

# Cadette and Senior Girl Scouts Badgelinks



Cadette and Senior Girl Scout Leaders: Please use this guide to help your scouts fulfill requirements toward earning badges. All of the requirements listed below can be done at the Saint Louis Science Center at your leisure. We have listed the name of the badge, followed by the name of the particular requirement(s) that can be completed and the location within the Science Center, if applicable. It is our hope that you and your scouts have fun exploring the Science Center and earning badges.

## ALL ABOUT THE BIRDS

### Skill Builders - Planetarium

Learn about airplanes and gliders over in the Planetarium. Observe how they move and what they look like. Now compare and contrast what you know about birds.

### Technology - Bridge

Between the main building of the Science Center and the Planetarium there is a bridge. Go to this bridge and use the binoculars to see if you can find any birds that could be flying around. Now compare these binoculars to a hand held pair you may have used before.

### Career Exploration - Cyberville

Get on the Internet in Cyberville and you can look up several colleges that offer ornithology, wildlife biology, wildlife management, or any other related major. Are there any requirements that you need to know such as admission costs and course requirements?

## ARCHITECTURE AND ENVIRONMENTAL DESIGN

### Skill Builders - Saint Louis Science Center, Structures

Find out about the types of drawings architects make. Select a room or space and draw it architecturally, showing all the details such as windows, stairways, closets, etc.

Freehand drawing translates mental images into pictures. Choose three places in the Saint Louis Science Center to capture in a freehand drawing. Such as a view of the building from the outside, the interior of a room, and a view of the exterior as seen from the inside of the building. Use any medium that feels comfortable to you. Consider why these different perspectives would be important to an architect. Share your sketches with someone.

Architectural models are an important way to translate designs into three-dimensional form. They show others how a proposed building will look. Make a model of an existing structure or one of your own designs. You may use materials that can be found in the structures gallery to further understand the basics of model construction before heading home to make your own!

## **BUILD A BETTER FUTURE**

### **Skill Builders - Structures**

When you enter the structures gallery, look for the exhibit that demonstrates different types of building materials and what they do when they are put under any kind of pressure. These exhibits show what happens to certain materials when they are being crushed and pulled.

### **Technology - Cyberville**

Cyberville has Internet access that can allow you to look up how technology has improved over the years. You can look up 8-10 items that did not exist years ago and see how they work today and what changes are being made in order to improve them. You can also find out about 5 devices that help people with disabilities. How do these machines work and how do they help the people using them. Last but not least investigate how changes in car design have enhanced safety in the past 10 years.

### **Career Exploration - Cyberville**

Use the computers to learn about careers in various fields of engineering. Find out the requirements for training for mechanical, electrical, or civil engineers. Find out about the engineers' contributions to advancing medical technology in the design of implants, CAT scans, etc.

### **Career Exploration**

How do women get involved in science? Interview at least two women in science fields. Find out how they got started. Did they have mentors? While in high school, did they have to contend with negative stereotypes about girls who like science or girls who are smart? How do they feel about the future for women in science?

## **CHILD CARE**

### **Technology - Explorestore**

Visit the Saint Louis Science Center's Explorestore to look for games and toys that are designed to have educational value for different age groups. Write down the names of two or three items you would recommend for a child of a certain age. Based on your findings, make recommendations about age-appropriate toys for children of a certain age.

Familiarize yourself with some toys and games available for children. With that in mind, design your own game or toy for a specific age group or modify one already on the market. Present your toy (or actual model) to an adult who spends time with children of that age group. Ask the adult to critique your design.

### **Service Projects - Science Park**

Where can children in your community play and have fun? Find the Science Park playground outside the Planetarium. What ages can use this playground? Are these facilities safe? Create a recreation guidebook for the Saint Louis Science Center to share with your friends including Science Park and your other favorite galleries.

## **COLLECTING**

### **Skill Builders - Saint Louis Science Center**

The Saint Louis Science Center has a lot of collections! Many of these things have to be organized in order to keep track of them. Look at some of the collections on display in many of the different galleries here in the Saint Louis Science Center to see how things are labeled and displayed. Try to set up a tour for your troop or group with the archives department to see our behind the scenes collections!

