

Teachers,

Our new EnviroSchool program presents “Environment’s Got Talent!”

From frozen poles to humid rainforests, our extraordinary world is full of incredible features and astonishing creatures. Discover amazing animal abilities and gather unique insights about the environment as Dr. Zoolittle, a Zoo Educator and Zoo animals entertain you. Students will learn about energy conservation as they participate in a talent competition with animals—and are judged by Gaga Iguana, Bierber Bear, Foo Fighter Tiger and Tony the Hawk!

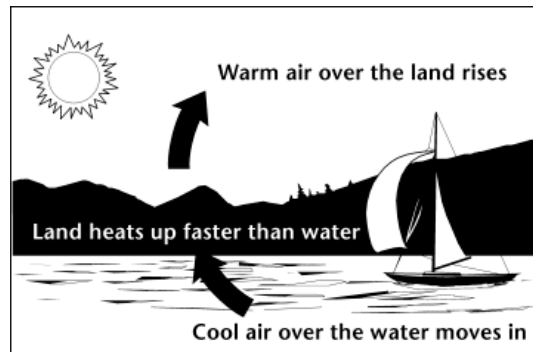
We hope you enjoy the program,
San Diego Zoo Education Department



This program and its materials are made possible by a generous donation from SDG&E.

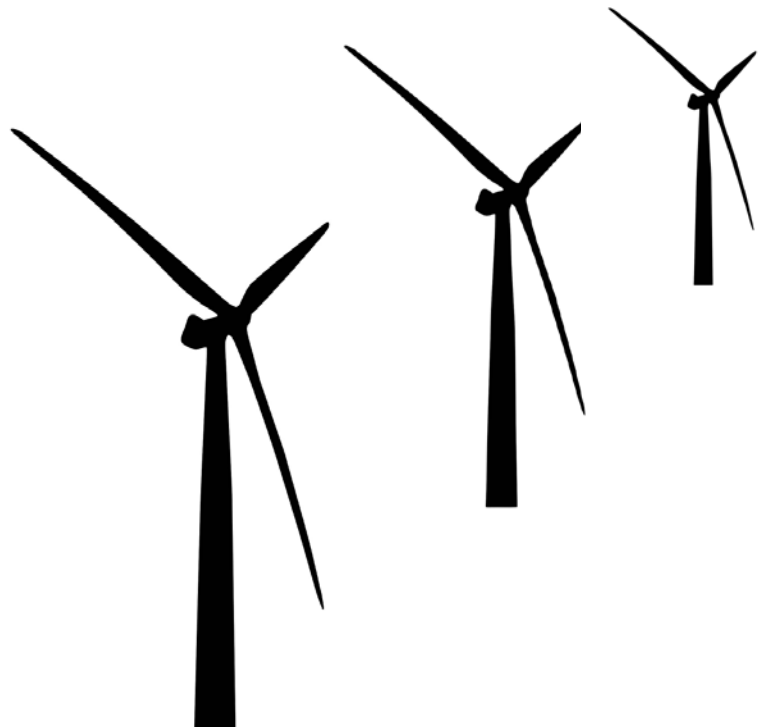
Energy from Moving Air

Wind is air in motion. It is produced by the uneven heating of the earth's surface by the sun. Since the earth's surface is made of various land and water formations, it absorbs the sun's radiation unevenly. When the sun is shining during the day, the air over landmasses heats more quickly than the air over water. The warm air over the land expands and rises, and the heavier, cooler air over water moves in to take its place, creating local winds. At night, the winds are reversed because the air cools more rapidly over land than over water.



Wind Energy for Electricity Generation

Today, wind energy is mainly used to generate electricity. Wind is a renewable energy source because the wind will blow as long as the sun shines. Like old fashioned windmills, today's wind machines (also called wind turbines) use blades to collect the wind's kinetic energy. The wind flows over the blades creating lift, like the effect on airplane wings, which causes them to turn. The blades are connected to a drive shaft that turns an electric generator to produce electricity

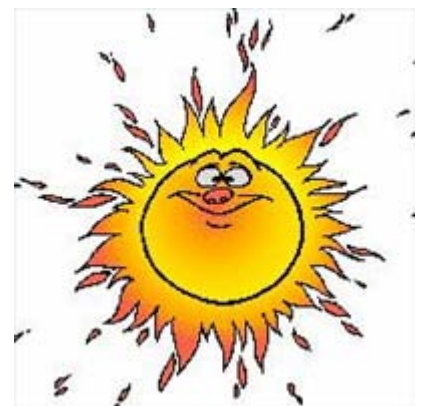




Easy Energy Tips

- ✓ Turn off the lights when you leave a room.
- ✓ Use compact fluorescent bulbs in your room.
- ✓ Unplug chargers when not in use.
- ✓ Take shorter showers. Heating water uses energy.
- ✓ Close the blinds on a hot day if the sun is shining in.
- ✓ Turn off your computer or the TV when you're not using it.
- ✓ Wait until you have a lot of clothes to wash before using the washing machine.
- ✓ Dress lightly instead of turning up the air conditioning. Or use a fan.
- ✓ Dress warmly inside your house when it's cold, instead of turning up the heat.
- ✓ Offer to help your parents keep the air filters on your AC and furnace clean.
- ✓ Walk short distances instead of asking for a ride in a car.

