

ENERGY SENSE



CONSERVATION AND EFFICIENCY
START WITH YOU!



Conservation and Efficiency Start With You!

Every day we read or hear news related to energy use –fuel prices, renewable energy sources like solar and wind, greenhouse gas emissions and climate change. You probably think, “What can I possibly do to help? I’m just one person, and these issues are huge.” You can do a lot – simply by starting at home! Not only will you help the environment, you will help your family save money - a *win-win situation!*

ENERGY SENSE! was written to help you understand both at-home energy conservation and energy efficiency. Simple examples of each are: turning off a light when you leave a room (conservation) and using an LED (light-emitting diode) light bulb versus an incandescent bulb (efficiency). This booklet was developed to help you and your family learn where energy comes from, how it gets to you, the big energy users (“hogs”), and the energy drainers (“vampires”) in your home.

Some of the activities included in **ENERGY SENSE!** are intended for your classroom and some you can do at home. Working together with Broward County, FPL, your school and at home, you can make a difference.

Photo: Debbie Rahamim, Sun Sentinel NIE

ENERGY SENSE TIP #1:

I will start my energy-saving journey by remembering these words:

“I can do at least ONE thing every day to save money and the environment.”

DID YOU KNOW?

Compact fluorescent (CFL) bulbs use up to 75% less electricity and last about 10 times longer than regular light bulbs.



Ms. Kanika Frazier, Arthur Ashe Middle School

The world of energy conservation and efficiency is a science. Like any science it has its own vocabulary.

Below is a short list of some terms you should know:

VOCABULARY

Conservation	Kilowatt
Efficiency	Non-Renewable Energy
Electricity	Peak Demand
Emissions	Power Leakage
Energy Hogs	Renewable
Energy Star	Standby Power
Fossil Fuels	Sustainability
Going Green	Thermostat
Insulation	Vampire Power

Next Generation Sunshine State Standards:
Language Arts: LA.L.6.4, LA.L.7.4, LA.L.8.4

CREDITS

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WHAT IS ELECTRICITY?

The definition of electricity can be confusing to sort out because the term has come to mean several different things. For the purposes of this booklet, we are going to say that electricity is the power source that flows into your home to allow you to turn on the TV, wash your clothes, heat your water, power your air conditioner, etc.



Photo: Fotolia.com

WHERE DOES YOUR ELECTRICITY COME FROM?

A simple description of how energy gets to your house is as follows: the electricity that powers up your home comes in the form of an energy current that is generated by power plants located throughout the country. Some power plants are located near their source of fuel, including water, natural gas, coal, uranium, sun, wind and biofuels.

Machines called turbines are housed at these power plants. The turbines use the energy created from various physical and chemical reactions (depending on the kind of fuel) to generate electricity. The electricity then travels through transmission substations (called grids) to smaller power plants known as distribution substations. From there, it moves on to smaller distribution lines, either above or sometimes below ground, into your neighborhood.

Your home is hooked into a transformer, and the current runs through the lines to a meter that keeps track of how much electricity you are using. It continues from the meter into a service panel, also called a circuit breaker, usually found in your garage or basement if you have them, or elsewhere in your home. From there, it runs through wires in the walls of your house to all the outlets and switches.

ENERGY SENSE TIP #2:

"I can do at least ONE thing every day to save money and the environment." "I will check out www.Broward.org/gogreen/energysense and write down one quick energy-saving idea. Next, I will make sure to do it as soon as I get home".

Photo: Debbie Rahamim, Sun Sentinel NIE

DID YOU KNOW?

A leaky toilet can waste 200 gallons of water per day.



ACTIVITIES

WHERE'S THE POWER?

Using online sources, locate at least 3 examples of places in Florida and other states that use each kind of power source. For instance, locate a state that has a dam that generates electricity from the flow of water, a city that houses a nuclear plant, etc. Find out where each is found, when it was constructed, and how much power it generates. Share your findings with your class.

ENERGY DASHBOARD

Did you know that your family has a new tool that can help save energy? It's called the FPL Energy Dashboard, and it shows you how much energy you're using by the hour, day, and month. To get started with the Energy Dashboard, visit www.FPL.com and enter your User ID and password in the "Account LogIn" box. If you're not registered yet, click on "Register for Online Access." Registration is simple. You will need your FPL account number, an e-mail address and the last six digits of the Social Security Number associated with the account. If you don't have a computer, you can get the information by calling 1-800-226 3545.



