



## **Economize Energy (ECO-EN) Patch Program**

The Economize Energy (ECO-EN) patch program is designed to help girls learn to use resources wisely and to protect and improve the world around them. The goal of the program is to create awareness for the need to conserve energy and to provide Girl Scouts with activities that can make a difference at home, camp, in the community and the natural world.

The Girl Scout program is based on the principles of the Girl Scout Promise and Law and Girl Scout Leadership Experience, which engages girls to Discover who they are and what they stand for, Connect with others and Take Action to make the world a better place. A Girl Scout leader helps girls in developing the necessary life skills to become the best they can be. The leader encourages girls to manage tasks, to challenge themselves and cheers their accomplishments. *The Girl's Guide to Girl Scouting* and Program standards, found in *Volunteer Essentials* and established by the national organization, are guides for troops in judging and improving the quality of program for girls. They are intended to help leaders by indicating practices which experience has shown to be effective in achieving a well-rounded troop program.

Troop program should meet the needs and interests of girls, and include opportunities for:

- A wide variety of fun activities
- Individual and group participation
- Value development and skill building
- Interaction with troops at the same and different levels.
- Exploration of potential roles of women
- Understanding and appreciation of several cultures other than their own
- Active participation in the community

### **Requirements:**

The requirements are the same for each level of Girl Scouting. A girl must complete at least one activity from each of the four groups: home, camp, community and the natural world. Activities should be selected based upon the girl's ability, understanding and interest. For additional resources and activities refer to GSUSA's Journeys (appropriate grade level).

### **Time frame:**

October 1 –September 30 of each year. This program is printed online at [girlscoutsem.org](http://girlscoutsem.org)

**Patch:**

Upon completion the ECO-EN patch may be purchased in the Girl ScoutShop.

**Contacts:**

In addition to the Emerson Resource Center, questions about the program can be directed to Lucretia Penn, 314.592.2337 or lpenn@girlscoutsem.org

**Activities-Home: Choose at least one activity**Activity 1:

- In the average U.S. home, lighting accounts for about 20% of the electric bill. Ask girls to research different types of energy efficient light bulbs. What can each family do to make the switch?

Activity 2:

- Ask the girls to make an energy checklist of things that use electricity. To save energy, remember to:
  - Turn off lights when you leave a room
  - Run the washer with cold water
  - Toss a dry towel into the dryer with wet clothes helps reduce dryingtime
  - Add your own

Activity 3:

- Check for energy vampires that zap energy around the home such as video game system, TV, computer, and phone charger. View the video on energy vampires at [www.ameren.com](http://www.ameren.com) (search for "energy vampires" or "phantom power").

***Economize Energy Facts:***

*About 75 percent of electricity used to power games and appliances is used while they are turned off. These are known as "energyvampires."*

#### Activity 4:

- Define Energy Star and what it means. Have the girls do an in-home energy audit to find out if their appliances are energy efficient. If not, how can they conserve energy? Find out more, visit [www.energystar.gov](http://www.energystar.gov).

#### Activity 5:

- Food energy is expressed in calories. Have girls chart the total number of calories they consume each day for one week. Troop members can plan nutritious snacks for troop meetings. For healthy eating information visit <http://www.choosemyplate.gov/healthy-eating-tips.html>. Calories are burned doing various activities, visit <http://www.cnpp.usda.gov/Publications/USDAFoodPatterns/EstimatedCalorieNeedsPerDayTable.pdf> and have the girls see how much they need to eat compared to how much they consume in a day.

#### ***Economize Energy Facts:***

*The recommended calorie intake per day for an average 4-8 yr. old is 1,200, 9-13 yr. old is 1,600 and 14-18 year old girl is 1,800 calories.*

#### Activity 6:

- To get water to our homes it takes a lot of energy. Two to three percent of the world's energy consumption is used to treat and pump water to our homes. To conserve your water use:
  - Listen for dripping faucets and running water in toilets. Fixing a leak can save 300 gallons a month.
  - Turn off water while brushing your teeth and save 25 gallons a month.
  - Run the washing machine and dishwasher only when full and save up to 1,000 gallons a month.
  - Ask your parents to check the current water bill. Keep track of the different things you are doing to reduce the bill and check the next water bill to see how many gallons you saved. Find out more ways to conserve water, visit <http://www.epa.gov/watersense/kids/simpleways.html>

#### ***Economize Energy Facts:***

*A family of four in the United States uses 400 gallons of water daily.*

### **Activity-Camp: Choose at least one activity**

#### Activity 1:

- Learn about the Leave No Trace principle (LNT) and use it the next time you go camping.
  - Plan ahead and prepare
  - Travel and camp on durable surfaces
  - Dispose of waste properly
  - Leave what you find
  - Minimize campfire impacts

- Respect wildlife
  - Be considerate of other visitors
- Resources are available on LNT from Girl Scouts and include a soft paths DVD and LNT activity kits.

