

ConsumerMan Video for LifeSmarts 6: PROTECT THE PLANET

LESSON PLAN

Overview

There are few steps an individual can take to make a serious difference to the environment, but when individuals come together to practice “going green,” the results are significant.

Lesson Objective(s)

Review simple steps an individual can take to protect the environment and how these actions have a broad impact when practiced by many people.

Time

1 class period

Background

Our rapidly changing environment needs help to preserve it for future generations. The current population can assist by using fewer resources, producing less trash and living more lightly on the Earth. Awareness is the first step in changing attitudes and behaviors and taking simple steps to “go green.”

Materials

Lesson Content Vocabulary List

Vocabulary List Prompts

Podcast/Video – *Protect the Planet*

Student Activity – *Protect the Planet Because...*

Prompts – *Protect the Planet Because...* Prompts

Procedures

1. Distribute *Vocabulary Worksheet*
2. Discuss and define vocabulary with students
3. View *Protect our Planet*
4. Distribute the Student Activity – *Because...* Assign students one to three statements to research
Allow students time to research and write their findings.
5. Discuss student findings for all statements, emphasizing how simple changes made by many have the power to affect the environment in a positive manner.

Discussion Questions

1. Many places in Europe require merchants to recycle product packaging for the consumer. What are the advantages and disadvantages of this legislation?
2. What is the most wasteful packaging you have seen? What could one person do to help eliminate wasteful packaging?
3. Do you think teenagers are more concerned about the environment than their parent’s generation? Explain your answer.

Extension

1. Create posters from the research information you learned from the Student Activity *Because...* Place the posters in prominent places around your school or community.
2. Investigate e-waste and recycling sites in your community.



LifeSmarts
Learn it. Live it.

**ConsumerMan Video for LifeSmarts 6:
*Protect the Planet Vocabulary List***

Name: _____

| bioclimate | |
|--------------------------|--|
| bio-products | |
| carbon footprint | |
| downcycle | |
| environmentally friendly | |
| e-waste | |
| going green | |
| green washing | |
| post consumer waste | |
| recycle | |
| renewable resource | |
| social responsibility | |
| sustainability | |
| upcycling | |



Vocabulary definitions adapted from <http://thegreenbeagle.com/green-vocabulary>

| | |
|--------------------------|--|
| bioclimate | Concerned with the relationship between climate and living organisms |
| bio-products | Materials, chemicals and energy derived from renewable biological resources |
| carbon footprint | Total amount of greenhouse gas emissions that an individual, group, product, or event emits either directly or indirectly to the environment |
| downcycle | Recycling that creates new products that are of lesser economic value than the original product |
| environmentally friendly | A generic statement often used to designate a product or process that has a reduced ecological footprint when compared to other products/processes |
| e-waste | Electronic products near the end of their useful life |
| going green | A lifestyle that consists of reducing an individual's negative impact on the environment. |
| green washing | Marketing scam which makes claims or implies the product or service is environmentally friendly |
| post-consumer waste | Waste produced by the end consumer of a material. The waste-produced did not lead to the production of another product |
| recycle | Process of turning a previously used item into a new product in an effort to reduce waste and reduce greenhouse gas emissions |
| renewable resource | A resource that can be replenished at a rate equal to, or greater than, its rate of depletion |
| social responsibility | Ethical or ideological theory that an organization or individual has a responsibility to society. This responsibility can be "negative", meaning there is a responsibility to refrain from acting or it can be "positive," meaning there is a responsibility to act. |
| sustainability | The capacity to endure. In ecology, the word describes how biological systems remain diverse and productive over time. For humans it depends on the well-being of the natural world and the responsible use of natural resources. |
| upcycling | Process of recycling in such a way that the new products are of higher economic value |



Name:

Directions: Read the statements and use the “Because” space to explain why that “going green” practice is environmentally friendly. Research and explain the answers thoroughly. Read the example and use it as a guideline.

Example: Ride a bike.

Because: Riding a bike reduces emissions and reduces traffic. Bikes are up to 50% faster than cars during rush hour. Biking makes you healthier. Bikes take fewer national resources to make than cars. When you spend less time in traffic, you have more time to get things done. Riding a bike helps combat noise pollution and 20 bikes can fit in the space of one car. When you ride a bike you are more likely to keep your trips shorter, shop close to home, and support local businesses.

