



# THE WORLD IN OUR HANDS

Girl Scouts know it's up to all of us together to learn easy ways we can reduce our energy consumption and be good stewards of our environment. It's our world, and it's in our hands to keep it healthy.

## Patch Requirements

Complete steps as directed for your age group under these three headings: Discover, Connect and Take Action.

## DISCOVER

Step 1 must be completed by all age levels in addition to the number of steps required below.

Brownies: Complete three steps.

Juniors: Complete four steps.

Teen Girl Scouts: Complete five steps.

1. Check books out of your local library, the school library or look up information on **weather**, the **greenhouse effect**, **climate change** and **global warming** on the Internet. Notice how some of these terms have definitions that sound very similar or seem connected. Write down the definitions you find for each of these terms so that you will remember their differences as you continue through the program. Here are some good places to begin looking for information:

### On the Web:

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

<http://www.epa.gov/recyclecity/>

<http://exploreourpla.net/>

<http://ecokids.earthday.ca/pub/index.cfm>

<http://tiki.oneworld.net>

<http://actionfornature.org>

### At the library:

*Taking Care of the Earth: Kids in Action*  
by Bobby Moore

*Weird Weather: Everything You Didn't Want to Know About Climate Change But Probably Ought to Find Out* by Evans and Monbiot

*Weather and Climate: Geography Facts and Experiments* Young Discoverers Series

*Climate Change (Planet Under Pressure)*  
by Mike Unwin

## Background

Respect and concern for our environment is a responsibility of all people throughout the world. When we take steps to care for the environment today, we help insure all living things have a place in the future.

When we make our own plans for the future, even if it is just for a vacation next year, we often assume that the weather or climate we've experienced in the past will be the same as it's always been. This may not always be true in years to come.

Earth has warmed up by an average of 1 degree Fahrenheit during the last 100 years. To the average person, one degree doesn't sound like such a big change. However when scientists study the history gathered from years of climate observations and written records, many of them believe that 100 years is a short period of time for such a change to occur.

The earth could be getting warmer on its own, but scientists<sup>1</sup> think there are things people do every day that may be speeding up the process. They believe how we manage our energy resources may be having a big effect on the change in our climate.

<sup>1</sup> source: [www.epa.gov/climatechange/kids](http://www.epa.gov/climatechange/kids)

2. Create your own earth by making a terrarium. After your plants are established, you can conduct your own climate experiments and record the data by changing the conditions in your terrarium over time if you wish.
3. Visit a greenhouse in your community. Learn about how it works to grow plants. Compare how the temperature feels inside and outside the greenhouse, and notice whether the air feels wet or dry. How does it compare to the “greenhouse effect” that you learned about in step one?
4. If the climate on our planet gets warmer, scientists think the habitats of many animals on land and sea may change drastically. One of the animals most affected by temperature changes is the polar bear. What are others? Pick one of these animals to learn about and discuss how its life will be affected by climate change with your friends or your troop.
5. Ask a friend, family member or another Girl Scout who lives in a different county or state to be part of a weather study. Pick one month to study and monitor the temperature (three times per day...your choices) and rainfall (number of days it rains and amounts of rain each day). Compare your notes with each other and discuss the differences you find.
6. Create a work of art or write a story about one or more of the following things:
  - How warmer temperatures might change the Earth 100 years from today.
  - Animals whose habitats have changed or disappeared because of climate changes.
  - Weather events that have changed people’s habitats or lives.
7. Learn about recycling options in your community. Is recycling accessible and available to everyone? Here are some ways you can find out:
  - Call your city or county government office
  - Visit [www.tennessee.earth911.org](http://www.tennessee.earth911.org)
 If possible, tour a local recycling center to see how it works. Make a list of all the items you can recycle at this site. What are the items that cannot be recycled there?
8. *(Due to scientific and political themes, we only recommend this step for girls 12 and above.)* Watch one of the following documentaries and discuss it with your troop, your friends or your family.
  - An Inconvenient Truth
  - The Great Warming
  - Global Warming: The Signs and the Science (PBS)
 Did the documentary you watched challenge your thoughts and opinions? Did it motivate you to want to make some changes in the way you live?

## Losing Carbon Dioxide Weight

“When our personal energy use is combined with the amount of energy used in manufacturing, fuel production and farming, a person in the United States releases an average of **40,000 pounds** of carbon dioxide into the air each year.”

### How many pounds of carbon weight could your family lose?



Replace or clean home air filters on time: **about 175 pounds per year.**

Inflate car tires properly: **save 250 pounds per year.**

Recycle and cut down your garbage by 25%: **1,000 pounds per year.**

Take shorter showers: **350 pounds per year.**

Plant a tree: **Save 2,000 pounds per year.**

Run a fully loaded dishwasher: **save 100 pounds per year.**

Replacing one frequently used light bulb with an energy- efficient compact flourescent bulb: **about 500 pounds per year.**

Wash clothes in warm or cold water only: **up to 500 pounds per year.**

## CONNECT

The best way to lead the way in making a positive change in the world is to make the change in your home first. To make a change in the warming trend facing our planet, we have to reduce our own “carbon footprint”--which means we reduce the amount of energy we release into the air that increases the greenhouse effect. Read the information in the box on the previous page. If enough people begin to save energy in their everyday lives, a positive change can catch on across the world. **Be the energy savings leader in your household.**



### Getting Started with an Energy Inventory

All age levels must complete Steps 8 and 9. (Brownie Girl Scouts may complete this activity section individually with the help of a parent or as a troop evaluating one home together with a troop leader. Junior through Teen Girl Scouts will need to complete this activity individually.)

