

2014 Boy Scout Advancement Requirements Changes

When there is a conflict between two published lists of requirements, such as **Boy Scout Requirements** (BSA Publication No. 33216) and a Merit Badge pamphlet or the **Boy Scout Handbook**, the requirements book should normally be considered to be the controlling document, until a newer edition of **Boy Scout Requirements** is issued. However, the following excerpt from the **Guide to Advancement, 2013** explains what to do when merit badge requirements change:

7.0.4.3 What to Do When Requirements Change

The current annual edition of Boy Scout Requirements lists the official merit badge requirements. Once new or revised merit badge requirements appear in this publication, which is released each January, any Scout just beginning work on a merit badge must use the requirements as stated there.

If changes to merit badge requirements are introduced in a revised merit badge pamphlet after the January release of the *Boy Scout Requirements* book, then the Scout has until the following January 1 to decide what to do. He may continue—or begin work—using the old merit badge requirements and the old pamphlet; or he may switch to—or begin work—using the new requirements and the new pamphlet. Unless it is otherwise stated in the merit badge pamphlet, *Boy Scout Requirements*, or official communications from the National Council, if a Scout chooses to use the old merit badge requirements and pamphlet, he may continue using them until he has completed the badge.

There is no time limit between starting and completing a badge, although a counselor may determine so much time has passed since any effort took place that the new requirements must be used.

A new edition of *Boy Scout Requirements* (#33216 - SKU#619576) was released in February, 2014. It contains changes to the Eagle Scout rank and the requirements for 5 new merit badges. Of those 5 badges, 3 were released in 2013, 1 will replace an older badge which is being discontinued, and 1 is just a change in name and some minor requirements changes. The book also contains changes to the requirements for 31 other merit badges, including one badge not identified in the list of changes. Furthermore, it contains the requirements for a new "Special Opportunity" badge, an existing award that was not in previous editions, and a change to one set of awards, as listed below. Finally, the "Merit Badge Library" listing on the inside back cover, lists over 40 merit badge pamphlets with revision dates of 2013 or 2014, and a few with earlier revision dates which are after those listed in the 2013 edition. Some of those may contain further changes when they are issued. If so, we will identify them at that time.

Minor changes to the Star and Life ranks, caused by the changes to the requirements for Eagle Scout, which should have been included, were inadvertently omitted from the booklet. In addition, changes to one merit badge (Personal Fitness) were made in 2013, but were also not included in the booklet. Of the merit badges with changes that are in the booklet, 14 have changes which were previously announced at various times in 2013.

On July 11, 2013, BSA released a new edition of the *Guide to Advancement*, BSA Publication 33088 (SKU 618673), which replaced the 2011 edition, which had superseded the former publication 33088 which was entitled *Advancement Committee Policies and Procedures*. The *Guide to Advancement - 2013* is the official Boy Scouts of America source on advancement procedures.

In addition to the list of changes, the 2014 edition of *Boy Scout Requirements* contains this note on the inside front cover:

*During 2014, a Scout may continue—or begin work—using the old Cooking or Computers merit badge requirements and the old pamphlets. Otherwise, he may switch to—or begin work—using the new requirements as stated in the 2014 Boy Scout Requirements book for Cooking or Digital Technology (which replaces Computers) and the new merit badge pamphlets. If a Scout chooses to use the old merit badge requirements and pamphlets, he may continue using them until he has completed the badges. See Guide to Advancement topic 7.0.4.3.

List of Changes:

2014 Ranks with Changes:

- Star
- Life
- Eagle

Merit Badges being Discontinued

- Computers Being replaced by Digital Technology. Being dropped on January 1, 2015
- Cinematography Replaced by Moviemaking

Merit badges with Changes:

These merit badges had changes announced or published in new merit badge pamphlets during 2013 after publication of the 2013 Boy Scout Requirements booklet

- Archery
- Art
- Cooking
- Cycling
- Horsemanship
- Leatherwork
- Personal Fitness
- Pets
- Pioneering
- Pulp and Paper
- Safety
- Scouting Heritage
- Shotgun Shooting
- Weather

Merit Badge Changes announced during 2014 after the 2014 Boy Scout Requirements booklet was issued

- Canoeing
- Swimming

<u>New Merit Badges</u>

- Game Design released on March 6, 2013
- Programming released on July 15, 2013
- Sustainability released on July 15, 2013
- Moviemaking Replacing Cinematography. announced in October, 2013
- Mining in Society released on February 24, 2014
- Digital Technology –Replacing Computers released on April 16, 2014
- Signs, Signals, and Codes coming soon
- Animation coming soon

These merit badges have changes to their requirements which first appeared in the 2014 Boy Scout Requirements booklet.

- American Heritage
- Archaeology
- Aviation
- Communication
- Composite Materials
- Disabilities Awareness
- Electricity
- Entrepreneurship
- Fishing
- Indian Lore
- Nature
- Plant Science
- Railroading
- Rowing
- Salesmanship
- Search and Rescue
- Space Exploration

This Merit Badge has a change in the 2014 Boy Scout Requirements booklet, but was not listed on the inside front cover

Camping

Special Opportunities

These items were added to the 2014 Boy Scout Requirements booklet:

- Stand Up Paddleboarding
- BSA Lifeguard

These items had changes in the 2014 Boy Scout Requirements booklet:

- Lifesaving and Meritorious Action Awards
- Religious Awards

On the following pages, we have shown the details of all of the changes we identified in our review of the **2014 Boy Scout Requirements** booklet, and have identified the changes in the following manner:

<u>New text is in bold underlined SanSerif text like this sentence.</u> <u>Deleted portions are struck through italic text like this sentence.</u>

Rank Changes:

Star and Life

A change should have been made to the footnote to requirement 3 for both of these ranks, but was inadvertently omitted. The new wording in each case SHOULD read as follows:

* Choose any of the $\frac{15}{17}$ required merit badges in the $\frac{12}{13}$ categories to fulfill requirement 3.