Photo: Florida Power & Light Company

For information on the Energy Dashboard, go to: www.fpl.com/ami/pdf/how_to_use_the_portal.pdf. For more information on smart meters, visit www.FPL.com/energysmart.

For one week, check your Energy Dashboard every day. Write down how many kilowatt hours of electricity your home has used up for the week.

Day 1 _____	Day 2 _____
Day 3 _____	Day 4 _____
Day 5 _____	Day 6 _____
Day 7 _____	Total kWh _____

Divide the total by 7 to get a daily average: _____

Next Generation Sunshine State Standards
 Language Arts: LA.RI.6.7, LA.W.6.2, LA.W.6.7, LA.W.6.8, LA.W.7.2, LA.W.7.7, LA.W.7.8, LA.W.8.2, LA.W.8.7, LA.W.8.8, LA.SL.6.1, LA.SL.6.4, LA.SL.7.1, LA.SL.7.4 Math: MA.6.NS.2, MA.6.NS.3, MA.6.EE.1

There are many resources available to aid you in your search to conserve and be efficient. Below are just a few. Check your local library, media center, or booksellers' websites for availability.

BOOKS

- Energy: Use Less-Save More: 100 Energy - Saving Tips for the Home
- The Kids' Solar Energy Book: Even Grown-Ups Can Understand
- Earth Book for Kids: Activities to Help Heal the Environment
- The New 50 Simple Things Kids Can Do to Save the Earth
- 365 Ways to Live Green for Kids: Saving the Environment at Home, School, or at Play - Every Day!
- Electricity Book: The Junior Technician's Guide to How Electricity Works
- Energy Efficient Homes For Dummies

WEBSITES

- www.electronics.howstuffworks.com
- www.epa.gov/students/index.html
- www.broward.org/environment
- www.vampirepowersucks.com
- www.broward.org/gogreen
- www.eere.energy.gov/kids
- www.energyquest.ca.gov
- www.eia.doe.gov/kids
- www.energystar.gov
- www.energyhog.org
- www.tvakids.com
- www.fpl.com

Write a letter to Florida Power and Light Company asking what is available. Also check state and federal energy offices. Go to their websites for further information. Most importantly, share this idea with your family.

ENERGY SENSE TIP # 4:

"I can do at least ONE thing every day to save money and the environment." I will read at least one book or visit a website or read the Sun Sentinel to discover new developments and ideas for saving energy at home.

Photo: Debbie Rahamim, Sun Sentinel NIE



With this booklet and other recommended resources, you should be well on your way to saving energy at home. Beyond that, there is much more to consider. Make it a goal to better understand what the big energy picture is, here in Broward County, across the state, and in the U.S. and around the world. Learn as much as you can about resources, conservation, new technologies and even the energy and environmental jobs of the future.

ACTIVITIES

Create one of the following, either at home or as an in-class project:

- poster
- collage
- comic strip
- song
- video

Use the theme:

"I can do at least ONE thing every day to save money and the environment."

Next Generation Sunshine State Standards

Language Arts: LA.W.6.3, LA.W.6.4, LA.W.7.3, LA.W.7.4, LA.W.8.3, LA.W.8.4
LA.SL.6.4, LA.SL.6.1, LA.SL.7.4, LA.SL.7.1, LA.SL.8.4, LA.SL.8.1 Music: MU.68.S.1.2
Visual Arts: VA.68.O.1.3, VA.68.O.1.4, VA.68.F.1.1 Theater Arts: TH.68.C.1.1



Photo: Debbie Rahamim, Sun Sentinel NIE

DID YOU KNOW?
Power companies often offer rebates for replacing things like windows, caulking leaks, updating air conditioners, etc.

I can do at least **ONE** thing every day to save money and the environment.



BRENDA FORT LAUDERDALE



TIM MIRMAR



MICHAEL PLANTATION



MARLENE PEMBROKE PINES



Visit broward.org/gogreen for more tips on saving money, energy and the environment.

ENERGY SENSE

Real people, real tips. real savings.

BROWARD COUNTY FLORIDA

A service of the Broward County Board of County Commissioners.

100% post-consumer recycled

Remember: You can make a difference! ENERGY SENSE. Real People, Real Tips, Real Savings.