also helps keep the landfills smaller because 50% of what goes into the landfills could be recycled.

Reusing

Making something new takes a lot of energy and resources. By using things as long as possible and keeping them in good repair you help the earth. When you're done using something don't throw it away, give it to a charity like Purple Heart or Salvation Army. That way someone else can use it. Next time you need something try shopping at a second hand store and you'll be helping the Earth.

Reducing

Reducing can help the planet in many ways. Reducing the amount of electricity you use helps you save money and also makes less air pollution. Reducing the amount you drive in the car cuts down on air pollution. Reducing the amount of water you use helps assure there will always be enough for everyone.

The 3 R's Checklist

Recycling

Things to do at home

1. Recycle cans.
2. Recycle glass containers.
3. Recycle plastics.
4. Recycle newspapers.
5. Recycle junk mail.
6. Recycle yard waste by composting.
7. Buy things made from recycled materials.

Things to do at school

1. Start a school recycling program for cans.
2. Start a school recycling program for paper.
3. Make a worm farm (great classroom pets, seriously) for recycling lunch leftovers.
4. If your community does not have a recycling program send letters to your mayor, city council members and county officials. Get one started and use it.

Reusing

Things to do at home

1. Save and wash your plastic bags and reuse them. Don't buy new ones.
2. Make rags out of old torn clothes and use them instead of paper towels.

3. Save your grocery bags and take them with you the next time you go to the grocery store rather than getting new ones.

(Reusing cont.)

4. Never throw out toys, clothes or shoes. Donate them to a charity like Goodwill or Purple Heart.
5. Take your used paper and turn it into notepads.
6. Go shopping at rummage sales or secondhand stores.

Things to do at school

1. Have a charity collection for clothes.
2. Collect office paper and worksheets and make scratchpads.
3. Trade toys with your friends.
4. Make puppets and other art projects with egg cartons, plastic spoons, toilet paper tubes and anything you would otherwise throw away.

Reducing

Things to do at home

1. Turn off lights, TVs and radios when you're done using them.
2. Turn off the water while you brush your teeth.
3. Check your faucets to see if they drip. If so, fix them.
5. Take showers instead of baths.
4. Lower your thermostat during the winter and raise it during the summer.
6. Ride your bike or walk instead of driving. When you do go in the car take a friend with you.
7. Buy things that have the least amount of packaging.
8. Replace a regular incandescent bulb with a compact fluorescent bulb. You'll save 4 times the electricity.
9. Call the gas company and ask them to do an energy audit. They'll check your house to see what other things you could do to save energy.

Things to do at school

1. Don't waste paper, make sure you use both sides.
2. Turn out the lights when you leave a room.
3. Replace regular incandescent lights with compact fluorescent bulbs.

Magazines and guides to Read

P3/The Earth-based Magazine for Kids, 1 year subscription for \$14. Write to: P3, P.O. Box 52, Montgomery, W 05470.

Ranger Rick, National Wildlife Federation, 1412 16th St. NW, Washington, DC 20036-2266.

Student Action Guide, available from; The National Association for Humane and Environmental Education, 67 Salem Rd., East Haddam, CT 06423. (203) 434-8666. Tells how to form environmental clubs or clubs to save animals. Also gives names of other students to exchange ideas with,

Take it Back, 111 North Hollywood, Burbank, CA 91505. (818) 559-3391. Free guide for teachers who would like to start a recycling program. Music video featuring famous music stars for \$12.93.

Earth's Birthday Project, Packer Collegiate Institute, 170 Joralemon St., Brooklyn, NY 11201 (718) 834-0516. Guide for developing an Earth Day party.

Clubs to join

Tree Musketeers, 406 Virginia St., El Segundo, CA 90245. (800) 473-0263.

Kids for Saving Earth, P.O. Box 47247, Plymouth, MN 55447. (612) 525-0002.

Kids S.T.O.P. (Kids Save The Planet) Send self-addressed envelope to P.O. Box 471, Forest Hills, NY 11375.

Kids FACE (For A Clean Environment), P.O. Box 158254, Nashville TN 37215.

Children's Earth Fund, 40 W. 20th St., 11th floor, New York, NY 10011.

