Boy Scout Badge Links

Boy 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 first, 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.

AMERICAN CULTURES

Go to a library or museum… - Saint Louis Science Center

At the Science Center, there are often exhibits and fairs that will highlight traditions from many different cultures. Keep an eye on the website calendar at www.slsc.org for more information about ongoing events. Use what you have learned to report to your leader or unit about another culture.

AMERICAN HERITAGE

Select a topic currently in the news… - Saint Louis Science Center

There are many displays and events at the Science Center that feature current issues in science research. You can learn about the research being done, and the science behind the issues. Explain how this current topic is related to or affected by the events and values of America's past.

ARCHAEOLOGY

Digging out archaeology… - PaleoLab

Make a visit to the PaleoLab on the lower level of the Science Center. Talk with the scientists on duty, and explore the surrounding exhibits. Use what you have learned to explain archaeology and how it differs from anthropology, paleontology, and history.

Describe each step… - PaleoLab

Talk with the scientists on duty in the PaleoLab, and explore the surrounding exhibits. Describe site location, site excavation, artifact identification and examination, interpretation, preservation, and information sharing.

ARCHITECTURE

Tour your community… - Structures Gallery

The James. S. McDonnell Planetarium was constructed using a specific architectural technique. Use your powers of observation to find a display in the Structures Gallery that tells you all about this architectural technique. What was it?

While you're in the Structures Gallery, try some of the more popular exhibits here at the Saint Louis Science Center! The Catenary Arch blocks help you to understand the basic architectural techniques behind another St. Louis landmark – the Gateway Arch! Make a bridge using Tinker Toys – Have a competition to see who can build the largest or strongest structure!

ASTRONOMY

Dress for Success… - James S. McDonnell Planetarium

Describe the proper clothing and other precautions for safely making observations at night and in cold weather conditions. Talk with your group or an adult about how to safely observe the Sun, objects near the Sun, and the Moon. As a troop, research ways to treat retinal damage that could occur during solar observation.

Pollution… - James S. McDonnell Planetarium

Define light and air pollution and discuss their affects on astronomical observation.

It's in the stars… - James S. McDonnell Planetarium

Identify at least 10 constellations, four of which are in the Zodiac. These can be found on diagrams in the Planetarium. Once you've identified these constellations, try as a group to identify them at night.

Identify at least eight conspicuous stars, five of which are of magnitude 1 or brighter. Star magnitude is a measure of the star's brightness. The brightest stars measure at about a –1. Dimmer stars are measured at zero or in positive numbers. Look in the Planetarium to identify stars of different magnitudes. As a troop, try to identify these stars in the night sky.

Planets… - James S. McDonnell Planetarium

Identify the five most visible planets. Explain which ones can appear similar to the moon in their phases and which cannot; explain why.

Find out when each of the five most visible planets will be observable in the night sky during the next 12 months. Compile this information on a chart or table and update your chart monthly to show whether each planet will be visible during the morning or evening sky.

Take a trip… - James S. McDonnell Planetarium

Visit the James S. McDonnell Planetarium. Submit a written report, make a scrapbook, or a video presentation afterward to show your counselor that includes the following:

a. Activities occurring there.

b. Exhibits and displays you saw.

c. Telescopes and other instruments being used.

d. Celestial objects you observed.

A Path Among the Stars… - James S. McDonnell Planetarium

List at least three different career opportunities in Astronomy. Pick one in which you are most interested and explain how to prepare for such a career. Discuss with your counselor what courses might be useful for such a career.

BUGLING

History – Cyberville Gallery

Using the public Internet access computers you can research the history of the bugle, how it works, how it is related to other brass instruments and how you should care for your bugle.

CAMPING

First Aid – Cyberville Gallery

Using the public Internet access computers, research various injuries and illnesses that could occur while camping such as hypothermia, frostbite, dehydration and insect stings. Make sure to use information from reputable sources such as the Centers for Disease Control and Prevention.

CHEMISTRY

Safety Equipment – Amazing Science Demo Lab

While visiting the Saint Louis Science Center, watch an Amazing Science Demonstration. Note what the topic of the presentation was and how the presenter was dressed. Did the presenter have to wear any special equipment like gloves or a lab coat? After the demonstration is over ask the presenter about the special safety equipment, such as the eye wash station and the fire blanket. Ask the presenter to show you where the material safety data sheets are kept and how chemicals are stored at the site.

Government Agencies – Cyberville Gallery

Using the public Internet access computers, look up two government agencies that are responsible for tracking the use of chemicals.

Pollution – Cyberville Gallery

Using the public Internet access computers, research the chemical effects of ozone, global warming and acid rain. What effects might ozone global warming and acid rain have on people and the environment? What are people doing to resolve these problems?

Phosphates - Cyberville Gallery

Using the public Internet access computers, research why phosphates were used in laundry detergents and why their use has been stopped. Why are phosphates used in fertilizers? How do phosphates affect the environment?

Chemistry Careers - Cyberville Gallery

Using the public Internet access computers, find out what types of careers there are for chemists. What kind of education do you need for a career in chemistry? Are there any types of special certifications required?

Climbing First Aid – Cyberville Gallery

Using the public Internet access computers, research various injuries and illnesses that could occur while climbing such as hypothermia, frostbite, fractures and insect stings. Make sure to use information from reputable sources such as the Centers for Disease Control and Prevention.

COIN COLLECTING

Coins– Cyberville Gallery

Using the public Internet access computers, research how coins are made and where the active U.S. Mint facilities are located.