#### Activity 2:

- Hiking while at camp is a “natural” thing to do. Girls could identify energy sources available to them at camp. Are the sources of energy the same as those around your neighborhood? If not, what are the differences?

#### Activity 3:

- A fun thing to do is study plant and animal life at camp and the environmental factors that determine their growth and livelihood.

#### *Economize Energy Facts*

*Plants absorb the sun’s energy in a process called photosynthesis. In the process of photosynthesis plants convert radiant energy from the sun into chemical energy in the form of glucose (sugar) which gets passed onto the animals and people that eat them.*

#### Activity 4:

- Girl Scout camps and parks should be litter free. On your next camping trip or day outing, give each group of girls a small litterbag and instruct them to collect all the litter that they find. Did the girls notice more litter in one area compared to another? What could be some contributing factors?

#### Activity 5:

- How does cooking in the outdoors differ from cooking at home? Discuss with the girls how energy from the sun’s rays can be used? The following experiment will work if the sun is shining and it is a warm day. Take a plate filled with tortilla chips sprinkled with cheese in the sun. How long did it take to melt the cheese? What would happen if you put the chips and cheese in aluminum foil? Experiment cooking in a reflector oven. How to and recipes can be found in the Out of doors PEP Packet, available from the Emerson Resource Center.

#### Activity 6:

- Plan a camping weekend or a backyard camp experience without creature comforts, such as no electricity, flush toilets, gas stoves or furnaces. How can you get to your campsite—backpack, bicycle, or canoe? What else can you think of?

### **Activity-Community: Choose at least one**

#### Activity 1:

- Is your troop curious about going green? Find out how Girl Scouts is going green. Learn more about sustainable living options by visiting [www.ourearth.org](http://www.ourearth.org).

#### Activity 2:

- Recycle, reduce, reuse! Find out how your community handles recyclable materials. If there isn't a recycle center or pick up what can Girl Scouts do as a take action project with their families, school and community?

#### Activity 3:

- What does litter have to do with energy conservation? Well, it takes lots of human energy to clean up litter, not to mention the fuel used by machinery. Involve your troop in cleaning up a park or playground. How can girls continue to make a difference? Visit [www.kab.org](http://www.kab.org).

#### **Economize Energy Facts**

*Cleaning up litter in the U.S. costs hundreds of dollars per ton, about ten times more than the cost of trash disposal, for a cost totaling about \$11 billion per year.*

#### Activity 4:

- Gasoline is one fuel made from oil (a fossil fuel) most cars driven by consumers in America use gasoline. List as many ways those consumers can conserve this important source of energy. What is an alternative fuel vehicle? Ask girls to name or identify the way vehicles are powered (e.g. gasoline, diesel fuel, natural gas, hybrid, Flex fuel, ethanol). Where do you find these energy sources, how efficient are they, etc.? Visit [www.energyquest.ca.gov/transportation](http://www.energyquest.ca.gov/transportation).

#### Activity 5:

- Have you ever considered a career in energy? Explore careers in energy; find out job descriptions, which include information such as daily activities, skill requirements, salary and training required. Visit <http://www.getintoenergy.com> or <http://www.ameren.com/Careers/Pages/CareerPath.aspx>

#### Activity 6:

- Building community awareness of the need to conserve energy is a big job. Girls could create and print their own Economize Energy (ECO-EN) newsletter of basic energy facts and typical energy zappers around the home and community. Ask a local school or church group if your troop could attend a meeting and discuss energy consumption, distribute the ECO-EN newsletter to those present. Visit <http://www.eia.gov/KIDS/energy.cfm?page=3> for energy conservation ideas.

## **Activity–Natural World: Choose at least one activity**

### Activity 1:

- Scientist always reminds us that there is a great supply of energy waiting to be tapped into beneath our feet. This source of energy is hot water and steam from inside the earth. Old faithful in Yellowstone National Park is one source of hot water. How many hot springs can your troop identify? In which states are they?

