

Rollin' Down the River
Cadette/Senior Interest Project Patch

When doing any of the activities near or on the water, make sure that you check Safety Wise and take all the necessary precautions before beginning this project.

Do 2 Skill Builders, 1 Technology, 1 Service Project, 1 Career Exploration and 2 more from any of the categories.

Skill Builders

1. Visit 3 different aquatic habitats such as marshland, lake, shore, river, bog, and stream. Find out what makes each habitat significant. What plants/animals live in each ecosystem and what adaptation allow them to succeed in that ecosystem.
2. Wetlands provide many benefits. They help reduce flooding, sustain stream flow, filter polluted waters, provide habitat for wildlife, and support biological diversity. Visit a National Wildlife Refuge or a locally protected wetland and take a tour.
3. The river has inspired much art and literature. Read about Mark Twain or another author/artist inspired by a river. Express how a body of water makes you feel through prose, poetry, photography, or art.
4. Go on a hike with your troop and follow a local creek or stream. Where does the stream drain? What does it pick up along the way? What happens when it rains? How does the stream change? What insects, birds, and plants or aquatic life did you observe? Use a United States Geological Survey map or draw your own to illustrate your local watershed.
5. Exotic plant and animal species can quickly become invasive. They have detrimental effects on an ecosystem and native populations of plants and animals. Learn about three invasive species that are problematic in Wisconsin or your state.
6. Choose 1 bird, animal, fish and amphibian, located near a river in your area. Learn about each habitat and how they depend on the river for survival.
7. Leave no Trace - Contact your local USGS, Forest Service, Fish and Wildlife or other government agency to obtain information regarding Leave No Trace. Practice these skills on a hike or overnight camping trip.

8. Learn about Recreational opportunities on a local river or lake. Check out boating, swimming, water skiing, fishing, cruising, bird watching, hunting or other activity. Do one of these activities.

Technology

1. Do a power point presentation about some aspect of your local river or body of water. Decide your purpose: to promote activities on the river, decreasing river pollution, raise awareness regarding local habitat, etc. Show your presentation to at least two groups of people.
2. Find out about how new technology is used in testing water quality. Find out if these tests are used in your area.
3. Visit a local sewage treatment plant or water filtration plant to see how wastewater is treated or drinking water is purified. Look at the treated water as it is being discharged into your river. Is it clear? Does it stink?
4. From water wheels to hydroelectric plants, people have been using water-power for centuries. Pick one of the following technologies to learn how modern scientists continue to explore ocean energy to meet the growing demand for power:
 - Ocean thermal energy conversion.
 - Wave and tidal power.
 - Ocean currents.

Keep the following question in mind as you explore: How does this technology work? Can it be used anywhere in the world? Is there any potential health or ecological risks associated with it?

5. Tour a boat used in river studies, river preservation or river rescue. What kind of equipment is used to navigate the river, check the depth of the river, perform scientific studies or perform river rescues?

Service Projects

Do one of the following:

1. Do a shoreline clean-up or participate in, or organize, an annual river clean-up event.
2. Contact USGS or DNR to find if they have river projects you can participate in or help organize.
3. Help with a crane count or other water bird project count.

4. Teach a younger troop or group about the wildlife indigenous to Wisconsin or about keeping a river healthy.
5. Work with your troop to organize a Storm Drain Stenciling Project in your neighborhood. Produce and distribute a flyer or door hanger for local households to make them aware of your project and to remind them that storm drains dump directly into you local body of water.
6. Participate in a special activity during May to celebrate American Wetlands Month or during the third week of October to celebrate National Wildlife Refuge week.

Career Exploration

1. Talk to a water biologist, employee of USGS, DNR, or another career that involves the river. Find out the educational requirements of their job, their job responsibilities and their salary.
2. Choose three of the following careers in working with water. Do an Internet search to find out educational requirements for the job, where these people would work, and how their job affects the water or area in which they work. Share this information with others, or display your information at a school job fair.
 - Botanist
 - Water biologist
 - Fish and wildlife manager
 - Commercial fisherman
 - Game warden
 - Steamboat captain
 - Lock and dam master
 - River search and rescue
 - Offshore Oil Rig Worker
 - Port Authority Worker
 - Health Department Inspector
 - Marine Science Writer
 - Park Ranger
 - Underwater Filmmaker and Photographer
 - Lifeguard
 - Animal Trainer
 - Tropical Fish Store Worker
 - Seafood Processor
 - Aquarium Educator
 - Marine Videographer
 - Oceanographer
 - Marine Geologist
 - Fishing Trawler Captain and crew
 - Lawyer who specializes in marine issues
 - Computer Scientist
 - U.S. Coast Guard
 - U.S. Navy
 - Merchant Marine
 - Engineer on a ship
 - Coastal Engineer
 - Marine Architect
 - Shipbuilder

3. Find three college or universities that have program in River Studies, Water Studies or related fields. Find out the requirements for entry into that program. Share this information with others.
4. Combine the love of science and the love of water to find out about jobs in oceanography, marine biology, fish and wildlife, aquarium management or research. Search online to find out how these jobs combined fieldwork, management and research.

Resources:

The USGS has developed a series of full color water education posters to help you learn about water. The topics include: oceans, watersheds, hazardous waste, wetlands, water use, wastewater treatment, navigation, ground water, and water quality.

<http://www.epa.gov>

[http:// www.epa.gov/linkinggirls](http://www.epa.gov/linkinggirls)

<http://www.earthwater.org/stencils>

<http://www.wisconsinbirds.org>

<http://USGS.gov>

<http://www.dnr.state.wi.us>

<http://FWS.gov>