COMPOSITE MATERIALS

Precautions – Amazing Science Demo Lab and Cyberville Gallery

Ask an Amazing Science Demonstrator to show you the MSDS book for the Science Center's demo lab. What information does the sheet contain? Is it easy to use? Why do you think the Science Center keeps an MSDS book in the lab? Afterwards, head to the Cyberville public Internet access computers. Find out what a composite material is and note any precautions that must be taken when handling, storing or disposing of such materials. Find the MSDS sheets for three different composite reinforcement materials.

History – Cyberville Gallery

Using the public Internet access computers research the history and development of composite materials. Explain the properties of such materials such as flammability, corrosiveness and cost. Compare composite materials to wood, copper, aluminum and steel.

COMPUTERS

Effects of the Computer – Cyberville Gallery

Discuss with a Cyberville Gallery member how computers have changed society, science and technology. Ask the staff member to show you the gallery's bulletin board where science news is posted. Then sit down at one of the public Internet access computers to research the history of computers.

Parts of a Computer – Cyberville Gallery

Find the see through computer in the Cyberville Gallery to learn about the various parts of a computer and how they work.

COOKING

Food Safety – Cyberville Gallery

Using the public Internet access computers, research first aid techniques for various injuries that could occur while cooking such as burns and scalds. Also research how to safely store, handle and prepare meat, fish, chicken, eggs and dairy products. Visit the Centers for Disease Control and Prevention website to learn about food-borne illnesses.

DISABILITIES AWARENESS

Visit TWO locations – Saint Louis Science Center

The Science Center prides itself on being fully accessible to people of all ability levels. On your visit to the Science Center, take notes about the accessibility modifications you notice. Give examples of five things that could be done to improve the site and five things that make it friendly to people with disabilities.

FORESTRY

Prepare a field notebook… - Forest Park

The Saint Louis Science Center is nicely situated in one of the largest city parks in the nation. Take advantage of the many wooded areas here to identify 15 species of trees. Describe the trees according to the specifications listed in your Merit Badge handbook.

Find and examine tree stumps – Forest Park

In the same wooded areas as above, find three tree stumps that show variations in their ring patterns. Describe the stumps according to the specifications listed in your Merit Badge handbook.

Find and examine insect damage – Forest Park

Using the same wooded area, find two types of damage to trees or stumps made by animals or insects. Follow the instructions in your Merit Badge handbook to record your observations.

NATURE

In The Field… - Forest Park

With just one step out the door of the James S. McDonnell Planetarium you will find yourself in Forest Park. This urban refuge is a perfect setting to observe some of Missouri's native wildlife in their natural habitat.

- Birds – Find and identify eight species of birds.
- Mammals – Find and identify three species of mammals.
- Reptiles and Amphibians – Find and identify three species of reptiles or amphibians.
- Insects or Spiders – Collect, mount, and label ten species of insects or spiders. (Use caution when catching insects! Venomous spiders can be found here in St. Louis!)
- Fish – Catch and identify two species of fish. REMEMBER TO RELEASE THEM!
- Mollusks and Crustaceans – Identify five species of mollusks and crustaceans.
- Plants – In the field, identify fifteen species wild plants.
- Soils and Rocks – Collect and identify soils found in different layers of a soil profile.

PERSONAL FITNESS

Flexibility Test – MedTech Gallery

Using the sit and reach box, make four repetitions and record the fourth reach. This last reach must be held steady for 15 seconds to qualify.

PLANT SCIENCE

Field Botany – Forest Park

Visit Forest Park, conveniently located just outside our doors! While you are there:

• Determine which species of plants are the largest and which are the most abundant. Note whether they cast shade on other plants.

• Record environmental factors that may influence the presence of plants on your site, including latitude, climate, air and soil temperature, soil type and pH, geology, hydrology and topography.

• Record any differences in the types of plants you see at the edge of a forest, near water, in burned areas or near a road.

Study Site – Forest Park
Select a study site that is at least 100 by 100 feet. Make a list of the plants in the study site by groups of plants: canopy trees, small trees, shrubs, herbaceous wildflowers and grasses, vines, ferns, mosses, algae, fungi and lichens. Find out which of these are native and which are exotic.

Start a Collection – Forest Park
Collect, identify, press, mount and label 10 different plants that are common in your area. Tell why voucher specimens are important for documentation of a field botanist's discoveries.

Tree Inventory – Forest Park
- Identify the trees of Forest Park.
- Collect, press and label leaves, flowers or fruits to document your inventory.
- List types of trees by the scientific name and give common names. Note the number and size (diameter at 4 feet above the ground) of trees observed and determine the largest of each species in your study area.
- Lead a walk to teach others about trees and their value OR write and distribute materials that will help others learn about trees.

PULP AND PAPER
Make a List – Saint Louis Science Center
Make a list of 15 pulp and paper products found here in the Saint Louis Science Center. Share examples of these products with your counselor and troop.

SPACE EXPLORATION
Why Fly? – James S. McDonnell Planetarium
Discuss the purpose of space exploration and include the following:
- Historical reasons
- Immediate goals in terms of specific knowledge
- Benefits related to Earth resources, technology, and new products.

Who's Who? - James S. McDonnell Planetarium
Design a collector's card, with a picture on the front and information on the back, about your favorite space pioneer. Share your card and discuss four other space pioneers with your counselor. Find the hands of many space pioneers in the tunnel leading from the Main Building to the Planetarium. Can you find more information about any of these astronauts?

Weather
Define Meteorology… - Ecology and Environment Past Gallery
Explore the Ecology and Environment Past Gallery to find information about weather and how weather forecasts are used.

Name five dangerous… - Ecology and Environment Past Gallery
Explore the Ecology and Environment Past Gallery to learn about tornadoes and other disastrous weather phenomena.

Draw a diagram… - Ecology and Environment Past Gallery
Find the water cycle display in the Environment and Ecology Past Gallery. Use the information you gather as a basis to create your own stream table or water cycle diagram.