Eagle

Changes were made to requirements 3 & 4, and the footnote to requirement 3. Cooking and Sustainability were added to the list in requirement 3, and a statement about the position of responsibility requirement for Lone Scouts was added to requirement 4 (to incorporate the wording already on the application form). There is a typo in the footnote. The second change shown below was inadvertently omitted. The new wording reads (or SHOULD read) as follows:

- 3. Earn a total of 21 merit badges (10 more than you already have), including the following:
 - a. First Aid
 - Citizenship in the Community b.
 - Citizenship in the Nation c.
 - d. Citizenship in the World
 - Communication e.
 - Cooking f.
 - Personal Fitness <u>g.</u> £
 - g. Emergency Preparedness OR Lifesaving h.
 - i. Ŀ h. Environmental Science OR Sustainability
 - i. Personal Management
 - <u>k.</u> I. Swimming OR Hiking OR Cycling j.
 - **k**. Camping, and
 - Family Life* m. l.
- 4. Lone Scout. Leadership responsibility in his school, religious organization, club, or elsewhere in his community.

* You must choose only one merit badge listed in items (g) and (j) (h), (i), and (k). If you have earned more than one of the badges listed in items (g) and (j) (h), (i), and (k), choose one and list the remaining badges to make your total of 21.

New Merit Badges



<u>Game Design</u>

This is a NEW Merit Badge that was introduced on March 6, 2013, the official "Earn Date", when Scouts had authorization to begin earning the badge.

The requirements are as follows:

- 1. Do the following:
 - a. Analyze four games you have played, each from a different medium. Identify the medium, player format, objectives, rules, resources, and theme (if relevant). Discuss with your counselor the play experience, what you enjoy in each game, and what you dislike. Make a chart to compare and contrast the games.
 - b. Describe four types of play value and provide an example of a game built around each concept. Discuss other reasons people play games.
- 2. Discuss with your counselor five of the following 17 game design terms. For each term that you pick, describe how it relates to a specific game.
 - Thematic game elements:
 - *story*,
 - setting,
 - characters
 - Gameplay elements:
 - play sequence,
 - level design,
 - interface design
 - Game analysis:
 - difficulty,
 - balance,
 - depth,
 - pace,
 - replay value,
 - age appropriateness
 - Related terms:
 - *single-player vs. multiplayer,*
 - cooperative vs. competitive,
 - *turn-based vs. real-time,*
 - *strategy vs. reflex vs. chance,*
 - abstract vs. thematic
- 3. Define the term intellectual property. Describe the types of intellectual property associated with the game design industry. Describe how intellectual property is protected and why protection is necessary. Define and give an example of a licensed property.
- 4. Do the following:
 - a. Pick a game where the players can change the rules or objectives (examples: basketball, hearts, chess, kickball). Briefly summarize the standard rules and objectives and play through the game normally.
 - b. Propose changes to several rules or objectives. Predict how each change will affect gameplay.
 - c. Play the game with one rule or objective change, observing how the players' actions and emotional experiences are affected by the rule change. Repeat this process with two other changes.
 - d. Explain to your counselor how the changes affected the actions and experience of the players. Discuss the accuracy of your predictions.
- 5. Design a new game. Any game medium or combination of mediums is acceptable. Record your work in a game design notebook.
 - a. Write a vision statement for your game. Identify the medium, player format, objectives, and theme of the game. If suitable, describe the setting, story, and characters.
 - b. Describe the play value.
 - c. Make a preliminary list of the rules of the game. Define the resources.

- d. Draw the game elements.
- 6. Do the following:
 - a. Prototype your game from requirement 5. If applicable, demonstrate to your counselor that you have addressed player safety through the rules and equipment.

You must have your merit badge counselor's approval of your concept before you begin creating the prototype.

- b. Test your prototype with as many other people as you need to meet the player format. Compare the play experience to your descriptions from requirement 5b. Correct unclear rules, holes in the rules, dead ends, and obvious rule exploits. Change at least one rule, mechanic, or objective from your first version of the game, and describe why you are making the change. Play the game again. Record whether or not your change had the expected effect.
- c. Repeat 6b at least two more times.
- 7. Blind test your game. Do the following:
 - a. Write an instruction sheet that includes all of the information needed to play the game. Clearly describe how to set up the game, play the game, and end the game. List the game objectives.
 - b. Share your prototype from requirement 6a with a group of players that has not played it or witnessed a previous playtest. Provide them with your instruction sheet(s) and any physical components. Watch them play the game, but do not provide them with instruction. Record their feedback in your game design notebook.
 - c. Share your game design notebook with your counselor. Discuss the player reactions to your project and what you learned about the game design process. Based on your testing, determine what you like most about your game and suggest one or more changes.
- 8. Do ONE of the following:
 - a. With your parent's permission and your counselor's approval, visit with a professional in the game development industry and ask him or her about his or her job and how it fits into the overall development process. Alternately, meet with a professional in game development education and discuss the skills he or she emphasizes in the classroom.
 - b. List three career opportunities in game development. Pick one and find out about the education, training, and experience required for the profession. Discuss this with your counselor. Explain why this profession might interest you.



Programming

This is a NEW Merit Badge that was introduced at the National Jamboree on July 15, 2013, the official "Earn Date", when Scouts had authorization to begin earning the badge.

The requirements are as follows:

1. Safety.

Do the following:

a. Show your counselor your current, up-to-date Cyber Chip.

Earn the Cyber Chip

Earning the Cyber Chip can help you learn how to stay safe while you are online and using social networks or the latest electronic gadgets. Topics include cell phone use, texting, blogging, gaming, cyberbullying, and identity theft. Find out more about the Cyber Chip at www.scouting.org/cyberchip.

- b. Discuss first aid and prevention for the types of injuries or illnesses that could occur during programming activities, including repetitive stress injuries and eyestrain.
- 2. History.
 - Do the following:
 - a. Give a brief history of programming, including at least three milestones related to the advancement or development of programming.
 - b. Describe the evolution of programming methods and how they have improved over time.

- 3. General knowledge.
 - Do the following:
 - a. Create a list of 10 popular programming languages in use today and describe which industry or industries they are primarily used in and why.
 - b. Describe three different programmed devices you rely on every day.
- 4. Intellectual property.
 - Do the following:
 - a. Explain how software patents and copyrights protect a programmer.
 - b. Describe the difference between licensing and owning software.
 - c. Describe the differences between freeware, open source, and commercial software, and why it is important to respect the terms of use of each.
- 5. Projects.

Do the following:

a. With your counselor's approval, choose a sample program. Then, as a minimum, modify the code or add a function or subprogram to it. Debug and demonstrate the modified program to your counselor.

