

Merit Badge Requirements

Art

- 6: With your parent's permission and your counselor's approval, visit a museum, art exhibit, art gallery, artists' co-op, or artist's workshop. Find out about the art displayed or created there. Discuss what you learn with your counselor. Prerequisite

Astronomy

- 5b: Using the Internet (with parent's permission) and other resources, find out when each the five most visible planets that you identified in req 5a will be observable in the evening sky during the next 12 months, then compile this information into a chart. Prerequisite

- 8: With your counselor's approval and guidance, do ONE of the following: Prerequisite

- 8a: Visit a planetarium or astronomical observatory. Submit a written report, a scrapbook, or a video presentation afterward to your counselor that includes the following information: (1) Activities occurring there (2) Exhibits and displays you saw (3) Telescopes and other instruments being used (4) Celestial objects you observed Prerequisite

- 8b: Plan and participate in a three-hour observation session that includes using binoculars or a telescope. List the celestial objects you want to observe and find each on a star chart or in a guidebook. Prepare a log or notebook. Discuss with your counselor what you hope to observe prior to your observation session. Review your log or notebook with your counselor afterward. * Prerequisite

- 8c: Plan and host a star party for your Scout troop or other group such as your class at school. Use binoculars or a telescope to show and explain celestial objects to the group. Prerequisite

- 8d: Help an astronomy club in your community hold a star party that is open to the public. Prerequisite

- 8e: Personally take a series of photographs or digital images of the movement of the Moon, a planet, an asteroid, meteor, or a comet. In your visual display, label each image and include the date and time it was taken. Show all positions on a star chart or map. Show y Prerequisite

B.S.A. Lifeguard

- 0: Pass swimmer test, swimming merit badge, first aid merit badge or equivalent level of training. Prerequisite

- 0: Extra training will be done during Open Time in the afternoons. Prerequisite

Camping

- 4: Do the following: Prerequisite

- 4a: Make a duty roster showing how your patrol is organized for an actual overnight campout. List assignments for each member. Prerequisite

- 4b: Help a Scout patrol or a Webelos Scout unit in your area prepare for an actual campout, including creating the duty roster, menu planning, equipment needs, general planning, and setting up camp. Prerequisite

- 5e: Present yourself to your Scoutmaster with your pack for inspection. Be correctly clothed and equipped for an overnight campout. Prerequisite

- 7: Prepare for an overnight campout with your patrol by doing the following: Prerequisite

- 7a: Make a checklist of personal and patrol gear that will be needed. Prerequisite

7b:	Pack your own gear and your share of the patrol equipment and food for proper carrying. Show that your pack is right for quickly getting what is needed first, and that it has been assembled properly for comfort, weight, balance, size, and neatness.	Prerequisite
8c:	Prepare a camp menu. Explain how this differs from a menu for backpacking or float trip. Make a food list for your patrol. Plan 2 breakfasts, 3 lunches, and 4 suppers. Discuss how to protect your food against bad weather, animals, and contamination.	Prerequisite
8d:	Cook at least one breakfast, one lunch, and one dinner for your patrol from the meals you have planned for requirement 8c. At least one of those meals must be a trail meal requiring the use of a lightweight stove.	Prerequisite
9a:	Camp at least 20 nights on Scouting activities.* One long-term camping experience of up to six consecutive nights may be applied. Sleep under the sky or in a tent you have pitched. If camp provides a tent you need not pitch your own tent.	Prerequisite
9b:	On any of these camping experiences, you must do TWO of the following, only with proper preparation and under qualified supervision.	Prerequisite
9b 1:	Hike up a mountain, gaining at least 1,000 vertical feet.	Prerequisite
9b 2:	Backpack, snowshoe, or cross-country ski for at least 4 miles.	Prerequisite
9b 3:	Take a bike trip of at least 15 miles or at least four hours.	Prerequisite
9b 4:	Take a nonmotorized trip on the water of at least four hours or 5 miles.	Prerequisite
9b 5:	Plan and carry out an overnight snow camping experience.	Prerequisite
9b 6:	Rappel down a rappel route of 30 feet or more.	Prerequisite
9c:	Perform a conservation project approved by the landowner or land managing agency.	Prerequisite

