

Topic 8 Student Activities

Environmental Stewardship



Topic 8: Environmental Stewardship

The activities in this section are designed to help the student understand the importance of environmental stewardship through recycling, efficiency and conservation, environmentally-friendly vehicles, and green building practices. They should be able to identify shortcomings in their daily routines and identify ways of improving them. Also, the student should gain an understanding of how they can directly impact the environment, both negatively and for the better.

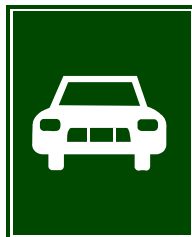
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Make Recycled Paper

Name: _____

Paper that has been used and treated for use again is recycled paper. Paper from homes, offices, and schools can be collected, sent to special recycling centers, and remade into usable paper. This process can take place over and over. Every year we cut down more trees to meet the world's demand for paper. Recycling will help save trees from being cut down.



You will need:

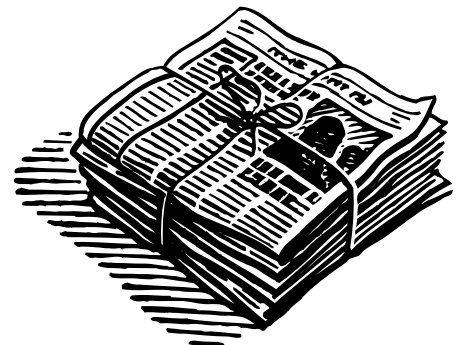
- a blender
- a whole section of newspaper
- 2 and a 1/2 single newspaper pages
- 5 cups (1.2 liters) of water
- a pan 3 inches (7.6cm) deep
- a piece of screen to fit inside the pan
- a measuring cup
- a flat piece of wood the size of a newspaper's front page
- waxed paper

Follow These Steps:

1. Tear the two-and-a-half pages of newspaper into tiny strips.
2. Place the strips in a blender with 5 cups of water.
ASK PERMISSION TO USE THE BLENDER. HAVE AN ADULT SUPERVISE THIS STEP.
3. Cover the blender and blend the newspaper and water.
4. Pour about 1 inch (2.5cm) of water into the pan. Pour the blended paper pulp into the measuring cup.
5. Put the screen into the pan. Pour one cup (240 ml) of pulp over the screen.
6. Spread the pulp evenly in the water with your fingers.
7. Lift the screen and let the water drain off.
8. Open the newspaper section to the middle. Put the newspaper on a waterproof surface. Place waxed paper in the center of the newspaper. Place the screen with the pulp on the waxed paper. Close the newspaper.
9. Carefully flip over the newspaper section so the screen is on top of the pulp.
THIS STEP IS VERY IMPORTANT.
10. Place the board on top of the newspaper and press out extra water. Open the newspaper and take out the screen. Leave the newspaper open and let the pulp dry for at least 24 hours. When your paper pulp is dry, peel it off the waxed paper and write on it!



Now you know how to make recycled paper. Wood pulp, the raw material used in most paper production, comes from trees. More than 1 billion trees are cut down each year to make disposable diapers! Recycling efforts are increasing worldwide because of our concern over the deforestation of the earth. Discarded items, such as computer paper, grocery bags, milk cartons, boxes, and newspapers, are now collected, cleaned and recycled.



What's Your Eco-Footprint?



Name: _____

An eco-footprint is a measure of your impact on the Earth's resources. Take the quiz below to determine yours. Answer as accurately as possible.