## **DIGGING THROUGH THE PAST**

### **Skill Builders - Ecology and Environment Past Gallery and Paleontology Lab**

Find out how archaeologists and anthropologists make discoveries about past cultures. Learn what skills and scientific aids are needed for an excavation, and what different objects reveal about the past. Find out about one recent archaeological discovery.

Find out about different types of fossils, including how they are formed and the clues they give us about the history of the earth and the life it has supported. Head to the Paleontology Lab to see and feel actual fossil samples.

### **Technology - Ecology and Environment Past Gallery**

Find out about earthquakes and the frequency with which they occur in your state. Learn about faults and plate tectonics. Visit a facility where earthquakes are monitored or find out how a seismograph works. Learn safety precautions to take during an earthquake. Head to the Ecology and Environment Past Gallery to find out more about earthquakes! Find more information about Missouri's earthquakes by stopping to read the plaques and information throughout the gallery, watch video of earthquakes throughout the world, see a real seismograph machine and feel a real earthquake under your feet!

### **Service Projects - Stream Table**

Before completing your plan to reduce erosion at your school or in your community, learn more about the effects of erosion by visiting our stream table to see first hand how detrimental erosion can be.

## **EXPLORING THE NET**

### **Skill Builders - Cyberville**

Learn about options for accessing the World Wide Web. There are computers at schools, libraries, community centers and even here at the Saint Louis Science Center! Visit our Cyberville gallery to see what you can find on our public use computers.

Find out how to use key words in searching for information on a specific topic when using a search engine. Find out if there are shortcuts to narrow the field of inquiry. Do a search that will give you answers to a specific question, such as finding out about college scholarships, your favorite sports, a museum you would like to visit, or information for a school report. Visit several websites and explore related topics from those websites. Keep a logbook to remember sites you wish to revisit.

## **GRAPHIC COMMUNICATIONS**

### **Skill Builders - Saint Louis Science Center**

Look at posters and fliers in your community. Analyze how designers use art, words, fonts, color and "white space" – the area containing neither art nor text. Design a poster or flier to be used as an announcement or invitation to an event, party or family gathering. Share your creation with others.

The logo or trademark of a company can reflect the mission or purpose of the company. After looking at logos around the Saint Louis Science Center, create two of your own. How well do they reflect the products or services of the organizations you have selected?

## MATH, MAPS AND MORE

### Skill Builders - The Human Adventure Gallery

Many indicators of human health and fitness require math computations. Do a complete profile of yourself using numbers. For example, use math skills to determine resting, target and recovery heart rates. Find your pulse and count how many times your heart beats in 10 seconds. Multiply that number by 6 to determine your resting heart rate. Be very active for at least 15 minutes. Take your pulse and compare this with the resting heart rate. See how long it takes for your pulse to return to resting heart rate. Other things you can check in the Human Adventure Gallery are height, weight, blood pressure and respiration.

## MUSEUM DISCOVERY

### Skill Builders - Saint Louis Science Center

Visit the Saint Louis Science Center to observe the exhibits. Contact us to schedule a behind the scenes tour to learn more about the Saint Louis Science Center's mission and objectives, and the people who work to meet them. Discuss with others in your group what you think works well and what could be improved.

### Technology - Saint Louis Science Center

Visit the Saint Louis Science Center and check to see how accessible it is to persons with disabilities. What technologies are used to aid people with disabilities that visit museums? After your visit, make a list of recommendations on how you would improve the facilities.

### Career Exploration - Saint Louis Science Center

Find out about three careers that are museum based, such as a conservator, exhibit preparer, curator, educator, librarian, graphic artist, researcher, public relations or communications staff, fund raiser, or editor of a museum publication. Find out what educational preparation and training are required for these positions.

For one day, shadow a person with a museum-related career. What kind of skills does that person use on their day-to-day job?

## PLANET POWER

### Technology - Cyberville

Head to the computers in Cyberville and use the Internet to find at least three sources of energy, including nuclear power. Hold a debate in your troop or group meeting over which source is the most environmentally sound, safe, efficient and cost-effective.

