



# Shocking news about electrical safety

Reliant Energy wants to help you learn about energy generation, energy conservation and environmental awareness. This book has fun facts, challenging puzzles, and interesting information about energy. Find out answers to questions such as where does energy come from? How is electricity generated? What are different types of energy? And more!

First, a few words about who brought you this fabulous activity book. Reliant Energy is an energy company based in Houston, Texas. We provide electricity and other energy related products to communities in the Houston and Dallas area as well as to our friends up north in Pennsylvania, New Jersey, and Maryland.


We're committed to helping kids by taking an active leadership role in various community-based initiatives including energy education. Check out our Website for kids, parents, and teachers at [www.reliant.com/teachmeenergy](http://www.reliant.com/teachmeenergy).

## How is electricity generated?

# “Watt” is energy?



**This is James Watt. The unit of power called Watt (W) was named after him.**



**Experience energy just by looking around. Feel the sun's warmth. See the wind lift a kite into the sky. hear the waves of the ocean. Energy is all around us. Energy is power - the ability to do something. Energy is part of our everyday lives.**



**CFL** is a compact fluorescent light bulb that saves energy!



**ELECTRICITY** comes from many different sources. How do we harness or capture the energy to make electricity for use in our everyday lives? Energy comes from natural resources that are either **NON-RENEWABLE** or **RENEWABLE**.



## Did you know?

The first wind farms were built in California in the early 1980s. According to the U.S. Dept. of Energy the United States produces enough electricity from wind farms to power 2.5 million homes daily.





Have you ever wondered how electricity actually gets to your house, school or business?



This is Nikola Tesla. He invented the first alternating current (AC) motor which is now used in most household appliances like refrigerators.



First, the electricity is created from a non-renewable or renewable source at a power plant. Step-up transformers allow electricity to travel greater distances and provide higher voltage to larger, more industrial users.

The electricity is transported via a network of transmission lines to step-down substations and on to business customers. Electricity is also transmitted to pole transformers where the amount of voltage is adjusted for use by neighborhood and residential customers.

**Did you know?**

When the Hoover Dam was first built, it provided hydropower converted to electricity to power the town of Las Vegas. Las Vegas is too big now to rely solely on hydropower, so it primarily uses other sources.



← Tesla's AC motor

**Water and electricity don't mix. Water is a conductor of electricity, meaning electrical currents can easily travel through water. And, because our human bodies are made up of mostly water, human bodies make excellent conductors of electricity.**

**Electrical currents are always trying to "ground" themselves, in other words, travel from one place to the ground. If we touch a live source of electrical current, the current travels through our bodies and into the ground. Serious injury or death can occur from receiving such a "shock".**

**Ben Franklin invented the first lightning rod which helps protect buildings from lightning.**



**Electricity is very powerful, so we need to take precautions and follow safety guidelines when using electricity.**



**This is Benjamin Franklin. In 1752, he used his famous kite to collect electrical charge from a storm.**



**Keep appliances away from water and make sure you aren't standing in water or are wet when using appliances.**

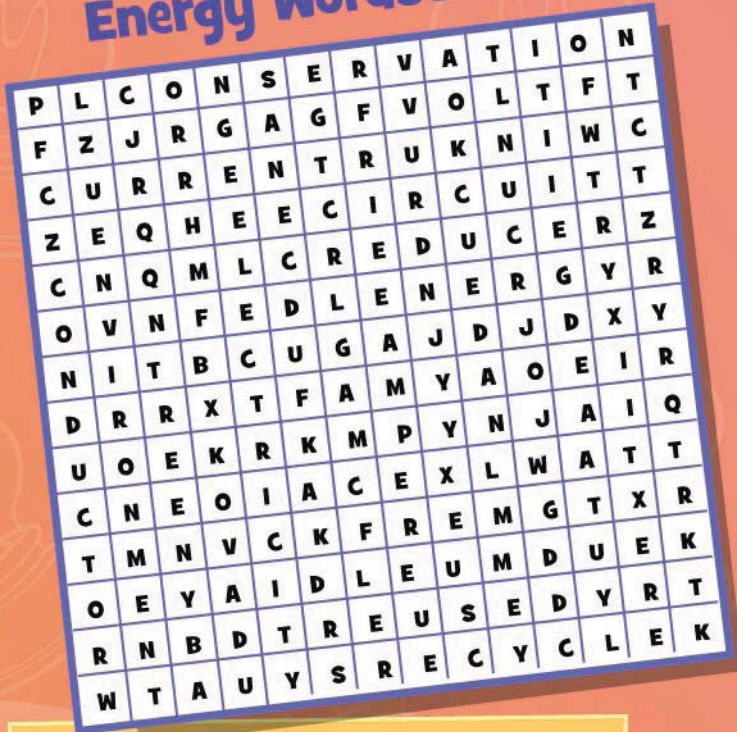


**If you are outside in an electrical storm, always try to seek shelter. If you are unable to get to shelter, squat down in a low-lying area and avoid trees or power lines. If inside, stay away from windows and do not use electrical appliances or phones.**



**Don't stick anything in outlets except plugs. Inspect cords to make sure they aren't damaged or frayed. Don't overload outlets with too many plugs and always unplug cords from the outlet by pulling on the plug and not the cord.**

# Energy Wordsearch



REDUCE  
 REUSE  
 RECYCLE  
 ENVIRONMENT  
 CONSERVATION

GREEN  
 CFI  
 ELECTRICITY  
 CONDUCTOR  
 CURRENT

CIRCUIT  
 VOLT  
 AMPERE  
 WATT  
 ENERGY

Where can we look for energy saving ideas?

[www.energystar.gov](http://www.energystar.gov)



## Is there an energy generation gap?

In the past, populations in cities weren't as large as they are now and people weren't so accustomed to the technology that is available today.



All these extra people and energy powered technology require lots of energy and electricity. It's up to us to protect our environment so that generations to come have enough resources to produce the power they need. We need to use energy responsibly in ways that protect our resources and protect the environment.

Earth Day is a special day all over the world. The first Earth Day was celebrated on April 22, 1970.



This is Alessandro Volta. In 1800, he invented the "voltaic pile" which was the first electric battery. The electrical unit Volt (V) was named after him.





Draw a comic strip showing your energy saving ideas.

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## Did you know?

Reliant Energy provides electricity and energy-related products to more than 1.9 million retail and wholesale customers.

This is Michael Faraday. He discovered that a magnetic field can produce an electric current by rotating a disc between the poles of a horseshoe. This was the first dynamo or electric generator.



## What does it mean to be green?

Being green includes following the Three Rs: Reduce, Reuse, and Recycle. This isn't the only way to be green (environmentally friendly), but it's an easy and terrific way to start.

1. To Reduce: look for products without a lot of extra packaging. Really consider whether you need something before you buy it.
2. To Reuse: get creative! Find new ways to reuse an item. Borrow, loan and share things with your friends.
3. To Recycle: check with local authorities to see if your neighborhood participates in a recycling program. If not, consider collecting glass or plastic and take your recycling to a nearby recycling facility.

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an NRG company