



**NY Power  
Authority**

# **Girl Scout Patch Requirements**

**UPDATED**

**June 2024**



**NY Power Authority**

Founded in 1931, the New York Power Authority (NYPA) is the largest state public power organization in the nation, operating 17 generating facilities and more than 1,550 circuit-miles of transmission lines.

- Generates nearly 25% of New York State’s electricity and owns/operates around one-third of its transmission lines
- More than 80% percent of our generation comes from clean, renewable hydropower
- More than 2,000 employees, including many STEM professionals such as engineers and research scientists who work every day to develop new methods for power generation, transmission and energy efficiency.



The NYPA Girl Scout Patch Program was designed to help Girl Scouts think about how they can contribute to a more sustainable future for themselves, their communities, and the planet. You will also learn the benefits of pursuing careers in STEM and energy-related fields.



To earn this patch, Girl Scouts **must complete at least two of the steps\*** in their given rank.

**Contact:**

To receive the NYPA patch or if you have any questions, contact the Environmental Justice at [Environmental.Justice@nypa.gov](mailto:Environmental.Justice@nypa.gov) with your completed projects.

Participants should undertake these projects with the approval and/or assistance of a parent/guardian.

**Optional**

\*We would love to see your completed projects! Please feel free to tag us at [@nypaenergy](https://twitter.com/nypaenergy) on X, Instagram and Facebook.



**Additional Resources:**

- To learn more about the New York Power Authority, visit [nypa.gov](http://nypa.gov)
- Visit our Virtual Learning Center for ways you can complete fun hands-on activities at home! You can also play the NYPA Electric City game to learn more about electricity! [nypa.gov/communities/nypa-engagement/virtual-learning-center](http://nypa.gov/communities/nypa-engagement/virtual-learning-center)



# Daisy & Brownie

## 1 Get Educated on Electricity!

Answer the following questions:

- What is electricity?
- How do you use electricity in your daily life?
- How is electricity made?
- What is the difference between renewable energy and non-renewable energy?
- What are some types of renewable energy and non-renewable energy?
- How does non-renewable energy impact our planet?
- What does it mean to save energy (energy conservation), and why should we reduce our energy use?
- How does this benefit the environment?

**ACTION:** Share what you have learned in this section with another troop, by making a presentation, poster or video journal.

## 2 All About Electric Vehicles (EV)!

Watch our EV 101 video, where you will learn all about electric vehicles.



Answer the following questions:

- How are EVs and gas cars different?
- What are some of the benefits to driving an EV?
- What are some of the latest EV cars on the market today?

## 3 Start a Conservation Campaign!

Watch our Energy Saving Tips: Stand-by Power video to learn about “vampire power” and ways to help save energy.



Small changes in behavior, when achieved by entire communities, can bring about big results! Starting in your home, for one week, work with your family to be more conservative with energy.



Here are some ideas:

- ✓ Turn off unnecessary lights
- ✓ Unplug electronics
- ✓ Turn off air conditioners and open windows instead

**ACTION:** Once you have conquered conservation practices in your own home, collaborate with your troop to create a list of best practices. Then, present your ideas to your Service Unit and ask them to join you in a conservation campaign to save power in numbers!

# Junior & Cadet

## 1 Explore Engineering!

Research an engineering discipline such as civil engineering or electrical engineering and answer the following questions:

- What are the educational requirements needed to become this type of engineer?
- What types of employment opportunities are available?
- What percentage of engineers are women?
- Do you know a woman that is an engineer?
- How did they get to where they are in their career field?
- Is this a career you would consider? Why or why not?

**ACTION:** Share your findings with another troop to educate others about a career in engineering.

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# Junior & Cadet

## 3 Career Considerations

**Research and find three women who were/are pioneers in the energy field.**

- Who are they? What did they contribute to the energy field?
- What may you have in common with them?
- Why do you think it is important for young women to be interested in energy careers?

