

EDUCATIONAL



RENEW THE EARTH

The **Renew the Earth** classroom supplement and teacher guide focus on areas we can control every day by the choices we make regarding air, water and waste. They also demonstrate how the newspaper can be an effective learning tool.

The newspaper is a valuable source of information for students. Reading a newspaper each day keeps people informed about major issues in their lives, including the environment. Helping students to use a newspaper teaches them an important skill for lifelong learning. The topics in any day's newspaper will excite young people and motivate them to read and learn more about the world.

This teacher guide contains suggested activities on air quality, water quality, solid waste and reducing/recycling/reusing as well as activity sheets you may photocopy and distribute to students to complete.

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Re•think Re•do Re•new



Mid-America Regional Council
Solid Waste Management District



Missouri Department of
Natural Resources



Air Quality

1. Designate a “Bike and Hike to School Day.” Encourage everyone in your school to bike or hike to school. Use pedometers, odometers and maps to calculate the number of miles walked and biked by students in your class. Post the results on a school bulletin board or announce over the PA system. Research how to convert this number into gallons of gas saved and the amount of pollution avoided.

2. Americans make up 5% of the world’s population, but consume 25% of the world’s resources. Americans use more energy than any other country in the world. As a class, compile a list of ways that most of us use energy in our homes. Then list ways you can save energy (e.g. taking shorter showers, turning off lights when leaving a room).

3. Identify how many times a day or week your family requires transportation to and from various places. Then list alternate types of transportation you could use (e.g. ride bike to school, take bus to work).

4. Check car advertisements in the newspaper to find the makes (car companies like Ford and General Motors) and models (car names like Contour and Accord) that are the most and the least energy efficient based on miles per gallon (MPG) ratings.

5.* Scan the newspaper for pictures and stories about pollution. Using the “Pollution Watch” worksheet, find a type of pollution in each of the categories:

- air pollution
- land pollution
- water pollution
- noise pollution

Write about the causes of each type of pollution.

An activity sheet for students

POLLUTION WATCH

Search the paper for examples of pollution. Find a type of pollution in each of the categories - air pollution, land pollution, water pollution and noise pollution. Write about the causes of each type of pollution.

Air Pollution:

Land Pollution:

Water Pollution:

Noise Pollution:

Water Quality

1. Think about where rain goes in an urban watershed. Track the path of a raindrop as it falls from the sky until it travels to a local body of water. Focus on how water can become contaminated along the way.

2. What is a watershed? Find out what a watershed is and locate what watershed you live in at <http://www.epa.gov/surf/>.

3. Visit a wastewater treatment plant. We all learn about the “water cycle”—the “urban water cycle” refers to the cycle of water from our faucets and toilets to the wastewater treatment plant, to the river and the next town’s drinking water plant, back to our homes, etc. After your field trip, make a list of things you should and shouldn’t send down the sink, drain or toilet.

4. Using the newspaper and the Internet, find out where candidates for the U.S. Senate in Missouri and for governor in Kansas stand on environmental issues. As a class, discuss which candidates deserve support based on their positions on these issues.

5.* A survey is a set of questions that have no right or wrong answers. Conduct a survey of 10 students in your school asking these questions

- What is your name?
- What is your age?
- What grade are you in?
- Name three ways you use water every day.
- What is your favorite activity that involves water?
- Where do you think your water comes from?

Compile the results of your survey and share them with the class.

* Includes activity sheet for students

An activity sheet for students

WATER SURVEY

Building an awareness of environmental issues can lead to understanding the problems that are facing the world, and ultimately to finding solutions to those problems.

A survey is a set of questions that have no right or wrong answers. Conduct a survey of 10 students in your school asking these questions. Make the survey representative of your school by interviewing students of different gender, ages and grade levels.

1. What is your name? _____

2. What is your age? _____

3. What grade are you in? _____

4. Name three ways you use water every day.

1) _____

2) _____

3) _____

5. What is your favorite activity that involves water? _____

6. Where do you think your water comes from? _____

Compile the results of your survey and share them with the class.

Solid Waste

1. Work to reduce waste in your home. Count how many trash bags you throw away each week. Visit RecycleSpot.org and make a list of everything you can recycle that you don't already recycle. Begin recycling as many of these items as you can. See how many trash bags you can reduce each week by recycling.

2. Have a "Litter-Free Lunch Day" at your school. Weigh lunch trash at your school on a normal day. Discuss packaging and using reusable containers for lunches brought from home. Suggestions include reusable containers, cloth napkins and fruit in its own package (e.g., apple, orange, banana). Weigh lunch trash on "Litter-Free Lunch Day" and calculate the difference. Announce the results. Encourage continued "litter-free" lunch practices.