## SPACE EXPLORATION

### Skill Builders - Planetarium

Find out about at least four of the following astronomical phenomena: quasars, pulsars, novas, supernovas, black holes, dwarf stars, giant stars, proton stars, neutron stars, variable stars, cosmic clouds and globular clusters. Can you observe any of these with the naked eye?

Visit our Planetarium to learn about the history of space exploration. For more information, head over to Cyberville and visit the National Aeronautics and Space Administration website ([nasa.gov](http://nasa.gov)) to get more information about projects currently in progress. Make a file of your findings and develop a list of web sites for others to explore.

### Technology - Planetarium

Find out about the capabilities of today's telescopes. Come join us for a public telescope viewing at the Planetarium to learn more about these telescopes and see the night sky in a whole new way!

### Service Projects - Planetarium and Cyberville

Help Brownie and Junior Girl Scouts learn about space exploration. Invite a troop of Brownie or Junior Girl Scouts to join you when you come to a public telescope viewing at the Planetarium. While you are here, learn the names of some female astronauts and conduct a research project on the computers in Cyberville to create a biography to share with your troop or family.

## UNDERSTANDING YOURSELF AND OTHERS

### Skill Builders - Saint Louis Science Center

You can learn a lot about people by watching them – in school, at a party or in a public place such as the Saint Louis Science Center. Observe body language (gestures, facial expressions, posture, etc.) and listen to what people say. Share at least five observations in a troop or group meeting.

Every culture develops social norms or ways of interacting with people (such as how close to stand to another person). Observe what happens when you break these norms. Do one or two of the activities that follows:

- Go to the food court on the main level of the Science Center and sit right next to someone at a relatively empty table.
- During a conversation with a friend, stand closer to her than you usually do.
- Ride an elevator facing the back instead of the front.
- Treat someone whom you're usually friendly with in a formal manner.

How difficult was it for you to do the activity? Why? Discuss what you've found with your friends at your next troop or group meeting.

## WHY IN THE WORLD?

### Skill Builders - Emerson Lobby

Have you ever asked yourself how something works? To observe many simple machines working together, head to the Emerson Lobby to observe our Energizer machine in action. What simple machines can you see?

Visit our Ecology and Environment Past Gallery to learn more about rocks, minerals and fossils that are common in Missouri today. How did these rocks form? What makes a fossil? While you are here, identify types of minerals, rocks and fossils that are common to Missouri. Compare your findings with the minerals, rocks and fossils that can be found in nearby states.

## YOUR BEST DEFENSE

### Skill Builders - Cyberville and The Science Center

Go to Cyberville and look up information on different martial arts such as karate, tae kwon do, and jujitsu.

Your Interest Projects book says, “your language and tone of voice play a role in stopping hostile or violent encounters from happening”. Repeat these three sentences in different tones and see how someone would respond to them.

- “Shut the door now, please. I’m trying to study.”
- “When are you going to return my sweater?”
- “ I’m angry that you continue to lie to me.”

Find a secluded location where your troop can talk and discuss your responses.

### Technology - Cyberville

Go to the public access computers in Cyberville to look up the pros and cons of pepper spray, stun guns, and other personal protection items. Research your state laws on the items you have just researched. Now get together with your troop and discuss your findings. What do you think about what you have found? Are you surprised by anything?

## YOUR OWN BUSINESS

### Skill Builders - Saint Louis Science Center

Look around the Science Center for advertisements of new films, food, or even the new up-and-coming exhibits. Why do you like or dislike these advertisements? Do they make you want to try the product being advertised? Brainstorm ways of making these advertisements better.

### Technology - Cyberville

Go to Cyberville and explore all of the technology that is provided there, then look on the Internet and see how technology has changed. You can even ask some of the employees working in Cyberville what changes they have seen in technology and ask what they think the most important changes have been.

While in Cyberville, investigate the new techniques for presenting products. Find out about holograms and computer art as well as virtual reality. Then design a three-dimensional add or draw a two dimensional one.