Canoeing

2:	Before doing the following requirements, successfully complete the BSA swimmer test: Jump feetfirst into water over the head in depth. Level off and swim 75 yards in a strong manner using one or more of the following strokes: sidestroke, breaststroke, trudgen, or crawl; then swim 25 yards using an easy, resting backstroke. The 100 yards must be completed in one swim without stops and must include at least one sharp turn. After completing the swim, rest by foating.	Prerequisite
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Chess

6:	Do ONE of the following:	Prerequisite
6a:	Play at least three games of chess with other Scouts and/or your merit badge counselor. Replay the games from your score sheets and discuss with your counselor how you might have played each game differently.	Prerequisite
6b:	Play in a scholastic (youth) chess tournament and use your score sheets from that tournament to replay your games with your merit badge counselor. Discuss with your counselor how you might have played each game differently.	Prerequisite
6c:	Organize and run a chess tournament with at least four players, plus you. Have each competitor play at least two games.	Prerequisite

Citizenship in the World

7:	Do two of the Following (with your parent's permission) and share with your counselor what you have learned:	Prerequisite
7a:	Visit the website of the U.S. State Department. Learn more about an issue you find interesting that is discussed on this website.	Prerequisite

7b:	Visit the website of an international news organization or foreign government, OR examine a foreign newspaper. Find a news story about a human right realized in the United States that is not recognized in another country.	Prerequisite
7c :	Visit with a student or Scout from another country and discuss the typical values, holidays, ethnic foods, and traditions practiced or enjoyed there.	Prerequisite
7d:	Attend a world Scout Jamboree	Prerequisite
7e:	Participate in or attend an international event in your area, such as an ethnic festival, concert, or play.	Prerequisite

Communications

5:	Attend a public meeting (city council, school board, debate) approved by your counselor where several points of view are given on a single issue. Practice active listening skills and take careful notes of each point of view. Prepare an objective report that includes all points of view that were expressed, and share this with your counselor.	Prerequisite
7:	Do ONE of the following:	Prerequisite
7a:	Write to the editor of a magazine or your local newspaper to express your opinion or share information on any subject you choose. Send your message by fax, email, or regular mail.	Prerequisite
7b:	Create a Web page or blog of special interest to you (for instance, your troop or crew, a hobby, or a sport). Include at least three articles or entries and one photograph or illustration, and one link to some other Web page or blog that would be helpful to someone who visits the Web page or blog you have created. It is not necessary to post your Web page or blog to the Internet, but if you decide to do so, you must first share it with your parents and counselor and get their permission.	Prerequisite
7c:	Use desktop publishing to produce a newsletter, brochure, flier, or other printed material for your troop or crew, class at school, or other group. Include at least one article and one photograph or illustration.	Prerequisite
8:	Plan a troop or crew court of honor, campfire program, or interfaith worship service. Have the patrol leaders' council approve it, then write the script and prepare the program. Serve as master of ceremonies.	Prerequisite

Cooking

4:	Using the MyPlate food guide plan menus for 3 days plus one dessert. Your menus feed yourself and at least one adult, including special needs, how you keep foods safe and free from cross-contamination.	Prerequisite
4:	List the equipment & utensils needed to prepare these meals. Do the following:	Prerequisite
4a:	Create a shopping list for your meals showing the amount of food needed to prepare and serve each meal, and the cost for each meal.	Prerequisite
4b:	Share and discuss your meal plan and shopping list with your counselor.	Prerequisite
4c:	Using at least 5 of the 10 cooking methods from requirement 3, prepare and serve yourself and at least 1 adult (parent, family member, guardian, or other responsible adult) 1 breakfast, 1 lunch, 1 dinner, and 1 dessert from the meals you planned.*	Prerequisite
4c*:	*The meals for req 4 may be prepared on different days, and they need not be prepared consecutively. The req calls for Scouts to plan, prepare, and serve 1 breakfast, lunch, and dinner to at least 1 adult; those served need not be the same for all meals.	Prerequisite