3. Make a list of all the disposable products you can think of and what they are used for. Next to each item, write down what people used before the disposable product was invented. Are these "non-disposable" products still available? Who uses them and why? Discuss as a class.

4. Research where solid waste in your community ends up. Arrange a field trip to a waste disposal or recycling facility or invite a representative to come talk to your class. Discuss as a class the ways individuals and businesses can reduce waste and recycle more.

5.* Using the newspaper, find these items in an environmental scavenger hunt:

- Word or picture describing or illustrating a source of energy
- Example of a natural resource
- Example of a toxic substance
- Two ways we use water
- Advertisement for a product describer as energy efficient
- Example of something harmful to the environment
- Picture of something you can reuse in your home
- Picture of something you can reduce the use of
- Advertisement for recyclable products: one glass, one plastic, one aluminum

* Includes activity sheet for students

An activity sheet for students

ENVIRONMENTAL HUNT

A scavenger hunt is a great way to explore environmental issues – and to get to know the newspaper. Find as many of the items on this page as possible in today’s paper, and write down the page number where you found each.

Word or picture describing
or illustrating a source of
energy

Page # _____

A second way we use
water

Page # _____

Picture of something you
can reduce the use of

Page # _____

Example of a natural
resource

Page # _____

Advertisement for a
product describer as
energy efficient

Page # _____

Advertisement for
recyclable glass product

Page # _____

Example of a toxic
substance

Page # _____

Example of something
harmful to the environment

Page # _____

Advertisement for
recyclable plastic product

Page # _____

One way we use water

Page # _____

Picture of something you
can reuse in your home

Page # _____

Advertisement for
recyclable aluminum
product

Page # _____

Reduce/Reuse/Recycle

1. Look up the words “want” and “need” in the dictionary and write down the definitions. Then go through the newspaper section by section, looking at products advertised in regular ads and in the classifieds ads (don’t forget the car ads!) Circle in green the products you think people need; in red, draw an X through the products you think people only want. When you’re done, count the circles and X’s. Which types of products appeared more often? Discuss as a class.

2. How products are packaged impacts the environment. How are products packaged differently today than they were ten years ago? What’s the most unusual type of packaging you have seen? How can you tell a product has recycled content?

3. Using ads in the newspaper’s classified section as guides, write your own classified ads for three things around your house you could sell rather than throw away

4. Have students design a logo and/or message for a reusable cloth grocery bag, then vote as a class for the best design. Assume the cloth grocery bag could be printed for \$1 per bag and sold for \$1.25 per bag, with proceeds benefiting conservation projects at your school or in your community. How many bags would have to be sold to earn \$50? How many times would the cloth grocery bag have to be used (with a 5 cent rebate from your grocery store per use) before it begins saving you money? Estimate how many plastic or paper shopping bags you avoid using in a month by using cloth bags instead.

5.* Look around your house for examples of hazardous household products. Make a list of these products below and complete the chart for each product you have found.

- Hazardous household product
- Where is the product used?
- Where is product stored?
- Is this a safe place to store?
- What is the warning on the label?

An activity sheet for students

HAZARDOUS PRODUCTS

Look around your house for five (5) examples of hazardous household products. (Hint: Under the kitchen sink, in the garage or in a storage shed are good places to look.) List these products below and complete the chart for each product you have found.

Hazardous household product #1	
Where is the product used?	
Where is product stored?	
Is this a safe place to store?	
What is the warning on the label?	

Hazardous household product #2	
Where is the product used?	
Where is product stored?	
Is this a safe place to store?	
What is the warning on the label?	

Hazardous household product #3	
Where is the product used?	
Where is product stored?	
Is this a safe place to store?	
What is the warning on the label?	

Hazardous household product #4	
Where is the product used?	
Where is product stored?	
Is this a safe place to store?	
What is the warning on the label?	

Hazardous household product #5	
Where is the product used?	
Where is product stored?	
Is this a safe place to store?	
What is the warning on the label?	

Environmental Education Resources

Join the Kansas City Environmental Education Network (KCEEN)

KCEEN is a resource network of environmental education organizations serving pre-K through 12th grade educators in the Kansas City region. It provides networking and professional development opportunities for teachers and non-formal educators through workshops, resource fairs and meetings. To get involved:

- Join the planning committee to discuss issues, plan events and find ways to provide resources to environmental educators.
- Sign up to receive emails about environmental education events and resources.

For more information, visit www.marc.org/Environment/KCEEN/index.htm or contact Matt Riggs at (816) 701-8313 or mriggs@marc.org.