The Programming merit badge website, http://www.boyslife.org/programming, has a number of sample programs that you could use for requirement 5a. However, you have the option of finding a program on your own. It's a good idea to seek your merit badge counselor's guidance.

- b. With your counselor's approval, choose a second programming language and development environment, different from those used for requirement 5a and in a different industry from 5a. Then write, debug, and demonstrate a functioning program to your counselor, using that language and environment.
- c. With your counselor's approval, choose a third programming language and development environment, different from those used for requirements 5a and 5b and in a different industry from 5a or 5b. Then write, debug, and demonstrate a functioning program to your counselor, using that language and environment.
- d. Explain how the programs you wrote for requirements 5a, 5b, and 5c process inputs, how they make decisions based on those inputs, and how they provide outputs based on the decision making.

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6. Careers.

Find out about three career opportunities in programming. Pick one and find out the education, training, and experience required. Discuss this with your counselor and explain why this career might be of interest to you.



Sustainability

This is a NEW Merit Badge that was introduced at the National Jamboree on July 15, 2013, the official "Earn Date", when Scouts had authorization to begin earning the badge. In October, 2013, Requirement 2, WATER, A was revised as shown below.

The requirements (including the October revision) are as follows:

- 1. Before starting work on any other requirements for this merit badge, write in your own words the meaning of sustainability. Explain how you think conservation and stewardship of our natural resources relate to sustainability. Have a family meeting, and ask family members to write down what they think sustainability means. Be sure to take notes. You will need this information again for requirement 5.
- 2. Do the following:
 - Water. Do A AND either B OR C.
 - A. Develop and implement a plan that attempts to reduce your family's water usage. Examine your family's water bills reflecting usage for three months (past or current). As a family, discuss water usage. To aid in your discussion, if past water bills are available, you may choose to examine a few. As a family, choose three ways to help reduce consumption. Implement those ideas for one month. Share what you learn with your counselor, and tell how your plan affected your family's water usage. OR

<u>Since water bills are not always accessible, any Scout who wishes to, may use the following as an alternative to 2A above. This alternative will become the official requirement 2A upon the next reprinting of the Sustainability merit badge pamphlet.</u> Develop and implement a plan that attempts to reduce your family's water usage. As a family, discuss water usage. To aid in your discussion, if past water bills are available, you may choose to examine a few. As a family, choose three ways to help reduce water consumption. Implement those ideas for one month. share what you learn with your counselor, and tell how you think your plan affected your family's water usage.

- B. Using a diagram you have created, explain to your counselor how your household gets its clean water from a natural source and what happens with the water after you use it. Include water that goes down the kitchen, bathroom, and laundry drains, and any runoff from watering the yard or washing the car. Tell two ways to preserve your family's access to clean water in the future.
- C. Discuss with your counselor two areas in the world that have been affected by drought over the last three years. For each area, identify a water conservation practice (successful or unsuccessful) that has been used. Tell whether the practice was effective and why. Discuss what water conservation practice you would have tried and why.
- Food. Do A AND either B OR C.
 - A. Develop and implement a plan that attempts to reduce your household food waste. Establish a baseline and then track and record your results for two weeks. Report your results to your family and counselor.
 - B. Discuss with your counselor the ways individuals, families, and communities can create their own food sources (potted plants, family garden, rooftop garden, neighborhood or community garden). Tell how this plan might contribute to a more sustainable way of life if practiced globally.
 - C. Discuss with your counselor factors that limit the availability of food and food production in different regions of the world. Tell three ways these factors influence the sustainability of worldwide food supplies.
- Community. Do A AND either B OR C.
 - A. Draw a rough sketch depicting how you would design a sustainable community. Share your sketch with your counselor, and explain how the housing, work locations, shops, schools, and transportation systems affect energy, pollution, natural resources, and the economy of the community.
 - B. With your parent's permission and your counselor's approval, interview a local architect, engineer, contractor, or building materials supplier. Find out the factors that are considered when using sustainable materials in renovating or building a home. Share what you learn with your counselor.
 - C. Review a current housing needs assessment for your town, city, county, or state. Discuss with your counselor how birth and death rates affect sufficient housing, and how a lack of housing—or too much housing— can influence the sustainability of a local or global area.
- Energy. Do A AND either B OR C.
 - A. Learn about the sustainability of different energy sources, including fossil fuels, solar, wind, nuclear, hydropower, and geothermal. Find out how the production and consumption of each of these energy sources affects the environment and what the term "carbon footprint" means. Discuss what you learn with your counselor, and explain how you think your family can reduce its carbon footprint.
 - B. Develop and implement a plan that attempts to reduce consumption for one of your family's household utilities. Examine your family's bills for that utility reflecting usage for three months (past or current). As a family, choose three ways to help reduce consumption and be a better steward of this resource. Implement those ideas for one month. Share what you learn with your counselor, and tell how your plan affected your family's usage.
 - C. Evaluate your family's fuel and transportation usage. Review your family's transportation-related bills (gasoline, diesel, electric, public transportation, etc.) reflecting usage for three months (past or current). As a family, choose three ways to help reduce consumption and be a better steward of this resource. Implement those ideas for one month. Share what you learn with your counselor, and tell how your plan affected your family's transportation habits.
- Stuff. Do A AND either B OR C.
 - A. Keep a log of the "stuff" your family purchases (excluding food items) for two weeks. In your log, categorize each purchase as an essential need (such as soap) or a desirable want (such as a DVD). Share what you learn with your counselor.
 - B. Plan a project that involves the participation of your family to identify the "stuff" your family no longer needs. Complete your project by donating, repurposing, or recycling these items.
 - C. Discuss with your counselor how having too much "stuff" affects you, your family, and your community. Include the following: the financial impact, time spent, maintenance, health, storage, and waste. Include in your discussion the practices that can be used to avoid accumulating too much "stuff."
- 3. Do the following:

- a. Explain to your counselor how the planetary life-support systems (soil, climate, freshwater, atmospheric, nutrient, oceanic, ecosystems, and species) support life on Earth and interact with one another.
- b. Tell how the harvesting or production of raw materials (by extraction or recycling), along with distribution of the resulting products, consumption, and disposal/repurposing, influences current and future sustainability thinking and planning.
- 4. Explore TWO of the following categories. Have a discussion with your family about the two you select. In your discussion, include your observations, and best and worst practices. Share what you learn with your counselor.
 - a. Plastic waste. Discuss the impact plastic waste has on the environment (land, water, air). Learn about the number system for plastic recyclables, and determine which plastics are more commonly recycled. Find out what the trash vortex is and how it was formed.
 - b. Electronic waste. Choose three electronic devices in your household. Find out the average lifespan of each, what happens to these devices once they pass their useful life, and whether they can be recycled in whole or part. Discuss the impact of electronic waste on the environment.
 - c. Food waste. Learn about the value of composting and how to start a compost pile. Start a compost pile appropriate for your living situation. Tell what can be done with the compost when it is ready for use.
 - d. Species decline. Explain the term species (plant or animal) decline. Discuss the human activities that contribute to species decline, what can be done to help reverse the decline, and its impact on a sustainable environment.
 - e. World population. Learn how the world's population affects the sustainability of Earth. Discuss three human activities that may contribute to putting Earth at risk, now and in the future.
 - f. Climate change. Find a world map that shows the pattern of temperature change for a period of at least 100 years. Share this map with your counselor, and discuss three factors that scientists believe affect the global weather and temperature.
- 5. Do the following:
 - a. After completing requirements 1 through 4, have a family meeting. Discuss what your family has learned about what it means to be a sustainable citizen. Talk about the behavioral changes and life choices your family can make to live more sustainably. Share what you learn with your counselor.
 - b. Discuss with your counselor how living by the Scout Oath and Scout Law in your daily life helps promote sustainability and good stewardship.
- 6. Learn about career opportunities in the sustainability field. Pick one and find out the education, training, and experience required. Discuss what you have learned with your counselor and explain why this career might interest you.



Mining in Society

This is a NEW Merit Badge. The requirements were released to the public on February 24, 2014, which is the official "Earn Date", and are as follows:

- 1. Do the following:
 - a. Select 10 different minerals. For each one, name a product for which the mineral is used.
 - b. Explain the role mining has in production and processing things that are grown.
 - c. From the list of minerals you chose for 1a, determine the countries where those minerals can be found, and discuss what you learned with your counselor.
- 2. Obtain a map of your state or region showing major cities, highways, rivers, and railroads. Mark the locations of five different mining enterprises. Find out what resource is processed at each location, and identify the mine as a surface or underground operation. Discuss with your counselor how the resources mined at these locations are used.
- 3. Discuss with your counselor the potential hazards a miner may encounter at an active mine and the protective measures used by miners. In your discussion, explain how:
 - a. The miner's personal protective equipment is worn and used, including a hard hat, safety glasses, earplugs, dust mask or respirator, self-rescue device, and high-visibility vest.
 - b. Miners protect their hands and feet from impact, pinch, vibration, slipping, and tripping/falling hazards.
 - c. Monitoring equipment warns miners of imminent danger, and how robots are used in mine rescues.

- 4. Discuss with your counselor the dangers someone might encounter at an abandoned mine. Include information about the "Stay out—Stay Alive" program.
- 5. Do one of the following:
 - a. With your parent's approval and your counselor's assistance, use the Internet to find and take a virtual tour of two types of mines. Determine the similarities and differences between them regarding resource exploration, mine planning and permitting, types of equipment used, and the minerals produced. Discuss with your counselor what you learned from your Internet-based mine tours.
 - b. With your parent's permission and counselor's approval, visit a mining or minerals exhibit at a museum. Find out about the history of the museum's exhibit and the type of mining it represents. Give three examples of how mineral resources have influenced history.
 - c. With your parent's permission and counselor's approval, visit an active mine.* Find out about the tasks required to explore, plan, permit, mine, and process the resource mined at that site. Take photographs if allowed, and request brochures from your visit. Share photos, brochures, and what you have learned with your counselor.
 - d. With your parent's permission and counselor's approval, visit a mining equipment manufacturer or supplier.* Discuss the types of equipment produced or supplied there, and in what part of the mining process this equipment is used. Take photographs if allowed, and request brochures from your visit. Share photos, brochures, and what you have learned with your counselor.
 - e. Discuss with your counselor two methods used to reduce rock in size, one of which uses a chemical process to extract a mineral. Explain the difference between smelting and refining.
 - f. Learn about the history of a local mine, including what is or was mined there, how the deposit was found, the mining techniques and processes used, and how the mined resource is or was used. Find out from a historian, community leader, or business person how mining has affected your community. Note any social, cultural, or economic consequences of mining in your area. Share what you have learned with your counselor.
- 6. Do the following:
 - a. Choose a modern mining site. Find out what is being done to help control environmental impacts. Share what you have learned about mining and sustainability.
 - b. Explain reclamation as it is used in mining and how mine reclamation pertains to Scouting's no-trace principles.
 - c. Discuss with your counselor what values society has about returning the land to the benefit of wildlife and people after mining has ended. Discuss the transformation of the BSA Summit Bechtel Family National Scout Reserve from a mine site to its current role.
- 7. Do one of the following:
 - a. Explore the anticipated benefits of interplanetary mining. Learn how NASA and private investors may search for, extract, and process minerals in outer space, and the primary reasons for mining the moon, other planets, or near-Earth asteroids. Find out how exploration and mineral processing in space differ from exploration on Earth. Share what you have learned with your counselor, and discuss the difficulties encountered in exploring, collecting, and analyzing surface or near-surface samples in outer space.
 - b. Identify three minerals found dissolved in seawater or found on the ocean floor, and list three places where the ocean is mined today. Share this information with your counselor, and discuss the chief incentives for mining the oceans for minerals, the reclamation necessary after mining is over, and any special concerns when mining minerals from the ocean. Find out what sustainability problems arise from mining the oceans. Discuss what you learn with your counselor.
 - c. Learn what metals and minerals are recycled after their original use has ended. List four metals and two nonmetals, and find out how each can be recycled. Find out how recycling affects the sustainability of natural resources and how this idea is related to mining. Discuss what you learn with your counselor.
 - d. With your parent's permission, use the Internet and other resources to determine the current price of gold, copper, aluminum, or other commodities like cement or coal, and find out the five-year price trend for two of these. Report your findings to your counselor.
- 8. Do one of the following:
 - a. With your parent's and counselor's approval, meet with a worker in the mining industry. Discuss the work, equipment, and technology used in this individual's position, and learn about a current project. Ask to see reports, drawings, and/or maps made for the project. Find out about the educational and professional requirements for this individual's position. Ask how the individual's mining career began. Discuss with your counselor what you have learned.