4d:	Time your cooking to have each meal ready to serve at the proper time. Have an adult verify the preparation of the meal to your counselor.	Prerequisite
5:	Camp cooking. Do the following:	Prerequisite
5**:	Where local regulations do not allow you to build a fire, the counselor may adjust the requirement to meet the law. The meals in requirements 5 and 6 may be prepared for different trips and need not be prepared consecutively. Scouts working on this badge in summer camp should take into consideration foods that can be obtained at the camp commissary.	Prerequisite
5a:	Using the MyPlate food guide or the current USDA nutrition model, plan five meals for your patrol (or a similar size group of up to eight youth, including you) for a camping trip. Your menus should include enough food for each person, keeping in mind any special needs (such as food allergies) and how you keep your foods safe and free from cross-contamination. These five meals must include at least one breakfast, one lunch, one dinner, AND at least one snack OR one dessert. List the equipment and utensils needed to prepare and serve these meals.	Prerequisite
5b:	Create a shopping list for your meals showing the amount of food needed to prepare and serve each meal, and the cost for each meal.	Prerequisite
5c:	Share and discuss your meal plan and shopping list with your counselor.	Prerequisite
5d:	In the outdoors, using your menu plans for this requirement, cook two of the five meals you planned using either a lightweight stove or a low-impact fire. Use a different cooking method from requirement 3 for each meal. You must also cook a third meal using either a Dutch oven OR a foil pack OR kabobs. Serve all of these meals to your patrol or a group of youth. **	Prerequisite
5e:	In the outdoors, prepare a dessert OR a snack and serve it to your patrol or a group of youth.**	Prerequisite
5f:	After each meal, have those you served evaluate the meal on presentation and taste, and then evaluate your own meal. Discuss what you learned with your counselor, including any adjustments that could have improved or enhanced your meals. Tell how planning and preparation help ensure successful outdoor cooking.	Prerequisite
5g:	Explain to your counselor how you cleaned the equipment, utensils, and the cooking site thoroughly after each meal. Explain how you properly disposed of dishwater and of all garbage.	Prerequisite
5h:	Discuss how you followed the Outdoor Code and no-trace principles when preparing your meals.	Prerequisite
6:	Trail and backpacking meals. Do the following:	Prerequisite
6**:	Where local regulations do not allow you to build a fire, the counselor may adjust the requirement to meet the law. The meals in requirements 5 and 6 may be prepared for different trips and need not be prepared consecutively. Scouts working on this badge in summer camp should take into consideration foods that can be obtained at the camp commissary.	Prerequisite
6a:	Using the MyPlate food guide or the current USDA nutrition model, plan a menu for trail hiking or backpacking that includes one breakfast, one lunch, one dinner, and one snack. These meals must not require refrigeration and are to be consumed by three to five people (including you). Be sure to keep in mind any special needs (such as food allergies) and how you will keep your foods safe and free from cross-contamination. List the equipment and utensils needed to prepare and serve these meals.	Prerequisite

- 6b: Create a shopping list for your meals, showing the amount of food needed to prepare and serve each meal, and the cost for each meal. Prerequisite
- 6c: Share and discuss your meal plan and shopping list with your counselor. Your plan must include how to repackage foods for your hike or backpacking trip to eliminate as much bulk, weight, and garbage as possible. Prerequisite
- 6d: While on a trail hike or backpacking trip, prepare and serve two meals and a snack from the menu planned for this requirement. At least one of those meals must be cooked over a fire, or an approved trail stove (with proper supervision).** Prerequisite
- 6e: After each meal, have those you served evaluate the meal on presentation and taste, then evaluate your own meal. Discuss what you learned with your counselor, including any adjustments that could have improved or enhanced your meals. Tell how planning and preparation help ensure successful trail hiking or backpacking meals. Prerequisite
- 6f: Discuss how you followed the Outdoor Code and no-trace principles during your outing. Explain to your counselor how you cleaned any equipment, utensils, and the cooking site after each meal. Explain how you properly disposed of any dishwasher and packed out all garbage. Prerequisite

