

SPLASH! SCOUTS BSA NOVA AWARD

Additional requirement sheets and helps are available from ScouterMom.com.

Splash! This module is designed to help you explore how water affects your life every day. Splash! is part of the Science category.

1. Choose A or B or C and complete ALL the requirements

1A. Watch about three hours total of science-related shows or documentaries that discuss water as it relates to the hydrologic cycle, primary sources, primary users (including wildlife), health, sources of pollution, waste treatment, and related sciences and technologies. Then do the following:

1A-1. Make a list of at least five questions or ideas from the show(s) you watched.

1A-2. Discuss two of the questions or ideas with your counselor.

1B. Read (about three hours total) about water as it relates to the hydrologic cycle, primary sources, primary users, health, sources of pollution, waste treatment, and related sciences and technologies. Then do the following:

1B-1. Make a list of at least five questions or ideas from each article.

1B-2. Discuss two of the questions or ideas with your counselor.

1C. Do a combination of reading and watching (about three hours total). Then do the following:

1C-1. Make a list of at least five questions or ideas from each article or show.

1C-2. Discuss two of the questions or ideas with your counselor.

2. Complete ONE merit badge from the following list/

2-1. Chemistry

2-2. Energy

2-3. Engineering

2.4. Environmental Science

2.5. Fish and Wildlife Management

2-6. Fishing

2-7. Fly-Fishing

2-8. Forestry

2-9. Geology

2-10 Nature

2-11. Oceanography

2-12. Public Health

2-13. Soil and Water Conservation

2-14. Sustainability

2-15. Weather

3. Choose two requirements from A or B or C or D and complete ALL the requirements for the two you selected.

3A. Examine models of the structures of liquid water and ice.(You can use either a physical model or a computer model.)Note the similarities and differences between them. Discuss With your counselor how the structure of water and ice affect their properties and their ability to dissolve compounds and carry impurities.

3B. Prepare two demonstrations or activities involving surface tension or hydrophobicity, and present them to a CubScout den or other youth group. Explain the science involved, and discuss your presentation with your counselor.

3C. Use the internet (with your parent's or guardian's permission) to determine the annual water use for your state in gallons and acre-feet.

3C-1. What are the main sources (provide percentages)?

3C-2. Who are the main users (provide percentages)?

3C-3. Who are the main users (provide percentages)?

3C-4. Discuss what you learned with your counselor.

3D. Household water use. Create a list all of the ways that water is used around your home in a 24-hour period, including the bathroom, kitchen, and any appliances. Don't forget outdoor water uses such as pools, hot tubs, sprinkler systems, landscape and gardens, pets and/or livestock, and cleaning efforts such as washing cars, boats, pets, etc.

3D-1. Estimate how much water is used for each function over a specific time period. Add your estimates to come up with an estimate of total water usage by your family for one month or one year.

3D-2. Compare your estimate with the actual total found on your home water bill, and account for any large differences. (Hint: ask your parent or guardian to help you locate that information on the monthly water bill or well meter.) Note: If you live in a multi-family housing unit and do not have an individual water bill, you may be able to obtain the information from your unit's management. If not, measure your water usage for at least two tasks (for example, by leaving the drain closed when you take a shower, then measuring the amount of water that collected in the tub during your shower), and use that data to revise your estimates.

3D-3. How does your local usage compare to the average use per capita in your state? The United States Geological

Survey (usgs.org) is a good source for data on average water usage.

3D-4. Identify several ways to reduce your water consumption, and practice them for one month. Estimate how much clean water you have saved.

3D-5. Discuss your work and what you learned with your counselor.

4. Visit a place where water is being processed either by humans or by nature (wastewater treatment plant, naturalist center, conservation department, etc.), take a tour, and speak with a professional about the processing of the water. Discuss with your counselor the STEM being used.

5. Discuss with your counselor what you have learned about how water affects your everyday life.