- b. Find out about three career opportunities in the mining industry. Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.
- c. With your parent's permission and counselor's approval, visit a career academy or community college to learn about educational and training requirements for a position in the mining industry that interests you. Find out why this position is critical to the mining industry, and discuss what you learned with your counselor.

*Visiting a mine site, a mining equipment manufacturer, or an equipment supplier requires advance planning. These sites can be potentially dangerous. You will need permission from your parents and counselor, and the manager of the mine site, or equipment manufacturer or supplier. While there, you will be required to follow closely the site manager's instructions and comply with all safety rules and procedures, including wearing appropriate clothing, footwear, and personal safety equipment.



Digital Technology (Replacement for Computers)

This is a NEW Merit Badge. Although the requirements were included in the 2014 Boy Scout Requirements booklet, Scouts could not earn the badge until the official "Earn Date" which as April, 16, 2014. The badge is a replacement for the Computers merit badge, which will be discontinued on January 1, 2015. However, since it is a NEW badge, with substantially different requirements, Scouts may earn Digital Technology, even if they have already earned Computers.

During 2014, a Scout may continue—or begin work—using the old Computers merit badge requirements and the old pamphlet. Otherwise, he may switch to—or begin work—using the new requirements as stated in the 2014 Boy Scout Requirements book for Digital Technology and the new merit badge pamphlet. If a Scout chooses to use the old merit badge requirements and pamphlet, he may continue using them until he has completed the badge. See Guide to Advancement topic 7.0.4.3.

The requirements are as follows:

- 1. Show your counselor your current, up-to-date Cyber Chip.
- 2. Do the following:
 - a. Give a brief history of the changes in digital technology over time. Discuss with your counselor how digital technology in your lifetime compares with that of your parent's, grandparent's, or other adult's lifetime.
 - b. Describe what kinds of computers or devices you imagine might be available when you are an adult.
- 3. Do the following:
 - a. Explain to your counselor how text, sound, pictures, and videos are digitized for storage.
 - b. Describe the difference between lossy and lossless data compression, and give an example where each might be used.
 - c. Describe two digital devices and how they are made more useful by their programming.
 - d. Discuss the similarities and differences between computers, mobile devices, and gaming consoles.
 - e. Explain what a computer network is and describe the network's purpose.
- 4. Do the following:
 - a. Explain what a program or software application or "app" is and how it is created.
 - b. Name four software programs or mobile apps you or your family use, and explain how each one helps you.
 - c. Describe what malware is, and explain how to protect your digital devices and the information stored on them.
- 5. Do the following:
 - a. Describe how digital devices are connected to the Internet.
 - b. Using an Internet search engine (with your parent's permission), find ideas about how to conduct a troop court of honor or campfire program. Print out a copy of the ideas from at least three different websites. Share what you found with your counselor, and explain how you used the search engine to find this information.

- c. Use a Web browser to connect to an HTTPS (secure) website (with your parent's permission). Explain to your counselor how to tell whether the site's security certificate can be trusted, and what it means to use this kind of connection.
- 6. Do THREE of the following. For each project you complete, copy the files to a backup device and share the finished projects with your counselor.
 - a. Using a spreadsheet or database program, develop a food budget for a patrol weekend campout OR create a troop roster that includes the name, rank, patrol, and telephone number of each Scout. Show your counselor that you can sort the roster by each of the following categories: rank, patrol, and alphabetically by name.
 - b. Using a word processor, write a draft letter to the parents of your troop's Scouts, inviting them to a troop event.
 - c. Using a graphics program, design and draw a campsite plan for your troop OR create a flier for an upcoming troop event, incorporating text and some type of visual such as a photograph or an illustration.
 - d. Using a presentation software program, develop a report about a topic approved by your counselor. For your presentation, create at least five slides, with each one incorporating text and some type of visual such as a photograph or an illustration.
 - e. Using a digital device, take a picture of a troop activity. Send or transfer this image to a device where it can be shared with your counselor.
 - f. Make a digital recording of your voice, transfer the file to a different device, and have your counselor play back the recording.
 - g. Create a blog and use it as an online journal of your Scouting activities, including group discussions and meetings, campouts, and other events. Include at least five entries and two photographs or illustrations. Share your blog with your counselor. You need not post the blog to the Internet; however, if you choose to go live with your blog, you must first share it with your parents AND counselor AND get their approval.
 - h. Create a Web page for your troop, patrol, school, or place of worship. Include at least three articles and two photographs or illustrations. Include at least one link to a website of interest to your audience. You need not post the page to the Internet; however, if you decide to do so, you must first share the Web page with your parents AND counselor AND get their approval.
- 7. Do the following:
 - a. Explain to your counselor each of these protections and why they exist: copyright, patents, trademarks, trade secrets.
 - b. Explain when it is permissible to accept a free copy of a program from a friend.
 - c. Discuss with your counselor an article or a news report about a recent legal case involving an intellectual property dispute.
- 8. Do TWO of the following:
 - a. Describe why it is important to properly dispose of digital technology. List at least three dangerous chemicals that could be used to create digital devices or used inside a digital device.
 - b. Explain to your counselor what is required to become a certified recycler of digital technology hardware or devices.
 - c. Do an Internet search for an organization that collects discarded digital technology hardware or devices for repurposing or recycling. Find out what happens to that waste. Share with your counselor what you found.
 - d. Visit a recycling center that disposes of digital technology hardware or devices. Find out what happens to that waste. Share what you learned with your counselor.
 - e. Find a battery recycling center near you and find out what it does to recycle batteries. Share what you have learned with your counselor about the proper methods for recycling batteries.
- 9. Do ONE of the following:
 - a. Investigate three career opportunities that involve digital technology. Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.
 - b. Visit a business or an industrial facility that uses digital technology. Describe four ways digital technology is being used there. Share what you learned with your counselor.

Signs, Signals, and Codes

This will be a NEW Merit Badge, and will be formally released by BSA in 2014. We will post the requirements then.

Animation

This will be a NEW Merit Badge, and will be formally released by BSA in 2014. We will post the requirements then.

Discontinued Merit Badge



Computers

With the release of the Digital Technology Merit Badge, this badge will be discontinued on January 1, 2015.