The Children's Rainforest, P.O. Box 936, Lewiston, ME 04240.

Global ReLeaf c/o American Forestry Assoc., P.O. Box 2000, Depart. WM, Washington, DC 20013.

Green Seal, Inc., P.O. 1694, Palo Alto, CA 94302.

Kids Against Pollution c/o Tenakill School, 275 High St., Closter, NJ 07624.

Save our Streams Program, c/o Izaak Walton League of America, 1401 Wilson Boulevard, Level B, Arlington, VA 22209.

Books to Read

The Three R's: Reuse, Reduce, Recycle (What Do You Know About? Books) By Nuria Roca, Barron's Educational Series (February 1, 2007)

Why Should I Save Energy? (Why Should I?) by Jen Green (Author), Mike Gordon (Illustrator), Barron's Educational Series (February 1, 2005)

Kids Care!: 75 Ways to Make a Difference for People, Animals & the Environment (Williamson Kids Can Series) by Rebecca Olien (Author), Michael Kline (Illustrator), Williamson Books (September 2007)

Everything Kids' Environment Book: Learn how you can help the environment-by getting involved at school, at home, or at play, by Sheri Amsel, Adams Media (November 1, 2007)

Looking After My Environment (Green Kids) by Neil Morris (Author), Amanda Askew (Editor), Wendy Horobin (Editor), QED Publishing, a division of Quarto Publishing plc (June 30, 2008)

A Child's Introduction to the Environment: The Air, Earth, and Sea Around Us- Plus Experiments, Projects, and Activities YOU Can Do to Help Our Planet! by Michael Driscoll (Author), Dennis Driscoll (Author), Meredith Hamilton (Illustrator), Black Dog & Leventhal Publishers (April 1, 2008)

True Green Kids: 100 Things You Can Do to Save the Planet by Kim Mckay (Author), Jenny Bonnin (Author), David De Rothschild (Foreword), National Geographic Children's Books (September 9, 2008)

A Hot Planet Needs Cool Kids: Understanding Climate Change and What You Can Do About It, by Julie Hall (Author), Sarah Lane (Illustrator), Green Goat Books; 1st edition (November 1, 2007)

Our Big Home by Linda Glaser (Author), Millbrook Press (September 1, 2002)

Where Does the Garbage Go?: Revised Edition (Let's-Read-and-Find-Out Science 2) (by Paul Showers (Author), Randy Chewning (Illustrator), HarperTrophy; Revised edition (January 30, 1994)

One Well: The Story of Water on Earth by Rochelle Strauss (Author), Rosemary Woods (Illustrator), Kids Can Press (February 1, 2007)

Growing Green: A Young Person's Guide to Taking Care of the Planet (Hardcover) by Christina Goodings (Author), Masumi Furukawa (Illustrator), Lion UK (October 15, 2008)

Old Turtle by Douglas Wood (Author), Cheng-Khee Chee (Illustrator), Scholastic Press (March 1, 2007)

Planting the Trees of Kenya: The Story of Wangari Maathai (Frances Foster Books) by Claire A. Nivola (Author), Farrar, Straus and Giroux (BYR) (April 1, 2008)

A Kid's Guide to How to Save the Planet, by Billy Goodman. Byron Preiss Visual Publications, 1990.

Big Bear, I Dare That Tree, by Richard Margolis. Greenwillow Books, New York, 1980.

Brother Eagle, Sister Sky, A Message From Chief Seattle, by Susan Jeffers. Dial Books, New York, 1991.

Going Green, A Kid's Handbook to Saving the Planet, by John Elkington, Julia Hailes Douglas Hill, and Joel Makower. Puffin Books, 1990.

I Helped Save the Planet, 55 Ways Kids Can Make a World of Difference, by Michael O'Brian. Berkley Publishing Co., 1991.

Just a Dream, by Chris Van Allsburg. Houghton Mifflin Company, Boston, 1990.

Michael Bird-Boy, by Tomie de Paola. Prentice-Hall, Inc., Englewood Cliffs, N.J., 1975.

Once There Was a Tree, by Natalia Romanova. Dial Books, New York., 1985.