9. Take a simple energy inventory of your home by following these steps and writing down your results. Ask someone to help you if needed.

<input type="checkbox"/> # of lights in my house <input type="checkbox"/> # of energy-efficient lights	Count the number of lights used inside each room of your home (overhead lights, lamps, etc.). Do any of these lights use energy-efficient fluorescent light bulbs?
<input type="checkbox"/> Yes, we have thermostats <input type="checkbox"/> Heating <input type="checkbox"/> cooling <input type="checkbox"/> other	Do you have thermostats on the walls of your house to control the temperature when the house is heating and cooling? If so, ask what temperature the thermostat is set to for heating and cooling. If you don't have a thermostat, find out what kind of heating and cooling system your house uses.
<input type="checkbox"/> Yes, we have air filters <input type="checkbox"/> Months/weeks til change	Do you have air filters in your home? Find out how often the filters are supposed to be changed.
<input type="checkbox"/> Time of my shower <input type="checkbox"/> Total time my family showered today	When you take a shower, time yourself from start to finish. How many minutes did the water run? If you want a total for your household, pick a day and time all the members of your family when they take a shower.
<input type="checkbox"/> Yes, my family recycles <input type="checkbox"/> My family recycles a little <input type="checkbox"/> My family doesn't recycle	Does your family recycle? If so, what items do you recycle most often? <input type="checkbox"/> cardboard <input type="checkbox"/> cans <input type="checkbox"/> bottles <input type="checkbox"/> plastics <input type="checkbox"/> newspapers.
	When your family washes clothes, what water temperature you use most often? <input type="checkbox"/> Cold, <input type="checkbox"/> warm or <input type="checkbox"/> hot water?
<input type="checkbox"/> # of electronic devices <input type="checkbox"/> # staying plugged in	Are there computers, laptops, radios, cd players, televisions and other personal electronic devices in your home that plug into a wall outlet as their power source? How many? How many of them stay plugged into the wall at all times?
<input type="checkbox"/> Dishwasher was full? <input type="checkbox"/> Used energy-saver setting?	Does your house have a dishwasher? The next time it runs, check to see if the washer is full. Check also to see if the heat setting is set for drying or if your family is using the energy-saving setting.
<input type="checkbox"/> # of cars we have <input type="checkbox"/> Cars used every day <input type="checkbox"/> Gas or energy saving?	How many cars are in your driveway? How many of those cars are used every day? Does more than one person ride in them at a time? Are any of them gas-saving or energy efficient models?
<input type="checkbox"/> Yes, there are trees <input type="checkbox"/> Yes, they shade the house <input type="checkbox"/> No, they don't shade us	Are there trees around the outside of your home? How many? _____ Are any of them growing close enough to shade your house? How many? _____

10. Based on your home energy inventory, answer the following questions:



- yes  no Do you use energy-efficient fluorescent light bulbs in your home?
- yes  no If you have thermostats for heating and cooling in your house, are they set below 72 degrees in the winter and above 72 degrees in the summer?
- yes  no If there are air filters in your home, are they changed or cleaned as often as the manufacturer recommends?
- yes  no How long was your shower? Do you think it was too long?
- yes  no Does your family recycle?
- yes  no Do you wash more clothes in warm or hot water than you do in cold water?
- yes  no Do the electrical devices in your home stay plugged in at all times?
- yes  no Was your dishwasher full when it ran and was it drying on an energy-saver mode?
- yes  no Do all the cars at your house get driven every day?
- yes  no Are any of your cars gas or energy saver models?
- yes  no Do any of your family members carpool or ride public transportation?
- yes  no Do you have trees that shade your home?

Plan how you and your family can change at least three “No” answers to “Yes” answers. If you are working on this patch with your troop, share your plan with them. See how many “Yes” answers other troop members have. Was anyone in your troop already saving lots of energy? How many pounds of carbon weight do you think you lost?

## TAKE ACTION

The next step in caring for the world is taking what you’ve learned to your community. Make plans to share your knowledge and grow a change.

(All age levels complete two of the following activities.)

- Using your home energy inventories as a guide, list ways you or your troop can share energy-saving tips with your neighborhood or community. Choose one way, make a plan and put it into action.
- Encourage your troop to participate in Earth Day activities in your community. If your community doesn’t celebrate Earth Day, plan and organize an Earth Day celebration for troops in your service unit.
- Participate in National Youth Service Day, Arbor Day or any community service project that is focused on the environment. Pick a project like planting trees, removing litter or recycling that will help reduce our carbon footprint and cool the Earth’s temperature.
- Create an information board on global warming and climate change. Share the information with other Girl Scout troops in your service unit or your community.
- Create an advertising campaign to encourage people to reduce their personal energy consumption. Combine radio, print, web and television ideas for a comprehensive campaign. When producing the audio/video segments of your project, remember to keep them in 30 second and 1-minute pieces.
- Film your own documentary about an area of your community that you feel may be an environmental risk. Devise solutions for the area and create an action plan to change for the better. Share your documentary at your troop meeting, your school or church.
- Meet with your city, county or school leaders and explore their recycling programs. Encourage your troop, your service unit or your classmates to join them in their efforts to grow or develop that program.