

PLUGGED IN

FUN FOR KIDS

A COOPERATIVE PROJECT OF THE SANTA BARBARA NEWS-PRESS AND THE EDUCATORS' ROUNDTABLE, PUBLISHED MONTHLY TO PROMOTE LEARNING AMONG YOUNG READERS IN NATURAL SCIENCE, HISTORY, TECHNOLOGY AND ART


GET connected connected


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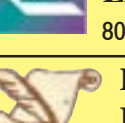
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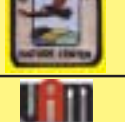
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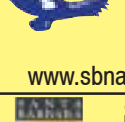
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 **Cachuma Lake Nature Center, Inc.**
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 **University Art Museum, UCSB**
805-893-2951
www.uam.ucsb.edu

 **Santa Barbara Museum of Natural History**
www.sbnature.org; 805-682-4711


 **Santa Barbara Zoological Gardens**
805-962-5339
www.santabarbarazoo.org

 **Santa Barbara County Parks**
805-568-2461
www.sbpc.org

 **Santa Barbara Contemporary Arts Forum**
805-966-5373; www.sbcaf.org

 **Art From Scrap**
805-884-0459
www.artfromscrap.org

 **USDA Forest Service, Los Padres National Forest**
805-968-6640
www.r5.fs.fed.us/lospadres

 **South Coast Railroad Museum**
805-964-3540; www.goletadepot.org

This Month's Theme: Renewable Energy

The Earth Is A Powerful Place

Humans use a lot of electricity every day as we go about our lives. Most of the electricity we use comes from coal or natural gas burning power plants that also produce gasses that contribute to global warming and air pollution. Coal and natural gas are called fossil fuels because they were formed many hundreds of millions of years ago during the time of the dinosaurs. These are nonrenewable resources, because we cannot make more of them once they are gone. Even though we still have coal and natural gas left to burn in our power plants, a better idea is to use less of these fossil fuels and get more energy from the earth's renewable resources.

What is a renewable resource? A renewable resource can be used over and over again and can provide us with an unlimited amount of energy in the future. Some examples of renewable energy sources include solar power, wind and wave action. Some other great things about renewable resources are that they do not pollute the atmosphere like coal burning power plants and they do not contribute to climate change. You can help Santa Barbara become "fossil free by 2033" by using less electricity and learning more about renewable energy.

Solar tiles like these collect the sun's energy.



Wind Energy Is Clean & Safe!



Turbines harness the renewable energy of the wind.

As if the sun and the water aren't enough proof that planet Earth can give us electricity without fossil fuels, windy days also remind us that the earth is a powerful place to live. Windmills are very effective at capturing energy from moving air and converting it to electricity. The energy it takes the wind to move the blades on a windmill can be used to run turbines, which convert that same energy into electricity for us to use.

Windmills are a great way to generate electricity in areas like mountain passes, deserts and valleys because of strong winds. Some windmills have blades that stretch farther than half a football field. As these blades rotate in a circle, they generate lots of electricity without harmful by-products. A group of windmills located together is called a wind farm and can generate enough electricity to power entire cities.

Santa Barbara County has good wind in some areas and it may be a good idea to build some wind farms in our county to provide clean energy!

Can We Harness The Power Of The Sun?

The sun's rays are a fantastic source of renewable energy. Many buildings in Santa Barbara harness the sun's power through solar panels. Engineers can install solar panels on buildings to concentrate the rays that come down to the earth from the sun. These rays are converted into electricity that can be used to run all the electrical appliances in your home! The Community Environmental Council has teamed up with the federal government's Million Solar Roofs Partnership to get thousands of solar panels installed in California. If you want to see what solar panels look like, visit the Watershed Resource Center at Arroyo Burro Beach. Most people don't even realize that solar panels are on the roof of the building!



These solar tiles line the roof at the Watershed Resource Center at Arroyo Burro Beach.

Waves Are For More Than Just Surfing!