### ***Economize Energy Facts***

*Geothermal energy is a renewable energy source because heat is produced from within the earth. The U.S. generates more geothermal electricity than any other country.*

### Activity 2:

- The troop can make its own recycled paper. Directions can be found in Eco-Art available from Emerson Resource Center or, [http://www.ecokids.ca/pub/fun\\_n\\_games/printables/activities/assets/science\\_nature/paper\\_making.pdf](http://www.ecokids.ca/pub/fun_n_games/printables/activities/assets/science_nature/paper_making.pdf). Think of some uses for it. Do you think the effort was worth it? Was it a valuable learning experience?

### Activity 3:

- A power outage is short or long term loss of electric power to an area. There are many causes of power failures in an electricity network. What are some causes? List some health and safety concerns. How can you prepare for a power outage? Find out what utility companies do and some conservation techniques. Answering these questions will make girls think about our energy resources and their attitudes and priorities in case of energy loss.

### Activity 4:

- Americans mostly depend on fossil fuels such as coal, natural gas and oil to produce energy. Fossil fuels were formed from decaying plants and animals before dinosaurs roamed the earth. Make a fossil fuel chart to show how each is refined and used. What is the anticipated supply of each fossil fuel? For example, how oil wells are drilled, how crude oil is refined and its uses. Visit [www.eia.doe.gov](http://www.eia.doe.gov).

### Activity 5:

- Renewable energy plays an important role in the supply of energy. When renewable energy sources are used, the demand for fossil fuels is reduced. Pinpoint a renewable energy source such as hydropower, solar or biomass. To find out about renewable energy visit [www.ameren.com](http://www.ameren.com).

### Activity 6:

- Borrowing books, CDs and DVDs is a great way to protect the environment, save resources and money. By reusing items you can save energy, water, trees, and metals, etc. Chances are the item you want can be checked out at your local library. Can you think of other places and other items to reuse? Set up a book, CD, DVD exchange with your troop.



**Economize energy (ECO-EN) Participant Evaluation**

Number of Girl Scouts completing ECO-EN \_\_\_\_\_

Program age level of Girl scouts (circle one)    D        B        J        C        S        A

Troop: \_\_\_\_\_ District: \_\_\_\_\_ Neighborhood: \_\_\_\_\_

How did you learn of this program?

Email/e-blast \_\_\_\_\_ www.girlscoutsem.org \_\_\_\_\_ other \_\_\_\_\_

**Indicate which activities were completed in each section:**

**Home**

- \_\_\_\_\_ 1. Lights at home \_\_\_\_\_ 2. Energy checklist \_\_\_\_\_ 3. Energy vampires \_\_\_\_\_ 4. Energy Star \_\_\_\_\_ 5. Food energy \_\_\_\_\_ 6. Water usage

**Camp**

- \_\_\_\_\_ 1. Leave no trace \_\_\_\_\_ 2. Hiking \_\_\_\_\_ 3. Plant and Animal Life \_\_\_\_\_ 4. Litter at Camp \_\_\_\_\_ 5. Outdoor Cooking \_\_\_\_\_ 6. Camping without Creature Comforts

**Community**

- \_\_\_\_\_ 1. Going Green \_\_\_\_\_ 2. Recycle, Reduce and Reuse \_\_\_\_\_ 3. Litter in the community \_\_\_\_\_ 4. Vehicle fuel sources \_\_\_\_\_ 5. Careers in energy \_\_\_\_\_ 6. Building Community Awareness

**Natural World**

- \_\_\_\_\_ 1. Hot Springs \_\_\_\_\_ 2. Recycled Paper \_\_\_\_\_ 3. Power outage \_\_\_\_\_ 4 Fossil Fuels \_\_\_\_\_ 5. Renewable energy \_\_\_\_\_ 6. Book/CD/DVD Exchange

Would you recommend this program to another troop? Yes \_\_\_\_\_ No \_\_\_\_\_

**Answer the following questions about the girls:**

Do the girls show increased confidence they can use resources wisely?    Yes \_\_\_\_\_ No \_\_\_\_\_

Have the girls indicated they intend to use new skills to reduce energy use?    Yes \_\_\_\_\_ No \_\_\_\_\_

Did the girls identify energy issues on which they could take action?    Yes        \_No \_\_\_\_\_

Are the girls more confident they can influence positive change?    Yes \_\_\_\_\_ No \_\_\_\_\_

Are the girls more aware of the people in their community who will help them?    Yes        \_No \_\_\_\_\_