Local Environmental Education Providers

Energy

- Metropolitan Energy Center, www.kcenergy.org

Environmental Entertainment

- Eco Elvis, www.ecoelvis.com
- Healthy Sounds, www.healthysounds.com
- Tall Oak Productions, Inc., www.stanslaughter.com
- Vodvill Entertainment Company, www.vodvill.com

General environment

- Bridging The Gap – (816) 561-1087, www.bridgingthegap.org – Offers litter cleanup, native vegetation restoration, tree planting, green events, recycling center and in-office volunteer opportunities.
- Heartland All Species Project - (816) 361-1230, www.allspecies.org – Offers gardening, composting and community market volunteer opportunities.
- Johnson County, Kansas State Research and Extension, www.oznet.ksu.edu/johnson
- Kansas Association for Conservation and Environmental Education, www.kacee.org
- Kansas Association of Teachers of Science (KATS), www.kats.org
- Kansas City Public Television (KCPT), www.kcpt.org/eats
- Kansas Soil & Water Conservation Districts, www.cjnetworks.com/~sccdistrict/dist_ks.htm
- Missouri Environmental Education Association, www.meea.org
- Missouri Soil & Water Conservation Districts, www.maswcd.net
- North American Association for Environmental Education, www.naaee.org
- PathFinder Science, <http://pathfinderscience.net>
- Science Pioneers, www.spioneers.org
- U.S. Army Corps of Engineers, www.nwk.usace.army.mil
- U.S. EPA, Region 7, www.epa.gov/region7

Nature and habitat

- Burr Oak Woods Conservation Nature Center (Blue Springs, Mo.), www.burroakwoods.org –

- Cave Spring Interpretive Center (East Kansas City, Mo.), www.cavespring.org
- Children's Museum of Kansas City, www.kidmuzm.org
- Deanna Rose Children's Farmstead, www.opkansas.org/_Vis/Farmstead/index.cfm
- Discovery Center (Central Kansas City, Mo.), <http://mdc.mo.gov/areas/kcmetro/discovery/>
- EarthWorks, www.lx.org/earthworksmain.html
- Ernie Miller Nature Center (Olathe, Kans.), www.erniemiller.com
- George Owens Nature Park (Independence, Mo.), www.ci.independence.mo.us/parksandrec/georgeowens_park.stm
- Grassland Heritage Foundation, www.grasslandheritage.org
- Jerry Litton Visitors Center (Smithville, Mo.), www.nwk.usace.army.mil/smithville/visitorc.htm
- Kansas City Zoo, www.kansascityzoo.org
- Kansas Department of Wildlife and Parks, www.kdwp.state.ks.us/news/kdwp_info/locations/museums_and_nature_centers/prairie_center
- Kansas Master Gardener Program, www.oznet.ksu.edu/hfrr/MG/welcome.asp
- Lakeside Nature Center (East Kansas City, Mo.), www.kcmo.org/parks.nsf/web/lakeside
- Martha Lafite Thompson Nature Sanctuary (Liberty, Mo.), www.naturesanctuary.com/center.html -
- Mid-America Regional Council, www.marc.org/Environment/
- Missouri Master Gardener Program, <http://extension.missouri.edu/mg/>
- Monarch Watch, www.monarchwatch.org
- Mr. and Mrs. F.L. Schlagle Library (Kansas City, Kans.), www.kckpl.lib.ks.us/schlagle/
- Operation Wildlife, Inc., www.owl-online.org
- Overland Park Arboretum and Botanical Gardens (Overland Park, Kans.), www.opprf.org/Arboretum.htm -
- Parkville Nature Sanctuary (Parkville, Mo.), www.parkvillemo.com/nature
- Powell Gardens (Kingsville, Mo.), www.powellgardens.org
- Prairie Oak Nature Center (Leawood, Kans.), www.kcnature.org/prairieoak/
- Wildwood Outdoor Education Center (LaCygne, Kans.), www.wildwoodctr.org

Recycling

- Abitibi Consolidated www.paperretriever.com
- Deffenbaugh www.deffenbaughdisposal.com/recycling.asp
- Children's Museum of Kansas City, www.kidmuzm.org
- Kansas Organization of Recyclers, www.kskor.org
- Missouri Recycling Association, www.mora.org

Water

- Blue River Watershed Association, www.brwa.net
- Hillsdale Water Quality Project, www.hwqp.org
- Kansas StreamLink – Kaw Valley Heritage Alliance, www.streamlink.org
- Missouri Stream Team, www.mostreamteam.org



RENEW THE EARTH

Teacher's
Guide

Visit **RecycleSpot.org**

Want to recycle but don't know where to take stuff? Hit the spot! That's **www.recyclespot.org**, your one stop source for recycling information in the Kansas City region. For more information, call the recycling information line (816) 474-8326.