Scientists today want to use the power of ocean waves to light and heat our homes. We can do this in many ways, but one of the best ways is by building floating structures called wave buoys along certain parts of the California coast. As the buoy floats in the ocean waves, it generates power through its up and down motion. And with some types of buoys, you don't even see them because they

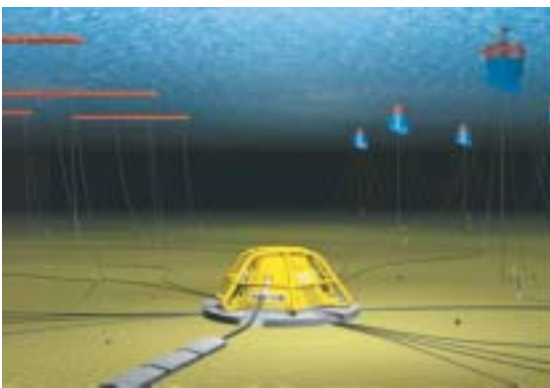
float beneath the surface! An example of a wave buoy can be seen in the picture.

There are other ways to harness the ocean's power. For example, ocean thermal energy conversion technology (OTEC) produces electricity by taking advantage of temperature changes between shallow and deep water. Unlike coal-burning power plants that release damaging chemicals into the atmosphere, OTEC technology produces fresh water as a by-product.

We could also generate power from the tides, where the tides are large enough. Devices that do this collect water as the tide rises and then release the water through a turbine as the tide goes out again. This produces electricity!

There are many other exciting technologies that harness energy from the ocean. Check out the Community Environmental Council's web site (www.communityenvironmentalcouncil.org/energyprograms) to find out more.

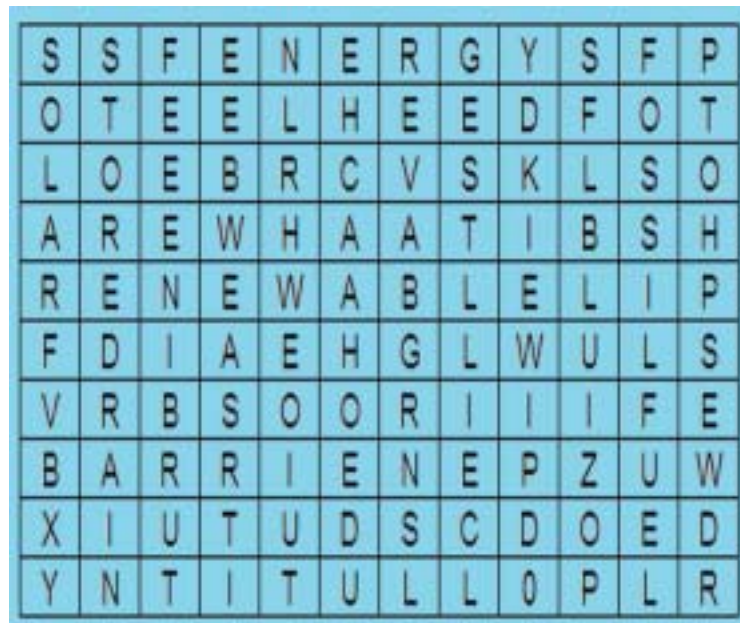
Wave buoys collect energy from the ocean that can be converted into electricity.



Renewable Energy Word Search

Find the hidden words that relate to healthy creeks in the word search below. The words are hidden in the puzzle several different ways: forwards, backwards, vertically and diagonally. Good luck!

WAVE TURBINE ENERGY RENEWABLE
WIND SOLAR FOSSIL FUEL



Beach Clean Up



The Community Environmental Council and Albertsons invite you to keep the spirit of Earth Day alive by participating in a beach clean up today! Bring your friends and family to one of the beaches listed below and we will supply you with bags, gloves, water and more. There will be prizes for the strangest piece of debris found and raffles too. Each clean up will happen from 10:00 a.m. to 3:00 p.m. See you there!

Rincon County Beach Park
Carpinteria State Beach
Leadbetter Beach
Arroyo Burro County Beach Park

Page created by Mike Mowers and Nikki Wilson from the Community Environmental Council's South Coast Watershed Resource Center.

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