

## ENERGY—Learning & Conserving

Did you know that every time you turn on a light, watch TV, or ride in a car, you're using energy? Energy is what keeps our lights on, our houses warm in the winter and cool in the summer, and lets us drive to the store to get groceries. Energy is often converted into electricity, which is what powers everything in your house that is plugged into your walls. Without it, your house would be dark after sunset, there would be no television, no computers, and no microwave ovens!

For many years, we have used coal, oil and other fossil fuels to make electricity for our homes and offices, and provide fuel for our cars and trucks. Did you ever wonder why they are called fossil fuels? As you probably already know, dinosaurs roamed the Earth millions of years ago, along with countless other creatures before and after them. After these prehistoric residents died, their bodies were buried beneath the ground (along with a lot of other plant and animal matter) and millions of years later this became oil. Oil has been a plentiful resource for many years, but it is a non-renewable resource, which means that someday there will be no more left at all. When we burn oil, it pollutes the air and contributes to global warming—the gradual heating of the earth's atmosphere. Global warming is causing major changes to the earth's climate.

Since fossil fuels will not last forever and because they are harming the health of our planet, we need to find alternative energy sources. The best kind of energy is renewable energy (meaning it does not run out) and

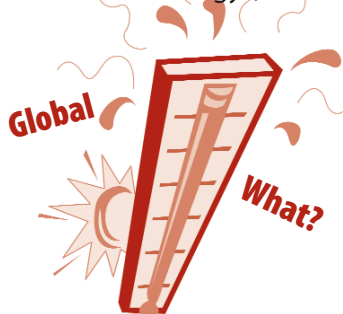
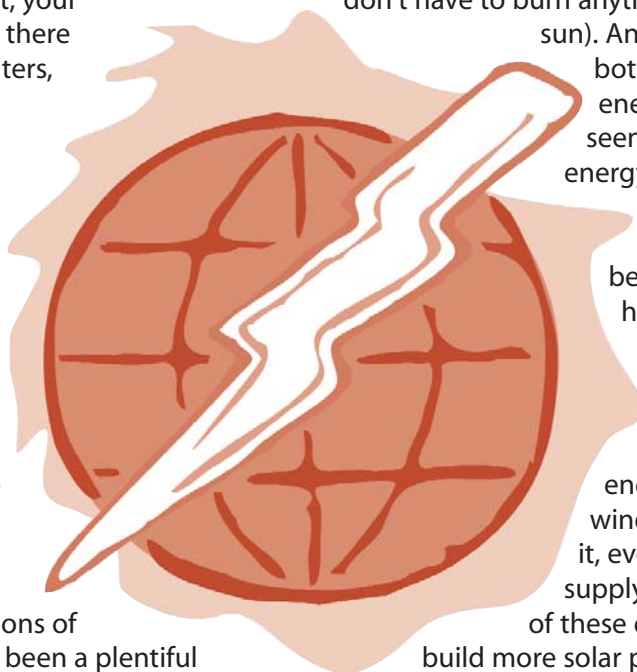
non-polluting or clean energy (meaning it does not cause harm to our planet or to people). Energy from the sun (called solar energy) has been used for many years to make electricity and heat our homes. Energy from the sun is both renewable (because the sun will not run out of energy for millions of years) and clean (because we don't have to burn anything to make energy from the sun). Another source of energy that is

both renewable and clean is energy from wind. Have you ever seen a windmill turning? Well, energy from wind can also be turned into electricity. Wind is a renewable source of energy because the earth will always have wind. As you might have already guessed, using wind energy does not cause any harm to earth or its people.

Even though we already use energy from the sun and the wind, we do not use very much of it, even though there is an endless supply of both. In order to use more of these energy sources, we will need to build more solar power plants and wind farms.

Of course it costs money to build these power plants, but once they are built, the cost of the sun and the wind is free!

Hybrid cars which use electricity in addition to gas are providing a cleaner alternative as well, and fuel cells may replace these as an even more renewable energy source sometime in the future. If we make the right energy choices, we can live on a planet that has much less pollution and cleaner air. Read on for ways to help you help the earth!