Emergency Preparedness

- 1: Earn the First Aid merit badge Prerequisite
- 2c: Meet with and teach your family how to get or build a kit, make a plan, and be informed for the situations on the chart you created for requirement 2b. Complete a family plan. Then meet with your counselor and report on your family meeting, discuss their responses, and share your family plan Prerequisite
- 6c: Find who your community's emergency management director and learn what they do to prepare, respond, recover, mitigate and prevent emergency situations. Discuss this information with your counselor and apply this to requirement 2b. Prerequisite
- 7: Take part in an emergency service project, either a real one or a practice drill, with a Scouting unit or a community agency. Prerequisite
- 8: Do The Following: Prerequisite
- 8b: Prepare a personal emergency service pack for a mobilization call. Prepare a family kit (suitcase or waterproof box) for use by your family in case an emergency evacuation is needed. Explain the needs and uses of the contents. Prerequisite

Environmental Science

- 3e: Endangered Species (1) Do research on one endangered species found in your state. Find out what its natural habitat is, why it is endangered, what is being done to preserve it, and how many individual organisms are left in the wild. Prepare a 100-word report about the organism, including a drawing. Present your report to your patrol or troop. (2) Do research on one species that was endangered or threatened but which has now recovered. Find out how the organism recovered, and what its new status is. Write a 100-word report on the species and discuss it with your counselor. (3) With your parent's and counselor's approval, work with a natural resource professional to identify two projects that have been approved to improve the habitat for a threatened or endangered species in your area. Visit the site of one of these projects and report on what you saw. Prerequisite

Fire Safety

11: Visit a fire station. Identify the types of fire trucks. Find out about the fire prevention activities in your community. Prerequisite

6a: Draw a home fire-escape plan, create a home fire-drill schedule, and conduct a home fire drill. Prerequisite

First Aid

5: Prepare a first-aid kit for your home. Display and discuss its contents with your counselor Prerequisite

First Year Camper

0: Bring your Scout Hand Book. Recommended

Fish and Wildlife

5: Do ONE of the following: Prerequisite

5a: Construct, erect, and check regularly at least two artificial nest boxes (wood duck, bluebird, squirrel, etc.) and keep written records for one nesting season. Prerequisite

5b: Construct, erect, and check regularly bird feeders and keep written records of the kinds of birds visiting the feeders. Prerequisite

5c: Design and implement a backyard wildlife habitat improvement project and report the results. Prerequisite

5d: Design and construct a wildlife blind near a game trail, water hole, salt lick, bird feeder, or birdbath and take good photographs or make sketches from the blind of any combination of 10 wild birds, mammals, reptiles, or amphibians. Prerequisite

7: Do ONE of the following: a. Determine the age of five species of fish from scale samples or identify various age classes of one species in a lake and report the results. b. Conduct a creel census on a small lake to estimate catch per unit effort. c. Examine the stomach contents of three fish and record the findings. It is not necessary to catch any fish for this option. You may visit a cleaning station set up for fishermen or find another, similar alternative. d. Make a freshwater aquarium. Include at least four species of native plants and four species of animal life, such as whirligig beetles, freshwater shrimp, tadpoles, water snails, and golden shiners. After 60 days of observation, discuss with your counselor the life cycles, food chains, and management needs you have recognized. After completing requirement 7d to your counselor's satisfaction, with your counselor's assistance, check local laws to determine what you should do with the specimens you have collected. Prerequisite

