

SCIENCE DISSECTED

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GO GREEN

Is Going Green Worth the Green?

The “going green” message was prevalent throughout the month of April. The annual awareness of Earth Day prompted networks to promote eco-friendly programming as a way to educate viewers on green practices. Among the eco-buzz, companies jumped on the opportunity to promote their new green products. The environmental conscious advertisements ranged from the *Green Works* line of household cleaning solutions to fuel-efficient vehicles. Even celebrities interrupted programs to discourage the use of plastic grocery bags. As April passes, will the environmental friendly messages continue? Will advertisements reminding us of our carbon footprint be enough to change our ways? Will society embrace everyday as Earth Day?

In general, we live in a wasteful and energy consuming society. Individuals need a reason to change their consumption habits. All members of society need to understand why eco-friendly practices such as recycling and water conservation are vital to the future of our community and planet. Since students are a captive audience, it makes sense to start the eco-friendly messages in our schools and hope the practices extend to their families.

As a global community, all nations need to recognize the importance of sustainability in terms of meeting the needs of the present population without compromising the ability of future generations to meet their own needs. The environmental problems that the world faces are impacted by exponential human population growth. According to the educational organization, *Population Connection*, the human population reached 1 billion around 1800, 2 billion in 1930, 3 billion by 1960, 4 billion by 1975, 5 billion by 1987, and 6 billion by 1999. At the current growth rate, the human population will reach 7 billion in 2013. Most of the population growth is occurring in developing countries. As the population increases at an unprecedented pace, it places an enormous demand on the Earth’s natural resources. For an updated list of the world’s population by country, download the *World Population Data Sheet* from the *Population Reference Bureau* (www.prb.org).

Advances in science and technology have contributed to the population growth. Improved medical treatments and sanitation have led to disease prevention which resulted in a decrease of child mortality rates and an increase in the average life span. The advances of modern medicine and technology have increased the quality of life for many, but have also brought about new societal and environmental issues. Countries need to determine how their inhabitants will obtain enough food, clean drinking water, and living space. Governments also need to determine which energy sources will be used to meet the energy demands of their country. The rise of the human population correlates directly with a series of environmental concerns such as deforestation, air and water pollution, soil erosion, and the depletion of many natural resources.

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EARTH: THE APPLE OF OUR EYE

Use an apple to represent the planet Earth and carry out the following sequence:

1. Slice the apple into quarters. Set aside three of the quarters. What do these represent? (The world’s oceans)
2. What fraction of the “Earth” do you have left? ($1/4$) Slice this piece representing land in half. Set one of these pieces to the side. The area set to the side represents land areas that are uninhabitable to people: polar regions, deserts, swamps, or rocky mountains.
3. What fraction do you have left? ($1/8$) The piece of the apple that is left is land area where people live, but do not necessarily grow food.
4. Slice the $1/8$ piece into four sections. Set aside three of the pieces. What fraction do you have left? ($1/32$) The $3/32$ represent areas that are too rocky, wet, cold, steep, or with soil too poor to produce food. They also represent where people live but do not produce food: cities, suburbs, highways, shopping centers, schools, parking lots, etc.
5. Carefully peel off the skin of the $1/32$ slice of the apple that is left. This tiny bit of the Earth represents the soil upon which all humans depend upon for farming. This activity shows that protecting our land resources are very important.

Source: *Population Connection* www.popconnect.org

Visualizing Human Population Growth Resource

Population Connection has a 7-minute video showing a graphic simulation of human population as dots illuminate on a world map to represent one million residence in an area. The video spans from 1 A.D. to 2030. An activity guide is included with the video. (\$20) Available at www.popconnect.org

A to Z List of Ways to Help the Planet

Source: "Going Green" <http://www.geocities.com/RainForest/Vines/4990/gglist.html>

The following list provides Earth-friendly tips and practices that you can implement in your home, school, and community.

A: Avoid Fast Food

Most fast food is over packaged and responsible for producing mountains of trash.

B: Boycott A Product

Choose something that is detrimental to the environment and write a letter to the company stating why you will not buy the product anymore.

C: Change A Light Bulb

Replace a standard bulb with a compact fluorescent one and you will get more light for less money and energy.

D: Don't be a Dusthole

Riding off trails will break the natural crust of the desert surface and release dust contributing to poor air quality.

E: Eat Organic Produce

Organic produce contains far fewer chemicals than other produce. That is better for your health and the environment.

F: Find Out How To Dispose of Hazardous Waste

Households contain hazardous waste products such as old paint cans, used motor oil, unused pesticides and weed killers. If you dump these down the drain, you will pollute our water source, Lake Mead. Find out the proper way to dispose of such items.

G: Grow A Garden

A garden provides flowers, vegetables, and environmental benefits. It can help to reduce soil erosion and may help to reduce some types of air pollution.

H: Hold On To Balloons

Releasing helium balloons up into the sky is lots of fun, but may harm fish and animals if they try to eat the balloons

I: Insulate Your Home

You may find a lot of energy being wasted right in your own home.

J: Join An Environmental Group

Try to find one that focuses on something in which you are interested.

K: Keep The Car At Home

Automobiles are one of the single biggest sources of pollution. Try walking, biking, skateboarding, roller-skating, or taking the bus if possible.

L: Look At Labels

Reading a product label can tell you the ingredients and if it contains anything that might be hazardous to your health or the environment.

M: Make Scratch Pads

When you use a piece of paper on only one side, use the other side as a scratch pad.

N: Notify The Authorities

Do you know a polluter? Is a company in your community doing things that are bad for the environment? Report them to the local, state, or federal government.

O: Observe The Three Rs

Reduce, Reuse, and Recycle.

P: Plant A Tree

There are organizations in most communities that have tree-planting campaigns. Visit a nursery to find out what trees grow best in your area.

Q: Quit Throwing Away Batteries

Batteries contain many hazardous materials, which leak into landfills and water supply when batteries are thrown away.

R: Reuse A Bag

Paper and plastic bags use a lot of resources. The best solution is not to use a bag at all, or bring your own.

S: Stop A Leak

Organize a day on where your family tightens, insulates, and caulks your home to make it as "tight" as possible.

T: Turn Off The Lights

This is such a simple thing to do, but sometimes it's so hard to remember!

U: Use Recycled Paper

You can buy toilet paper, paper towels, napkins, writing paper, books, newspapers, and many other things made of recycled paper.

V: Visit A Recycling Center

Call a waste management company and request recycling bins. Learn the recycling schedule for your neighborhood and participate in the program.

W: Work For The Environment

If you decide to get a summer job, see if there is a job available where you can help the environment. You will have the satisfaction of knowing you are helping make the world a better place.

X: Xeriscape Your Yard

Conserve water by removing grass and create a desert landscape in your yard. Xeriscaping saves about 62 gallons of water per square foot per year.

Y: Yell At A Litter Bug

Well, maybe you do not have to yell, but if you do see someone littering, you should say something.

Z: Zero In On Specifics

You can be most effective by choosing a specific environmental problem to focus on. Find the individuals and organizations in your area working on the problem and see how you can get involved.

Related Links

Population Connection: www.popconnect.org

Population Reference Bureau: www.prb.org