Keep hearing that phrase "global warming" but not sure what it means or what you can do? In the past, the temperature outside increased just a little bit over the span of years. But now, scientists predict that during your lifetime, the average temperature of the planet will raise from 2.7 to 11 degrees Fahrenheit! That's hot, and not good for our health or plants and animals. Global warming may also cause bad weather. It's important to help out now by watching our energy uses—after all, it's the overusing of coal, oil, and gas that is choking our planet in a cloud of pollution!

# Fun and Games

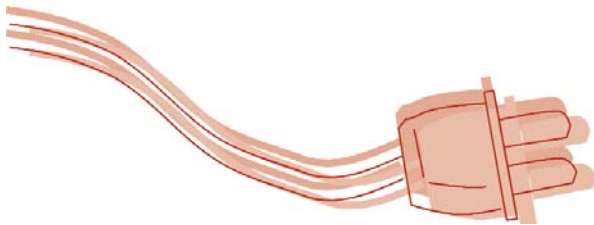
## TRUE OR FALSE?!

1) **There is so much oil in the ground, it will never run out.**

Answer: False! There is a limited supply of oil in the ground, and someday (maybe sooner than we think) it will all be gone.

2) **Solar energy can only be used in places where it is very sunny.**

Answer: False! Solar power, just like other kinds of power, can be stored and sent to other places to use.



3) **Solar and wind energy are unlimited sources of energy.**

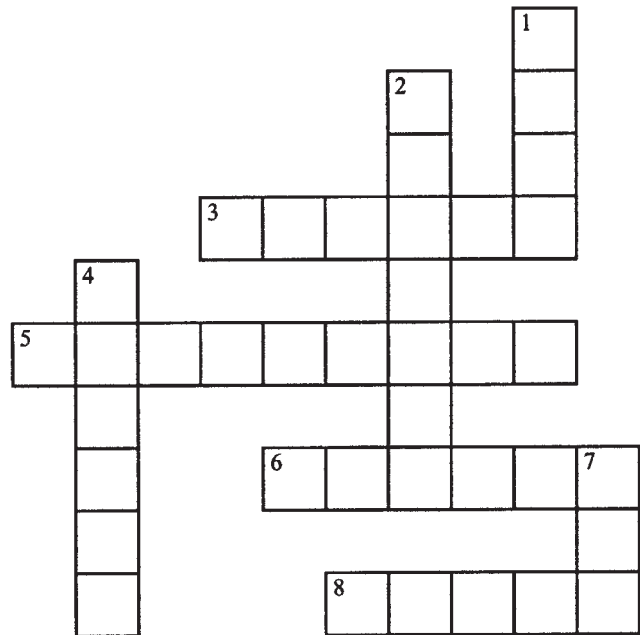
Answer: True! The sun has been shining on earth for millions of years and will keep shining for millions more.

4) **Cars can't be environmentally friendly.**

Answer: False! Hybrid cars are a great alternative because they require much less gas than a regular car. The electric engine gets charged when you step on the brake. Less toxic fumes, less global-warming carbon dioxide...less need to drill into the earth for oil!

Attempt the...

## THE NO-GUZZLE PUZZLE



ACROSS

3. New type of car that uses electricity and less gas.
5. Using too much oil causes \_\_\_\_\_.
6. Don't forget to turn off the \_\_\_\_\_!
8. \_\_\_\_\_ house effect.

DOWN

1. Renewable source of energy that's free.
2. Gradual heating of the earth's atmosphere is called global \_\_\_\_\_.
4. What type of fuels will not last forever?
7. Solar panels get their natural energy from the \_\_\_\_\_.