<http://www.movoto.com/blog/opinions/10-ways-riding-a-bike-can-save-the-world/>

1. Turn off the water when brushing teeth.

Because:

2. Eat less meat.

Because:

3. Recycle e-waste.

Because:

4. Keep vehicle tires properly inflated.

Because:

| | |
|----------|--|
| 5. | Use the cold water cycle in the washing machine. |
| Because: | |
| 6. | Buy local. |
| Because: | |
| 7. | Take shorter showers. |
| Because: | |
| 8. | Recycle aluminum cans. |
| Because: | |
| 9. | Don't rinse dishes going into the dishwasher. |
| Because: | |
| 10. | Skip the bottled water. |
| Because: | |



Directions: Read the statements and in the “Because” space, explain why that “going green” practice is environmentally friendly. Research and explain the answers thoroughly. Read the example and use as a guideline.

1. Turn off the water when brushing teeth.

Because: **Just by turning off the tap while you brush your teeth twice a day can save up to 8 gallons of water! That adds up to more than 200 gallons a month, enough to fill a huge fish tank that holds 6 small sharks!**

<http://www.epa.gov/WaterSense/kids/tap-off.html>

2. Eat less meat.

Because: **The United Nations’ Food and Agriculture Organization estimates the meat industry generates nearly one-fifth of the man-made greenhouse gas emissions that are accelerating climate change worldwide...far more than transportation. And annual worldwide demand for meat continues to grow. Reining in meat consumption once a week can help slow this trend. The water needs of livestock are tremendous, far above those of vegetables or grains. An estimated 1,800 to 2,500 gallons of water go into a single pound of beef.**

<http://www.sustainabletable.org/794/should-you-eat-less-meat>

3. Recycle e-waste.

Because: **Electronic products are made from valuable resources and materials, including metals, plastics, and glass, all of which require energy to mine and manufacture. Donating or recycling consumer electronics conserves our natural resources and prevents air and water pollution, as well as greenhouse gas emissions that are caused by manufacturing using virgin materials. For example: for every million cell phones we recycle, 35 thousand pounds of copper, 772 pounds of silver, 75 pounds of gold, and 33 pounds of palladium can be recovered.**

<http://www.epa.gov/epawaste/conserve/materials/ecycling/donate.htm>

4. Keep vehicle tires properly inflated.

Because: **You can improve your gas mileage by up to 3.3% by keeping your tires inflated to the proper pressure. Under-inflated tires can lower gas mileage by 0.3% for every 1-psi drop in pressure of all four tires.**

<https://www.fueleconomy.gov/feg/maintain.jsp>

That may not sound like much, but it means that the average person who drives 12,000 miles yearly on under-inflated tires uses about 144 extra gallons of gas, at a cost of \$300-\$500 a year. And each time one of those gallons of gas is burned, 20 pounds of carbon dioxide is added to the atmosphere as the carbons in the gas are released and combine with the oxygen in the air. As such, any vehicle running on soft tires is contributing as much as 1.5 extra tons (2,880 pounds) of greenhouse gases to the environment annually. Also, Properly inflated tires are safer and last longer.

http://environment.about.com/od/greenlivingdesign/a/tire_pressure.htm

5. Use the cold water cycle in the washing machine.

Because: **Fading-Dark colors should only be washed in cold water. Hot water causes colors to fade quickly, particularly black garments.**

Surface Abrasion-When washable fabrics are soaked in hot water, the heat weakens the threads and makes them more susceptible to surface abrasion.

Stain Removal-Hot water can turn many soils into permanent stains as it ingrains the contaminant into the fabric, altering the original dye of the threads.

Saving Money-Washing machines are very efficient appliances, or they can be, if you use discretion with the settings. The wash cycle actually uses very little electricity. What does consume a significant amount of energy is heating the water when you turn that knob to warm or hot. In fact, the Department of Energy estimates that 90% of a washing machine's energy consumption comes from heating the water.

Carbon Footprint-It stands to reason that lower energy consumption not only puts more green in your wallet but also adds "green" to your lifestyle. Since you are not wasting energy on heating water that will only damage your clothes, you are also reducing your carbon footprint, which is good for the environment.