Water Consumption					
Point Value	1	2	3	4	5
Do you usually take a shower instead of a bath?	Always	Usually	Sometimes	Occasionally	Never
Do you turn off the water while brushing your teeth?	Always	Usually	Sometimes	Occasionally	Never
Do you save rainwater for gardening or other purposes?	Always	Usually	Sometimes	Occasionally	Never
Household Waste					
Do you recycle your newspaper and magazines?	Always	Usually	Sometimes	Occasionally	Never
Do you recycle your aluminum and/or steel cans?	Always	Usually	Sometimes	Occasionally	Never
Do you compost your kitchen and/or yard waste?	Always	Usually	Sometimes	Occasionally	Never
Transportation					
Do you walk to school and/or activities?	Always	Usually	Sometimes	Occasionally	Never
Do you ride your bicycle to school and/or activities?	Always	Usually	Sometimes	Occasionally	Never
Do you ride to school or activities on a bus and/or in a carpool?	Always	Usually	Sometimes	Occasionally	Never
Energy					
Do you use compact fluorescent light bulbs at home?	Always	Usually	Sometimes	Occasionally	Never
Do you use ceiling fans to help cool your home?	Always	Usually	Sometimes	Occasionally	Never
Do you and/or your family turn off lights, computers and TVs when you are not home?	Always	Usually	Sometimes	Occasionally	Never

Wait! You're not done yet...turn the page for more questions and your final score.

What's Your Eco-Footprint?



You're almost done...!

Food					
Do you take food for lunch in reusable containers instead of throw-aways?	Always	Usually	Sometimes	Occasionally	Never
Do you grow fresh vegetables in a garden?	Always	Usually	Sometimes	Occasionally	Never
Do you eat fresh meat, vegetable, and fruit instead of "microwave ready" meals?	Always	Usually	Sometimes	Occasionally	Never
Shopping					
Do you purchase items made of recycled material or with recycled packaging?	Always	Usually	Sometimes	Occasionally	Never
Do you buy only what you really need?	Always	Usually	Sometimes	Occasionally	Never
Do you give unwanted clothes and toys away to someone who needs them?	Always	Usually	Sometimes	Occasionally	Never
Total Scores					
Number of points for each answer is shown at the top of each column. Multiply the points by the number of answers in each column to get your final score.					
Now add together the totals for each column.	Grand Total				

Look at the results below to see how big of an eco-footprint you have...

If Your Score Was...	Your Results Are...
18-31	You are a model for how we should all live. Keep up the good work!
32-55	You are quickly on the road to living eco-friendly.
56-69	You are average, like most people in the U.S. You might be wondering how you can improve. Hopefully this quiz helped!
70-80	Your consumption habits are wasteful. There are surely changes you can make. Start small, and don't give up.
81-90	If everyone lived this way, we would need at least <i>five</i> Earths to provide the necessary resources!

Now What?



Now that you have seen how large or how small of an impact you have on the earth, answer the following questions below.

1.) Before you took this survey, did you realize how big of an impact you had on the earth? _____

2.) Review your eco-footprint results. In what 5 ways can you reduce your impact on the earth.

a. _____

b. _____

c. _____

d. _____

e. _____

3.) Do you think your school is leaving a large footprint on the earth? If so, why? _____

4.) Name 3 ways your school can minimize it's impact on the environment.

a. _____

b. _____

c. _____

5.) Name 3 ways your parents can minimize your household impact on the earth.

a. _____

b. _____

c. _____

Hybrid vs. Gasoline

Name _____

Hybrid vehicles are expected to get good gas mileage when compared with a traditional, gasoline vehicle. In this exercise, you will calculate the difference in money spent when driving a hybrid and a gasoline automobile.



- 1.) Visit <http://www.fueleconomy.gov> and choose a hybrid car and a traditional gasoline car. In the table below, write down the name of the car and how many miles per gallon it gets.



Make and Model	MPG

- 2.) Visit <http://maps.google.com>, click on “Get Directions”, and choose any route you like. In the table below, write down the origin and destination cities and the total trip miles.

Origin	Destination	Miles



- 3.) Visit <http://tonto.eia.doe.gov> to find the price of gas in the region you’ve chosen for your trip. Record the price in the table below. Add the miles you recorded above as well.



Car	Miles	Price of Gas
Hybrid		
Diesel		

- 4.) Finally, divide the number of miles you would have driven round-trip into the MPG of each car. Next, multiply that number by the cost of a gallon of gas.

Car	Miles Driven	MPG	Price of Gas	Money Spent
Hybrid				
Diesel				



- 4.) How much would you have saved driving the hybrid? _____