Energy from the Sun



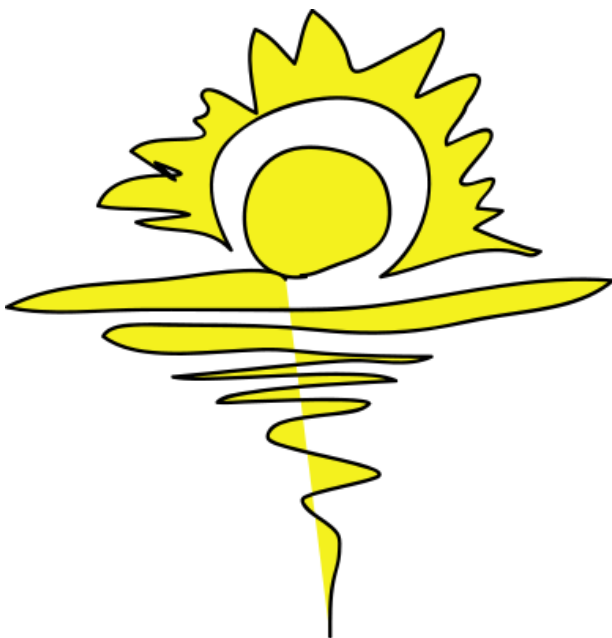
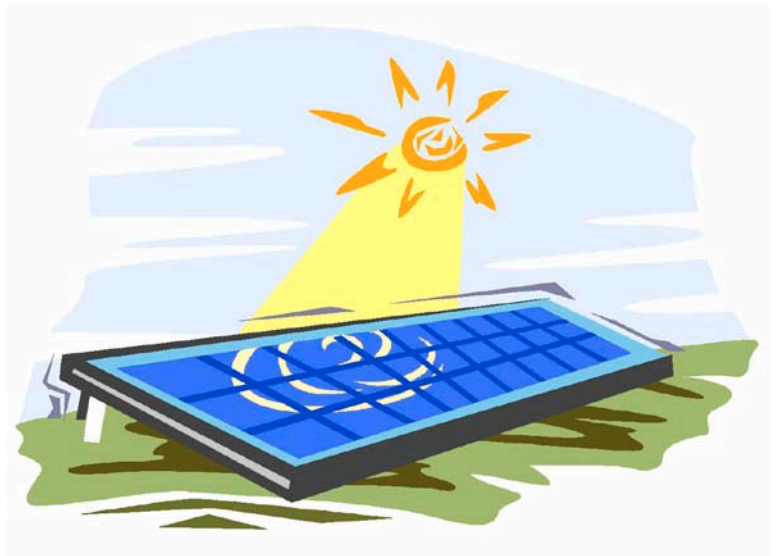
The sun has produced energy for billions of years.

Solar energy is energy taken from the sun that is converted into electrical or thermal energy.

This energy can be converted into other forms of energy, such as heat and electricity. Unlike other types of energy, the sun won't ever run out.

Solar Batteries

Because the sun sets and it's not always sunny outside, solar batteries can help store the energy from sunlight. At night or on cloudy days, the batteries can discharge their energy so you can benefit from solar energy.



Solar Cells

Solar cells are devices that make up solar panels. They take energy from sunlight and convert it into electricity.

You can find solar panels on road side emergency equipment, call boxes, street lights, and on some calculators. The solar cells are easy to spot by their black rectangular film.

Fun Fact: California Has the World's Biggest Solar Power Plant

Water Facts



The average San Diegan uses about 88 gallons of water each day at home for both indoor and outdoor uses.

If placed into gallon bottles, the 168 million gallons of water San Diego imports daily would encircle the earth more than one and a quarter times.

97% of the world's water is salty or otherwise undrinkable. Another 2% is locked in ice caps and glaciers. That leaves just 1% for consumption by all living creatures, including plants and animals.



If everyone in the US used just one less gallon of water per shower every day, we could save some 85 billion gallons of water per year.

If everyone in the US flushed the toilet just one less time per day, we could save a lake full of water about one mile long, one mile wide and four feet deep.

Every glass of water brought to your table in a restaurant requires another two glasses of water to wash and rinse the glass. Since nearly 70 million meals are served each day in US restaurants, we'd save more than 26 million gallons of water if only one person in four declined the complimentary glassful.

Ways to Save Water

Take shorter showers.

Turn off the water while brushing your teeth or shaving.

Fully load your dishwasher and washing machine.

Rinse dishes in a full sink or pan of water.

Water your lawn or garden early in the morning or late in evening.

Adjust sprinklers so that they don't water the sidewalk or street.

Plant drought-tolerant or low water-use plants and grasses.

Use a broom rather than a hose to clean sidewalks, driveways,



WEB RESOURCES

http://www.sandiegozoo.org/teachers/classroom_activities.html

Want downloadable classroom curricula about animals and habitats—check out our site.

<http://www.sandiegozoo.org/animalbytes/index.html>

Looking for info about ANY kind of animal—we've got it!

<http://www.eia.doe.gov/kids/energyfacts/>

Many sources provide us the energy we need to live our busy lives. To find out more about the different types of renewable and non-renewable energy, check out this website.

<http://epa.gov/climatechange/kids>

This kids page focuses on the science and impacts of global warming or climate change, and on actions that help address our changing climate.

<http://www.ciwmb.ca.gov/schools/Curriculum/CTL/TOC.htm>

Includes a full curriculum for K-6, *Closing the Loop*, designed to introduce students to integrated waste management through awareness, understanding, and action, and to encourage students to address today's solid waste problems. The lessons focus on becoming aware of natural resources and understanding alternatives to burying waste through reducing, reusing, and recycling, thereby conserving natural resources and extending the life of landfills.

<http://www.teacherquicksource.com/environment/default.aspx>

Connects conservation concepts to classroom activities! This convenient resource will help you explore ways to educate children on the importance for caring for the environment to help make the earth a healthier place.

<http://www.wastefreelunch.org>

Provides information for students, parents, and school staff on how to reduce lunch and snack waste.

www.sandiego.gov/environmental-services/geninfo/pdf/educators.pdf

Integrated waste management resources for the classroom.