Squirmy Wormy Composters, by Bobbie Kalman and Janine Schaub.
Crabtree Publishing Company, 1992.

The Giving Tree, by Shel Silverstein. Harper & Row, Publishers, 1964.

The Great Kapok Tree, A Tale of the Amazon Rain Forest, by Lynne Cherry.
Gulliver Books, Harcourt Brace, New York, 1990.

The Great Trash Bash, by Loreen Leedy. Holiday House, New York., 1991.

The Last Free Bird, by A. Harris Stone. Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1967.

The Lorax, by Dr. Seuss. Random House, New York, 1971.

The Salamander Room, by Anne Mazer. Alfred A. Knopf, New York, 1991.

The Troll Who Lived in the Lake, by Don Arthur Torgersen. Childrens Press, Chicago., 1978.

The World That Jack Built, by Ruth Brown. Dutton Children's Books, New York, 1991.

The Wump World, by Bill Peet. Houghton Mifflin Company, Boston, 1970.

Tree of Life, The World of the African Baobab, by Barbara Bash.
Sierra Club Books/Little, Brown and Co., 1989.

Earth Day, by Linda Lowery. Carolrhoda Books. Inc. Minneapolis, 1991.

Websites

<http://www.childsake.com/> Childsake, a book company specializing in environmental books and resources for children.

<http://www.ecophones.com/> EcoPhones, fund raising through recycling.

http://www.kidsforsavingearth.org/index_high.html Kids for Saving Earth (KSE), a great site for kids with lots of activities, resources and information on setting up environmental clubs for children.

<http://www.kidsforsavingearth.org/programs/garbagechallenge.html>

<http://www.kidsforsavingearth.org/programs.html>

eelink.net/.webloc

EE-Link is: 5400 links organized in 300 categories, 11,000+ visitors per day. Browse or Search for resources for professional development, climate change, global warming, lesson plans, endangered species, national and international events, and more.

www.ecohealth101.org/webloc EcoHealth—Environmental Change and Our Health. Aimed at grades 5-8, the site will benefit high schoolers as well. The links below lead to site details, classroom activities, and lesson plans.

www.eduref.org/webloc Educators reference Desk, Features an extensive set of Environmental Lesson Plans for all grade levels.

www.healthyschools.org/w#9F9169 **Healthy Schools Network, Inc.** is a 501 c3 national environmental health organization that does research, information, education, coalition-building, and advocacy to ensure that every child has a healthy learning environment that is clean and in good repair.

<http://www.nrdc.org/greensquad/ptr/teachers.asp> The Green Squad from the Natural Resources Defense Council, features an extensive list of links and resources for both parents and teachers.

<http://www.epa.gov/kids/> Environmental Protection Agency (EPA) Environmental kids Club, extensive list of links, resources and activities for children and teachers.

Wisconsin Association for Environmental Education (WAEE) WAEE is a statewide non-profit organization composed of people interested in learning about and helping others learn about environmental issues. Their goal is to promote responsible environmental action through education in the classroom and in the community. WAEE strives to be an organization that promotes EE in our state, that supports the work our members are doing, and provides resource information, as well as opportunities for professional growth, motivation and recognition.

Wisconsin Center for Environmental Education (WCEE) The Wisconsin Center for Environmental Education works to improve environmental education in Wisconsin. This is done through the development, dissemination, implementation, and evaluation of teacher and student K-12 EE programs. The WCEE houses several statewide programs and is able to accomplish its goals through strong partnerships with state agencies and other organizations. The WCEE was established by the Wisconsin legislature in 1990 and placed within the College of Natural Resources at the University of Wisconsin-Stevens Point.

Wisconsin Environmental Education Board (WEEB) Chartered by the Wisconsin legislature in 1990, the Wisconsin Environmental Education Board represents a cross section of educators, businesses, legislators and citizens. Since its inception, the Board has worked to build consensus as it identifies strategic priorities and goals for environmental education in the State of Wisconsin. The Board also administers a grants program to fund innovative project ideas that directly address the State's environmental education priorities. The State of Wisconsin provides varying levels of public funding to support the work of the Board and its priorities. Additionally, WEEB's legislative charter encourages and empowers the Board to solicit private funding to support the environmental education mission.

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