During 2014, a Scout may continue—or begin work—using the old Computers merit badge requirements and the old pamphlet. Otherwise, he may switch to—or begin work—using the new requirements as stated in the 2014 Boy Scout Requirements book for Digital Technology and the new merit badge pamphlet. If a Scout chooses to use the old merit badge requirements and pamphlet, he may continue using them until he has completed the badge. See Guide to Advancement topic 7.0.4.3.

Since Digital Technology will be a NEW badge, with substantially different requirements, Scouts may earn Digital Technology, even if they have already earned Computers.

Renamed Merit Badge



Moviemaking (formerly Cinematography)

The Cinematography Merit Badge was renamed "Moviemaking" in October, 2013. Old requirement 1a became 1 and 1b was dropped, and minor changes were made to requirements 2a and 4, all as shown below. Other than the minor wording changes to the requirements, this is strictly a change in name. The same badge will be used.

Even though the BSA tracking number for this badge was changed from 126 to 156, the requirements are so similar to those for Cinematography, Scouts should NOT earn this badge if they have already earned the Cinematography badge.

If a Scout chooses to use the old Cinematography merit badge requirements and pamphlet, he may continue using them until he has completed the badge. See Guide to Advancement topic 7.0.4.3.

The revisions are shown below:

- 1. Do the following:
 - a. Discuss and demonstrate the proper elements of a good motion picture. In your discussion, include visual storytelling, rhythm, the 180-axis rule, camera movement, framing and composition of camera shots, and lens selection.

b. Discuss the Cinematographer's role in the moviemaking process.

- 2. a. In a three- or four-paragraph treatment, tell the story you plan to *film*-**produce**, making sure that the treatment conveys a visual picture.
- Find out about three career opportunities in <u>cinematography_moviemaking</u>. Pick one and find out about the education, training, and experience required for this profession. Discuss this <u>career</u> with your counselor. Explain why this profession might interest you.

Merit Badges with Changed Requirements

This group of merit badges had changes announced or published in new merit badge pamphlets during 2013 after publication of the 2013 Boy Scout Requirements booklet



<u>Archery</u>

Numerous changes were made to requirements 2-5, including replacing all instances of "National Archery Association" or "NAA" with "USA Archery". The revisions are shown below:

- 2. d. Do ONE of the following
 - 1. Make a complete arrow from a bare shaft using appropriate equipment available to you. OR
 - 2. To demonstrate arrow repair, inspect the shafts and prepare and replace at least three vanes, one point, and one nock. You may use as many arrows as necessary to accomplish this. The repairs can be done on wood, fiberglass, or aluminum arrows.
- 3. a. Explain *how to properly care for and store* the proper use, care, and storage of, as well as the reasons for using tabs, arm guards, shooting gloves, and quivers.
 - c. Make a bowstring using appropriate materials
- 4. d. How the five-color *National Archery Association (NAA) or* Federation Internationale de Tir à l'Arc (FITA) target is scored.
- 5. Option A Using a Recurve Bow or Longbow
 - a. Name and Point to the parts of the recurve **bow** or longbow you are shooting.
 - c. Show the *nine* $\underline{10}$ steps of good shooting for the *recurve* bow *or longbow* you are shooting.
 - e. <u>Locate</u> Using a bow square, locate and mark with dental floss, crimp-on, or other method, the nocking point on the bowstring of the bow you are using.
 - f. 1. Using a recurve **bow** or longbow and arrows with a finger release, shoot a single round of ONE of the following BSA, <u>NAA</u> USA Archery, or NFAA rounds:
 - d. <u>A An</u> FITA/<u>NAA</u> USA Archery indoor- round I and make a score of 80 points.
 - e. An NFAA indoor* round and make a score of 50 points.

(The indoor rounds may be shot outdoors if this is more convenient.) OR

- Shooting 30 arrows in five-arrow ends at an 80-centimeter (32-inch) five-color target at 15 10 yards and using the 10 scoring regions, make a score of 150.
 OR
- As a member of the <u>NAA's</u> <u>USA Archery</u> Junior Olympic Development Program (JOAD), qualify as a Yeoman, Junior Bowman, and Bowman.
 OR
- 4.

Option B - Using a Compound Bow

- c. Show the <u>nine-10</u> steps of good shooting for the compound bow you are shooting
- d. Explain why it is necessary to have the string or cable on a compound bow replaced at an archery shop
- f. 1. Using a compound bow and arrows with a finger release, shoot a single round of ONE of the following BSA, <u>NAA USA Archery</u>, or NFAA rounds
 - d. d. <u>A An</u> FITA/<u>NAA USA Archery</u> indoor-`round I and make a score of 90 points.
 - e. An NFAA indoor^{*} round and make a score of 60 points.

(The indoor rounds may be shot outdoors if this is more convenient.) OR

Shooting <u>30 arrows in five arrow ends</u> at an 80-centimeter (32-inch) five-color target at 15 yards and using the 10 scoring regions, make a <u>minimum</u> score of 160. <u>Accomplish this in the following manner:</u>

Shoot 15 arrows in five-arrow ends, at a distance of 10 yards

AND

Shoot 15 arrows in five-arrow ends, at a distance of 15 yards.

<u>OR</u>

- As a member of the <u>NAA's</u> <u>USA Archery</u> Junior Olympic Development Program (JOAD), qualify as a Yeoman, Junior Bowman, and Bowman.
 <u>OR</u>
- 4.

* The indoor rounds may be shot outdoors if this is more convenient.



New requirements 1-3 were added. Old requirements 1 & 2 were revised and rearranged and became requirement 5, and requirements 3, 4, and 5 were renumbered as 4, 6, and 7. The revisions are shown below:

- 1. Discuss the following with your counselor:
 - a. What art is and what some of the different forms of art are
 - b. The importance of art to humankind
 - c. What art means to you and how art can make you feel *Tell a story with a picture or pictures or using a 3 D rendering.*
- 2. Discuss with your counselor the following terms and elements of art: line, value, shape, form, space, color, and texture. Show examples of each element. *Do ONE of the following*.

Design something useful. Make a sketch or model of your design and get your counselor's approval before you proceed. Then create a promotional piece for the item using a picture or pictures.

Design a logo. Share your design with your counselor and explain the significance of your logo. Then, with your parent's permission and your counselor's approval, put your logo on Scout equipment, furniture, ceramics, or fabric.