## 4 Create an Energy Education Campaign!

**Using PowerPoint, Google Slides, Prezi, etc. create a presentation that answers the following questions:**

- What is energy?
- How do you use energy in your daily life?
- How is electricity generated and transmitted in New York State?
- How does energy generation and transmission affect the environment?
- How is energy generated where you live?
- What is the difference between renewable energy and non-renewable energy?
- What are the impacts of using sources of non-renewable energy?
- What is energy conservation and why should we reduce energy use?
- How does this benefit the environment?
- What is sustainability? Why is it important for everyone on the planet? How does sustainability relate to energy efficiency?

### **ACTION:**

**Share your presentation with another troop, friends or family members.**

# Senior & Ambassador

## 1 Peak Load Activity

**STEP 1:** Create a list of the electrical items that you use in your home, organized by the time of day that each item is used (for example: 6 – 8 am, 9 – 11 am, noon – 2 pm, 3 -7 pm, 8 pm – 12 am).

**STEP 2:** Compare your list with the other members of your troop. Did they have similar patterns of use in their household?

**STEP 3:** Now compare your results to the data found at the New York Independent System Operator (NYISO)

### Answer the following questions:

- What time of day do we use the most power?
- What happens if all of New York uses their appliances at the same time?
- Simultaneous use of electrical items results in a large electrical demand on the electricity grid. What could be a result of this large electrical demand?

**Reflection questions:** What did your research reveal? Were you surprised by any of the data? How would this pattern be affected if more renewable energy sources were incorporated into the electrical grid?

**ACTION:** With your troop, brainstorm ways to decrease simultaneous electrical demand. Commit to making changes in your own home and present your ideas to another troop.

## 2 Get to Know Women in Power!

Why is it important for girls and women to build a network of mentors and sponsors in business and in life?

**ACTION:** Brainstorm ways that you can begin to build a network of your own and make it a goal to add at least one woman to your support network. Then, interview a woman who inspires you (troop leader, science teacher, family member) to get to know them.

- How did they become interested in their career field?
- What challenges did they face and how did they overcome them?
- Who were their role models, and how did they learn from them?
- What did you learn from their answers?
- What resonated most with you?

# Senior & Ambassador

## 3 Residential Energy Efficiency Activity

**Visit a local hardware store with a parent/guardian.**

Ask to speak to an available sales associate about the benefits of various energy efficiency products (i.e.: insulation, weather stripping, LED lighting, high efficiency appliances, window film, air conditioning covers, etc.) that can reduce residential energy consumption.

**ACTION:** Discuss these potential upgrades with your family. Which would have the largest effect on reducing home energy bills?

Research the equivalent amount of greenhouse gas reductions associated with energy efficient upgrades. With the help of a parent or guardian, implement at least one of the energy efficient upgrades that you learned about in your home.

## 4 All About the Audit!

**Whether at school, home or other gathering spot, with permission, choose a room to conduct an audit of the electricity used in that space.**

Using the Energy Audit table below, make a list of everything in the room that uses electricity, such as a phone charger, laptop, microwave, fan, etc.

- Next, form your hypothesis: which appliances do you believe are the largest 'energy users'? Highlight these appliances on your sheet.\*
- With your parent/guardian, teacher or troop leader, measure the reading of each item using a wattmeter.

**STEP 1:** First, unplug the appliance to be tested and plug the wattmeter into the outlet.

**STEP 2:** Then, plug the appliance into the wattmeter, turn on the appliance and note the power consumption reading.

**STEP 3:** Repeat the step above with the appliance off. Do you still obtain a reading? If so, this is called "vampire power", which is electrical power used by appliances and equipment while switched off or not performing their chief function.

**Reflection questions:** Which appliance uses the most energy? Was your hypothesis correct? What do the top three appliances have in common? How long are these appliances on during the day? Now that you know the difference between real power and vampire power, how can you prevent unintended standby electrical use?

*\*Worksheet on next page*