<http://voices.yahoo.com/5-reasons-why-only-wash-clothes-in-12410952.html>

6. Buy local.

Because: Locally grown food tastes and looks better. The crops are picked at their peak, and farmstead products like cheeses and are handcrafted for best flavor. Livestock products are processed in nearby facilities and typically, the farmer has a direct relationship with processors, overseeing quality – unlike animals processed in large industrial facilities.

Local food is better for you. The shorter the time between the farm and your table, the less likely it is that nutrients will be lost from fresh food. Food imported from far away is older and has traveled on trucks or planes, and sat in warehouses before it gets to you.

Local food preserves genetic diversity. In the modern agricultural system, plant varieties are chosen for their ability to ripen uniformly, withstand harvesting, survive packing, and last a long time on the shelf. All of this means less genetic diversity in large-scale agriculture production.

Local food is safe. There's a unique kind of assurance that comes from looking a farmer in the eye at the farmers' market or driving by the fields where your food comes from. Local farmers aren't anonymous and they take their responsibility to the consumer seriously.

Local food supports local families. The wholesale prices that farmers get for their products are low, often near the cost of production. Local farmers who sell direct to consumers cut out the middleman and get full retail price for their food - which helps farm families stay on the land.

Local food builds community. When you buy direct from a farmer, you're engaging in a time-honored connection between consumer and grower.

Local food benefits the environment and wildlife. Well-managed farms provide ecosystem services: they conserve fertile soil, protect water sources, and sequester carbon from the atmosphere. The farm environment is a patchwork of fields, meadows, woods, ponds and buildings that provide habitat for wildlife in our communities.

Local food is an investment in the future. By supporting local farmers today, you are helping to ensure that there will be farms in your community tomorrow. That is a matter of importance for food security, especially in light of an uncertain energy future and our current reliance on fossil fuels to produce, package, distribute and store food.

<http://www.uvm.edu/vtvegandberry/factsheets/buylocal.html>TEN REASONS TO BUY LOCAL FOOD

7. Take shorter showers.

Because: Showering is also one of the leading ways Americans use water in the home, accounting for nearly 17 percent of indoor water use. Every time you take a shower, you also use energy to heat and deliver the water to your showerhead. By replacing just one showerhead with a WaterSense labeled model, EPA estimates the average family can save

2,900 gallons of water, the amount of electricity needed to power its home for 13 days, and more than \$70 in energy and water costs every year. To save even more water, keep your shower under five minutes long—try timing yourself the next time you hop in!

http://www.epa.gov/watersense/our_water/shower_better.html

8. | Recycle aluminum cans.

Because: One hundred percent of a recycled aluminum can ends up as another aluminum can in as little as 60 days. An aluminum can has no limit to the number of times it can be recycled. Aluminum is the most recyclable of all materials—it is four times more valuable than other recycled consumer materials. Throwing away a single aluminum can is like pouring out six ounces of gasoline onto the ground.

<http://www.aluminum.org/Content/NavigationMenu/TheIndustry/Recycling/Whyrecycle/>

9. | Don't rinse dishes going into the dishwasher.

Because: Studies show that most people pre-rinse dishes before loading them into the dishwasher. Modern dishwashers—certainly those purchased within the last 5 to 10 years—do a superb job of cleaning even heavily soiled dishes. Don't be tempted to pre-rinse dishes before loading – simply scrape off any food and let the dishwasher do the rest. This will save you time as well as water and energy. If you find you must rinse dishes first, get in the habit of using cold water.

<http://www.care2.com/greenliving/energy-saving-dishwashing-tips.html#ixzz2uebzZi7p>

10. | Skip the bottled water.

Because: Making bottles to meet America's demand for bottled water uses more than 17 million barrels of oil annually, enough to fuel 1.3 million cars for a year. And that's not even including the oil used for transportation.

The energy we waste using bottled water would be enough to power 190,000 homes.

Last year, the average American used 167 disposable water bottles, but only recycled 38.

Americans used about 50 billion plastic water bottles last year. However, the U.S.'s recycling rate for plastic is only 23 percent, which means 38 billion water bottles – more than \$1 billion worth of plastic – are wasted each year.

The recommended eight glasses of water a day, at U.S. tap rates, equals about \$.49 per year; that same amount of bottled water is about \$1,400.

<http://www.banthebottle.net/bottled-water-facts/>