- 3. <u>Discuss with your counselor the six principles of design: rhythm, balance, proportion, variety, emphasis, and unity.</u>
- 4. 3. Render a subject of your choice in FOUR of these ways:
 - a. Pen and ink
 - b. Watercolors,
 - c. Pencil,
 - d. Pastels,
 - e. Oil paints,
 - f. Tempera,
 - g. Acrylics,
 - h. Charcoal
 - i. Computer drawing or painting
- 5. Do ONE of the following:
 - a. Design something useful. Make a sketch or model of your design. With your counselor's approval, create a promotional piece for the item using a picture or pictures.
 - b. Tell a story with a picture or pictures or using a 3-D rendering.
 - c. Design a logo. Share your design with your counselor and explain the significance of your logo. Then, with your parent's permission and your counselor's approval, put your logo on Scout equipment, furniture, ceramics, or fabric.
- 6. 4. 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.
- 7. 5. Find out about three career opportunities in art. Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you



Cooking

The requirements were completely rewritten, and the badge was added to the list of badges required for the rank of Eagle Scout.

During 2014, a Scout may continue—or begin work—using the old Cooking merit badge requirements (Click here) and the old pamphlet. Otherwise, he may switch to—or begin work—using the new requirements as stated in the 2014 Boy Scout Requirements book for Cooking (below), and the new merit badge pamphlet. If a Scout chooses to use the old merit badge requirements and pamphlet, he may continue using them until he has completed the badge. See Guide to Advancement topic 7.0.4.3.

The new requirements are shown below.

Note: The meals prepared for Cooking merit badge requirements 5, 6, and 7 will count only toward fulfilling those requirements and will not count toward rank advancement. Meals prepared for rank advancement may not count toward the Cooking merit badge. You must not repeat any menus for meals actually prepared or cooked in requirements 5, 6, and 7.

- 1. Do the following:
 - a. Explain to your counselor the most likely hazards you may encounter while participating in cooking activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.
 - b. Show that you know first aid for and how to prevent injuries or illnesses that could occur while preparing meals and eating, including burns and scalds, cuts, choking, and allergic reactions.
 - c. Describe how meat, fish, chicken, eggs, dairy products, and fresh vegetables should be stored, transported, and properly prepared for cooking. Explain how to prevent cross-contamination.
 - d. Describe the following food-related illnesses and tell what you can do to help prevent each from happening:
 - 1. Salmonella
 - 2. Staphylococcal aureus
 - 3. Escherichia coli (E. coli)
 - 4. Clostridium botulinum (Botulism)
 - 5. Campylobacter jejuni
 - 6. Hepatitis
 - 7. Listeria monocytogenes
 - 8. Cryptosporidium
 - 9. Norovirus
 - e. Discuss with your counselor food allergies, food intolerance, food-related diseases, and your awareness of these concerns.
- 2. Do the following:
 - a. Using the MyPlate food guide or the current USDA nutrition model, give five examples for EACH of the following food groups, the recommended number of daily servings, and the recommended serving size:
 - 1. Fruits
 - 2. Vegetables
 - 3. Grains
 - 4. Proteins
 - 5. Dairy
 - b. Explain why you should limit your intake of oils and sugars.
 - c. Determine your daily level of activity and your caloric need based on your activity level. Then, based on the MyPlate food guide, discuss with your counselor an appropriate meal plan for yourself for one day.
 - d. Discuss your current eating habits with your counselor and what you can do to eat healthier, based on the MyPlate food guide.
- 3. Do the following:
 - a. Discuss the following food label terms: calorie, fat, saturated fat, trans fat, cholesterol, sodium, carbohydrate, dietary fiber, sugar, protein. Explain how to calculate total carbohydrates and nutritional values for two servings, based on the serving size specified on the label.

- b. Refer to "How to Read a Food Label" in the Cooking merit badge pamphlet, and name ingredients that help the consumer identify the following allergens: peanuts, tree nuts, milk, eggs, wheat, soy, and shellfish.
- 4. Do the following:
 - a. Discuss EACH of the following cooking methods. For each one, describe the equipment needed and name at least one food that can be cooked using that method: baking, boiling, pan frying, simmering, steaming, microwaving, and grilling.
 - b. Discuss the benefits of using a camp stove on an outing vs. a charcoal or wood fire.
 - c. Discuss how the Outdoor Code and no-trace principles pertain to cooking in the outdoors.
- 5. Using the MyPlate food guide or the current USDA nutrition model, plan a menu for three full days of meals (three breakfasts, three lunches, and three dinners) plus one dessert. Your menu should include enough to feed yourself and at least one adult, keeping in mind any special needs (such as food allergies) of those to be served. List the equipment and utensils needed to prepare and serve these meals. Then do the following:
 - a. 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.
 - b. Share and discuss your meal plan and shopping list with your counselor.
 - c. Using at least five of the seven cooking methods from requirement 4, prepare and serve yourself and at least one adult (parent, family member, guardian, or other responsible adult) one breakfast, one lunch, one dinner, and one dessert from the meals you planned.*
 - d. 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.
 - e. After each meal, ask a person you served to 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 better planning and preparation help ensure a successful meal.
 - f. Explain how you kept perishable foods safe and free from cross-contamination.
- 6. Using the MyPlate food guide or the current USDA nutrition model, plan a menu for your patrol or a similar size group of up to eight youth, including you) for a camping trip. Include five meals AND at least one snack OR one dessert. List the equipment and utensils needed to prepare and serve these meals. Then do the following:
 - a. 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.
 - b. Share and discuss your meal plan and shopping list with your counselor.
 - c. In the outdoors, cook two of the meals you planned in requirement 6 using either a lightweight stove or a lowimpact fire. Use a different cooking method for each meal.** The same fireplace may be used for both meals. Serve this meal to your patrol or a group of youth.
 - d. In the outdoors, cook one of the meals you planned in requirement 6.Use either a Dutch oven, OR a foil pack, OR kabobs. Serve this meal to your patrol or a group of youth.**
 - e. In the outdoors, prepare a dessert OR a snack and serve it to your patrol or a group of youth.**
 - f. 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 better planning and preparation help ensure successful outdoor cooking.
 - g. Explain how you kept perishable foods safe and free from cross-contamination.
- 7. 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). List the equipment and utensils needed to prepare and serve these meals. Then do the following:
 - a. 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.
 - b. 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.
 - c. While on a trail hike or backpacking trip, prepare and serve two meals and a snack from the menu planned for requirement 7. At least one of those meals must be cooked over a fire, or an approved trail stove (with proper supervision).**
 - d. For each meal prepared in requirement 7c, use safe food-handling practices. Clean up equipment, utensils, and the site thoroughly after each meal. Properly dispose of dishwater, and pack out all garbage.