8: Using resources found at the library and in periodicals, books, and the Internet (with your parent's permission), learn about three different positions held by fisheries and/or wildlife professionals. Find out the education and training requirements for each position. Prerequisite

Fishing

10: If regulations and health concerns permit, clean and cook a fish you have caught. Otherwise, acquire a fish and cook it. (You do not need to eat your fish.) Prerequisite

9: Catch at least one fish and identify it. If regulations and health concerns permit, clean and cook a fish you have caught. Otherwise, acquire a fish and cook it. Prerequisite

Fly Fishing

- 10: Catch at least one fish and identify it. If local fishing and health regulations allow, clean and cook a fish you have caught. Otherwise, acquire a fish and cook it. Prerequisite

Forestry

- 5: With your parent's and counselor's approval, do ONE of the following: Prerequisite
- 5a: Visit a managed public or private forest area with the manager or a forester who is familiar with it. Write a brief report describing the type of forest, the management objectives, and the forestry techniques used to achieve the objectives. Prerequisite
- 5b: With a knowledgeable individual, visit a logging operation or wood-using manufacturing plant. Write a brief report describing the following: Prerequisite
- 5b1: The species and size of trees being harvested or used and the location of the harvest area or manufacturer Prerequisite
- 5b2: The origin of the forest or stands of trees being utilized (e.g., planted or natural) Prerequisite
- 5b3: The forest's successional stage. What is its future? Prerequisite
- 5b4: Where the trees are coming from (land ownership) or where they are going (type of mill or processing plant) Prerequisite
- 5b4: Where the trees are coming from (land ownership) or where they are going (type of mill or processing plant) Prerequisite
- 5b5: The products that are made from the trees Prerequisite
- 5b6: How the products are made and used Prerequisite
- 5b7: How waste materials from the logging operation or manufacturing plant are disposed of or utilized Prerequisite
- 5c: Take part in a forest-fire prevention campaign in cooperation with your local fire warden, state wildfire agency, forester, or counselor. Write a brief report describing the campaign, how it will help prevent wildfires, and your part in it. Prerequisite
- 8: Visit one or more local foresters and write a brief report about the person (or persons). Or, write about a forester's occupation including the education, qualifications, career opportunities, and duties related to forestry Prerequisite

Kayaking

- 2: Before doing req 3-8, complete the BSA swim test: Jump feet first into water. Swim 75 yards using the following strokes: sidestroke, breaststroke, trudgen, or crawl; then 25 yards using a resting backstroke. Swim without stops and finish by floating. Prerequisite

Lifesaving

- 1: Before doing requirements 2 through 17: Prerequisite
- 1a: Complete Second Class rank requirements 5a through 5d and First Class rank requirements 6a, 6b, and 6c. Second Class rank requirements 5a through 5d: Prerequisite
- 1b: Swim continuously for 400 yards using each of the following strokes in a strong manner, in good form with rhythmic breathing, for at least 50 continuous yards: front crawl, sidestroke, breaststroke, and elementary backstroke. Prerequisite
- 1st Class 6a: Successfully complete the BSA swimmer test. Prerequisite
- 1st Class 6b: Tell what precautions must be taken for a safe trip afloat. Prerequisite

1st Class 6d:	With a helper and a practice victim, show a line rescue both as tender and as rescuer.	Prerequisite
2ndclass 5a:	Tell what precautions must be taken for a safe swim.	Prerequisite
2ndclass 5b:	Demonstrate your ability to pass the BSA beginner test:	Prerequisite
2ndclass 5c:	Demonstrate water rescue methods by reaching with your arm or leg, by reaching with a suitable object, and by throwing lines and objects.	Prerequisite
2ndclass 5d:	Explain why and how a rescue swimmer should avoid contact with the victim.	Prerequisite

Mammal Study

5:	Working with your counselor, select and carry out one project that will influence the numbers of one or more mammals.	Prerequisite
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Orienteering