Answers to the No-Guzzle Crossword Puzzle: 1. wind, 2. warming, 3. hybrid, 4. fossil, 5. pollution, 6. lights, 7. sun, 8. green

## WEBSITES

[www.sierraclub.org/iwillevolve](http://www.sierraclub.org/iwillevolve)  
**I Will Evolve**

[www.eia.doe.gov/kids](http://www.eia.doe.gov/kids)  
**Energy Information Administration**

[www.greenhousenet.org](http://www.greenhousenet.org)  
**Green House Network**

[www.eere.energy.gov/kids](http://www.eere.energy.gov/kids)  
**U.S. Department of Energy**

## BOOKS

**Let's Celebrate Earth Day** (ages 4-8)  
By Connie and Peter Roop

**The Lorax** (ages 4-8)  
By Dr. Seuss

**Earth Book for Kids: Activities to Help Heal the Environment** (ages 9-12)  
By Linda Schwartz

**Global Warming: The Threat of the Earth's Changing Climate** (ages 9-12)  
By Laurence Pringle

## TOMORROW'S PLANET

Summer '04

Editors/Contributors: Clay Walsh & Seth Fields

Sierra Club Statement of Purpose

To explore, enjoy and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives.

# Are you curious about how you can help save the planet?

## Career Path

Do these new types of energy sources excite you? Well, a valuable way to help promote a secure and sustainable future is to think about a career in **renewable energy**! Not sure what to say when asked "what do you want to be when you grow up?"- how about a job in the wind or solar power fields! Professional and skilled people can become employed in lots of different jobs, for instance, you can learn to become a **Windsmith**! That is the job where the worker would make energy by operating and maintaining the wind turbines. Or how about a job dealing with the **solar power** equipment? From manufacturing, installation, or designing power plants...who knows, you could be the next solar powering engineer that helps preserve our precious planet!

## Did You Know?

The U.S. uses 120 pounds (54 kilograms) of **natural resources** per person per day, and the average American consumes as much energy as:

- 2 Germans
- 6 Mexicans
- 12 Chinese
- 29 Indians
- 117 Bandladeshi

Source: U.S Bureau of the Census 1999



## 5 THINGS YOU CAN DO TO HELP

1

### Use Less Energy

Simple steps like turning off the water while brushing your teeth and turning off the TV when not in use make a big difference!

2

### Take Public Transportation

Taking the bus, train, walking, or riding a bike whenever possible saves energy and creates much less pollution.

3

### Find out about Solar Power in your area

Does someone you know have solar panels on their house? How much have they saved on electricity?

4

### Recycle

It takes much less energy to recycle old bottles, cans and paper than it does to make brand new ones.

5

### Find out about Wind Power in your area

Are there wind turbines where you live? Are there areas where it is usually windy?

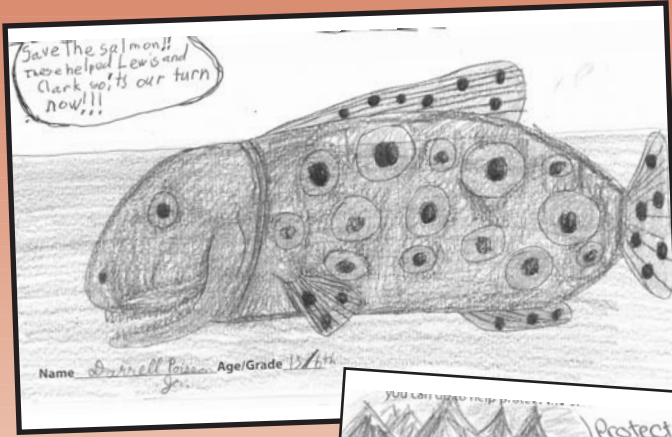
## Tell us what you think

Use this space to write a letter or draw a picture showing your concern for the environment and send it to us! If we print your drawing or letter you could get a **FREE** Sierra Club backpack, hat, or children's book. So go ahead, tell us what you can do to help protect the earth!

*Submissions become property of the Sierra Club and may be used without limitation or restriction.*

Name \_\_\_\_\_ Age/Grade \_\_\_\_\_

# Your pictures



Darrell, Grade 6



Ethan, Grade 6



Sheridan, Grade 6

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