

- b. Explain how approaches to exploration may differ if it occurs in the ocean, in space, in a jungle, or in a science lab in a city.

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2. History of Exploration.

Discuss with your counselor the history of exploration.

Select a field of study with a history of exploration to illustrate the importance of exploration in the development of that field (for example, aerospace, oil industry, paleontology, oceanography, etc.).

Field of Study:	
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3. Importance of Exploration.

Explain to your counselor why it is important to explore. Discuss the following:

a. Why it is important for exploration to have a scientific basis

b. How explorers have aided in our understanding of our world

b. Learn about an actual scientific exploration expedition. Gather information about the mission objectives

and the expedition's most interesting or important discoveries. Share what you have learned with your counselor and unit. Tell how the information gained from this expedition helped scientists answer important questions.

Expedition:	

c. Learn about types of exploration that may take place in a laboratory or scientific research facility

(medicine, biology, chemistry, physics, astronomy, etc.). Explain to your counselor how laboratory research and exploration are similar to field research and exploration.

Type of Exploration:	

5. Exploration in Lab and Field.

Do ONE of the following, and share what you learn with your counselor:

- a. With your parent’s permission and counselor’s approval, visit either in person or via the internet an exploration sponsoring organization (such as The Explorers Club, National Geographic Society, Smithsonian Institution, Alpine Club, World Wildlife Fund, or similar organization). Find out what type(s) of exploration the organization supports.

Organization:	

- b. With permission and approval, visit either in person or via the internet a science lab, astronomical observatory, medical research facility, or similar site. Learn what exploration is done in this facility.

Site Visited:	

6. Expedition Planning.

Discuss with your counselor each of the following steps for conducting a successful exploration activity. Explain the need for each step.

a. Identify the objectives (establish goals).

b. Plan the mission. Create an expedition agenda or schedule.

- List potential documents or permits needed.

- c. Budget and plan for adequate financial resources. Estimate costs for travel, equipment, accommodations, meals, permits or licenses, and other expedition expenses.

- d. Determine equipment and supplies required for personal and mission needs for the length of the expedition.

- e. Determine communication and transportation needs. Plan how to keep in contact with your base or the outside world, and determine how you will communicate with each other on-site.

- f. Establish safety and first aid procedures (including planning for medical evacuation).

- Identify the hazards that explorers could encounter on the expedition, and establish procedures to prevent or avoid those hazards.

Hazard	Procedure to Prevent or Avoid

- g. Determine team selection. Identify who is essential for the expedition to be successful and what skills are required by the expedition leader.

- h. Establish detailed recordkeeping (documentation) procedures. Plan the interpretation and sharing of information at the conclusion of the expedition.

7. **Prepare for an Expedition.**

With your parent’s permission and counselor’s approval, prepare for an actual expedition to an area you have not previously explored; the place may be nearby or far away. Do the following:

- a. Make your preparations under the supervision of a trained expedition leader, expedition planner, or other qualified adult experienced in exploration (such as a school science teacher, museum representative, or qualified instructor).

- b. Use the steps listed in requirement 6 to guide your preparations. List the items of equipment and supplies you will need.

- Discuss with your counselor why you chose each item and how it will be of value on the expedition.

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- Determine who should go on the expedition.

- c. Conduct a pre-expedition check, covering the steps in requirement 6, and share the results with your counselor.

- With your counselor, walk through the Sweet Sixteen of BSA Safety for your expedition. Ensure that all foreseeable hazards for your expedition are adequately addressed. Subject
 - 1. Qualified Supervision
 - 2. Physical Fitness
 - 3. Buddy System

- 4. Safe Area or Course
- 5. Equipment Selection and Maintenance
- 6. Personal Safety Equipment
- 7. Safety Procedures and Policies
- 8. Skill Level Limits
- 9. Weather Check
- 10. Planning
- 11. Communications
- 12. Permits and Notices
- 13. First-Aid Resources
- 14. Applicable Laws
- 15. CPR Resource
- 16. Discipline

8. **Go on an Expedition.**

Complete the following:

- a. With your parent’s permission and under the supervision of your merit badge counselor or a counselor-

approved qualified person, use the planning steps you learned in requirement 6 and the preparations you completed in requirement 7 to personally undertake an actual expedition to an area you have not previously explored.

- b. Discuss with your counselor what is outdoor ethics and its role in exploration and enjoying the outdoors responsibly.

- c. After you return, compile a report on the results of your expedition and how you accomplished your objective(s). Include a statement of the objectives, note your findings and observations, include photos, note any discoveries, report any problems or adverse events, and have a conclusion (whether you reached your objective or not). The post-

expedition report must be at least one page and no more than three; one page can be photos, graphs, or figures.

9. **Career Opportunities.**

Identify three career opportunities in exploration.

1.	
2.	
3.	

Pick

one and explain to your counselor how to prepare for such a career.

Career	

Discuss what education and training are required,

Education	
Training	

Exploration

Scout's Name: _____

and why this profession might interest you.

NOTES:

As you work on the Exploration merit badge, remember to always use the buddy system. Whether you are out in the field or meeting with your merit badge counselor, having a buddy will help ensure everyone's safety. You and your buddy can watch out for each other wherever you may be or whatever you may be doing.

Expeditions are widely variable. You do not have to climb Mount Everest or go to a jungle to be an explorer. For this merit badge, an expedition should be viewed like a field trip or science project. While you cannot just hike some place and call it an expedition, you can hike to a location and study an aspect that interests you.

The major difference between an expedition and a field science trip is that you (with your counselor's guidance) have to plan everything. You have to formulate objectives and plan an agenda. As needed, you will need to do things like confirm transportation, arrange communication, plan for food and medical supplies, acquire all food and other supplies, construct safety and possible evacuation procedures, manage any adverse events, and prepare a report after the expedition.

Evaluating the effects of a storm on the local forest or nature preserve, the effects of a drought on a field used by birds and mammals, changes in butterfly populations due to loss of wildflower habitat, incursions by invasive plant or animal species, insect diversity, and presence or absence of amphibians or fish are just some of the examples that can be studied and reported. Your imagination is your only limitation.

When working on merit badges, Scouts and Scouters should be aware of some vital information in the current edition of the *Guide to Advancement* (BSA publication 33088). Important excerpts from that publication can be downloaded from <http://usscouts.org/advance/docs/GTA-Excerpts-meritbadges.pdf>.

You can download a complete copy of the *Guide to Advancement* from <http://www.scouting.org/filestore/pdf/33088.pdf>.