10:	Teach orienteering techniques to your patrol, troop, or crew.	Prerequisite
7:	Do the following:	Prerequisite
7a:	Take part in three orienteering events. One of these must be a cross-country course.	Prerequisite
7b:	After each event, write a report with (1) a copy of the master map and control description sheet, (2) a copy of the route you took on the course, (3) a discussion of how you could improve your time between control points, and (4) a list of your major weaknesses on this course. Describe what you could do to improve.	Prerequisite
8:	Do ONE of the following:	Prerequisite
8a:	Set up a cross-country course that is at least 2,000 meters long with at least five control markers. Prepare the master map and control description sheet.	Prerequisite
8b:	Set up a score orienteering course with at least 12 control points and a time limit of at least 60 minutes. Set point values for each control. Prepare the master map and control description sheet.	Prerequisite
9:	Act as an official during an orienteering event. This may be during the running of the course you set up for requirement 8.	Prerequisite

Photography

*:	Bring a digital camera or a smart phone with a camera	Prerequisite
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Pottery

7:	With your parent's permission and your counselor's approval, do ONE of the following:	Prerequisite
7a:	Visit the kiln yard at a local college or other craft school. Learn how the different kinds of kilns work, including low fire electric, gas or propane high fire, wood or salt/soda, and raku.	Prerequisite
7b:	Visit a museum, art exhibit, art gallery, artists' co-op, or artist's studio that features pottery. After your visit, share with your counselor what you have learned.	Prerequisite
7c:	Using resources from the library, magazines, the Internet (with your parent's permission), and other outlets, learn about the historical and cultural importance of pottery. Share what you discover with your counselor.	Prerequisite

Radio

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| 7: | Visit a radio installation (an amateur radio station, broadcast station, or public service communications center, for example) approved in advance by your counselor. Discuss what types of equipment you saw in use, how it was used, what types of licenses are required to operate and maintain the equipment, and the purpose of the station. | Prerequisite |
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Reptile & Amphibian Study

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| 8: | Do ONE of the following: | Prerequisite |
| 8a: | Maintain one reptiles or amphibians for at least a month. Record food, eating methods, changes in coloration, shedding of skins, and general habits; or keep the eggs of a reptile or amphibian time off laying until hatching. | Prerequisite |
| 8b: | Choose a reptile or amphibian that you can observe at a local zoo, aquarium, nature center, or other such exhibit (such as your classroom or school). Study the specimen weekly for a period of three months. | Prerequisite |
| 9: | Do TWO of the following: | Prerequisite |
| 9a: | Identify at night three kinds of toads or frogs by their voices. Imitate the song of each for your counselor. Stalk each with a flashlight and discover how each sings and from where. | Prerequisite |
| 9b: | Identify by sight eight species of reptiles or amphibians. | Prerequisite |
| 9c: | Using visual aids, give a brief talk to a small group on three different reptiles and amphibians. | Prerequisite |

Robotics (Monday)

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| *: | This class meets during Free time on Monday. | Other |
| 6: | Competitions. Do ONE of the following. | Prerequisite |
| 6a: | Attend a robotics competition and report to your counselor what you saw and learned about the competition and how teams are organized and managed. | Prerequisite |
| 6b: | Learn about three youth robotics competitions. Tell your counselor about these, including the type of competition, time commitment, age of the participants, and how many teams are involved. | Prerequisite |

Robotics (Thursday)

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| *: | This class meets during Free time on Thursday. | Other |
| 6: | Competitions. Do ONE of the following. | Prerequisite |
| 6a: | Attend a robotics competition and report to your counselor what you saw and learned about the competition and how teams are organized and managed. | Prerequisite |
| 6b: | Learn about three youth robotics competitions. Tell your counselor about these, including the type of competition, time commitment, age of the participants, and how many teams are involved. | Prerequisite |

Robotics (Tuesday)

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| *: | This class meets during Free time on Tuesday. | Other |
| 6: | Competitions. Do ONE of the following. | Prerequisite |
| 6a: | Attend a robotics competition and report to your counselor what you saw and learned about the competition and how teams are organized and managed. | Prerequisite |
| 6b: | Learn about three youth robotics competitions. Tell your counselor about these, including the type of competition, time commitment, age of the participants, and how many teams are involved. | Prerequisite |

Robotics (Wednesday)

*:	This class meets during Free time on Wednesday.	Other
6:	Competitions. Do ONE of the following.	Prerequisite
6a:	Attend a robotics competition and report to your counselor what you saw and learned about the competition and how teams are organized and managed.	Prerequisite
6b:	Learn about three youth robotics competitions. Tell your counselor about these, including the type of competition, time commitment, age of the participants, and how many teams are involved.	Prerequisite

Rowing

2:	Before doing the following requirements, successfully complete the BSA swimmer test. Jump feet first into water over your head in depth. Level off and swim 75 yards in a strong manner using one or more of the following strokes: sidestroke, breaststroke, trudgen, or crawl; then swim 25 yards using an easy, resting backstroke. The 100 yards must be completed in one swim without stops and must include at least one sharp turn. After completing the swim, rest by floating.	Prerequisite
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Search and Rescue

6:	Identify four types of search and rescue teams and discuss their use or role with your counselor. Then do the following:	Prerequisite
6a:	Interview a member of one of the teams you have identified above, and learn how this team contributes to a search and rescue operation. Discuss what you learned with your counselor.	Prerequisite
6b:	Describe the process and safety methods of working around at least two of the specialized SAR teams you identified above.	Prerequisite
9:	Discuss with your counselor the terms hasty team and hasty search. Then do the following:	Prerequisite
9a:	Plan and carry out a practice hasty search-either urban or wilderness-for your patrol or troop. Include the following elements in the search: clue awareness, evidence preservation, tracking the subject, and locating the subject using attraction or trail s	Prerequisite
9b:	When it's over, hold a team debriefing to discuss the hasty search. Discuss problems encountered, successful and unsuccessful tactics, and ideas for improvement.	Prerequisite

Small Boat Sailing

2:	Before doing requirements 3 through 9, successfully complete the BSA swimmer test: Jump feetfirst into water over the head in depth. Level off and swim 75 yards in a strong manner using one or more of the following strokes: sidestroke, breaststroke, trudgen, or crawl; then swim 25 yards using an easy, resting backstroke. The 100 yards must be completed in one swim without stops and must include at least one sharp turn. After completing the swim, rest by floating.	Prerequisite
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Weather

9:	Do ONE of the following:	Prerequisite
9a:	Make one of the following: wind vane, anemometer, rain gauge, hygrometer. Keep a daily weather log for one week using information from this instrument as well as from other sources. Record information at the same time every day: wind direction and speed,	Prerequisite

9a1: temperature, precipitation, and types of clouds. Note any morning dew or frost. Also list the weather forecasts from radio or television at the same time each day and show how the weather really turned out. Prerequisite

9b: Visit a National Weather Service or talk with a local weathercaster, private meteorologist, local agricultural extension service officer, or university meteorology instructor. Find out what type of weather is most dangerous or damaging to your community. Prerequisite

Welding

*: You need to bring long pants, close toed shoes and a cotton T-shirt to wear during class when welding. Prerequisite

*: There is no age requirement for Welding however it is recommended that a scout be physically able and mature enough to safely weld. Prerequisite

Wilderness Survival

5: Put together a personal survival kit and explain how each item in it could be useful. Prerequisite

Wood Carving

2a: Earn the Totin' Chip recognition. Prerequisite

Prerequisite means that this must be done before camp in order to finish the merit badge.

Recommended means that it would be easier if it was done before camp. When an age is a

Prerequisite it means the boy must be that age BEFORE he can take that badge.