- e. 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 better planning and preparation help ensure successful trail hiking or backpacking meals.
- 8. Find out about three career opportunities in cooking. Select one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.

*The meals for requirement 5 may be prepared on different days, and they need not be prepared consecutively. The requirement calls for Scouts to plan, prepare, and serve one breakfast, one lunch, and one dinner to at least one adult; those served need not be the same for all meals.

**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 6 and 7 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.



Cycling

These changes took effect on July 15, 2013, when they were released at the National Jamboree.

A new note was added before the requirements, replacing a footnote. Requirements 1 and 5 were revised, and old requirements 6-9 were replaced with new requirements 6-7, and now feature options for either road biking or mountain biking. There is an apparent a typo in requirement 7a3, as noted below. The revised requirements are shown below.

Note: The bicycle used for fulfilling these requirements must have all required safety features and must be registered as required by your local traffic laws.

- Show that you know first aid for injuries or illnesses that could occur while cycling, including hypothermia, heat reactions, frostbite, dehydration, insect stings, tick bites, snakebites, blisters, and hyperventilation.
 Do the following:
 - a. Explain to your counselor the most likely hazards you may encounter while participating in cycling activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.
 - b. Show that you know first aid for injuries or illnesses that could occur while cycling, including cuts, scratches, blisters, sunburn, heat exhaustion, heatstroke, hypothermia, dehydration, insect stings, tick bites, and snakebite. Explain to your counselor why you should be able to identify the poisonous plants and poisonous animals that are found in your area.
 - c. Explain the importance of wearing a properly sized and fitted helmet while cycling, and of wearing the right clothing for the weather. Know the BSA Bike Safety Guidelines.
- 5. Show how to repair a flat by removing the tire, replacing or patching the tube, and remounting the tire. Use an old bicycle tire.
- 6. Describe your state's traffic laws for bicycles. Compare them with motor-vehicle laws. *Take a road test with your counselor and demonstrate the following:*
 - a. Properly mount, pedal, and brake including emergency stops.
 - b. On an urban street with light traffic, properly execute a left turn from the center of the street; also demonstrate an alternate left turn technique used during periods of heavy traffic.
 - c. Properly execute a right turn.
 - *d. Demonstrate appropriate actions at a right turn only lane when you are continuing straight.*
 - e. Show proper curbside and road edge riding. Show how to safely ride along a row ofparked cars.
 - f. Cross railroad tracks properly.
- 7. Avoiding main highways, take two rides of 10 miles each, two rides of 15 miles each, and two rides of 25 miles each. You must make a report of the rides taken. List dates, routes traveled, and interesting things seen.*
- 8. After fulfilling requirement 8, lay out on a road map a 50 mile trip. Stay away from main highways. Using your map, make this ride in eight hours.

- 7. Using the BSA buddy system, complete all of the requirements for ONE of the following options: road biking OR mountain biking.
 - a. Road Biking
 - 1. Take a road test with your counselor and demonstrate the following:
 - a. Properly mount, pedal, and brake, including emergency stops.
 - b. On an urban street with light traffic, properly execute a left turn from the center of the street; also demonstrate an alternate left-turn technique used during periods of heavy traffic.
 - c. Properly execute a right turn.
 - d. Demonstrate appropriate actions at a right-turn-only lane when you are continuing straight.
 - e. Show proper curbside and road-edge riding. Show how to ride safely along a row of parked cars.
 - f. Cross railroad tracks properly.
 - 2. Avoiding main highways, take two rides of 10 miles each, two rides of 15 miles each, and two rides of 25 miles each. You must make a report of the rides taken. List dates for the routes traveled, and interesting things seen.
 - 3. After completing requirement b for the road biking option, do ONE of the following:
 - (Note: This should probably read "After completing requirement 7a2, do ONE ...") <u>a. Lay out on a road map a 50-mile trip. Stay away from main highways. Using your map,</u> make this ride in eight hours.
 - b. Participate in an organized bike tour of at least 50 miles. Make this ride in eight hours. Afterward, use the tour's cue sheet to make a map of the ride.
 - b. Mountain Biking
 - 1. Take a trail ride with your counselor and demonstrate the following:
 - a. Properly mount, pedal, and brake, including emergency stops.
 - b. Show shifting skills as applicable to climbs and obstacles.
 - c. Show proper trail etiquette to hikers and other cyclists, including when to yield the right-of-way.
 - d. Show proper technique for riding up and down hills.
 - e. Demonstrate how to correctly cross an obstacle by either going over the obstacle on your bike or dismounting your bike and crossing over or around the obstacle.
 - f. Cross rocks, gravel, and roots properly.
 - 2. Describe the rules of trail riding, including how to know when a trail is unsuitable for riding.
 - 3. On trails approved by your counselor, take two rides of 2 miles each, two rides of 5 miles each, and two rides of 8 miles each. You must make a report of the rides taken. List dates for the routes traveled, and interesting things seen.
 - 4. After fulfilling the previous requirement, lay out on a trail map a 22-mile trip. You may include multiple trail systems, if needed. Stay away from main highways. Using your map, make this ride in six hours.

* The bicycle must have all required safety features. It must be registered as required by your local traffic laws.



Horsemanship

A minor change was made to requirement 3, and changes were made to requirement 11, eliminating requirements 11e and 11f, which required a Scout to demonstrate loping (cantering) a horse. The pamphlet now states that the ability to lope or canter a horse is more than what is required to earn the Horsemanship merit badge. Requirements 11g, 11h, and 11i are now 11e, 11f, and 11g, as shown below.

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- 3. Name four <u>*leading*</u> breeds of horses. Explain the special features for which each breed is known.
- 11. e. Lope (canter) the horse in a straight line for at least 60 feet.

f. Lope (canter) the horse in a half circle not more than 30 feet in radius.

- e. g. Halt straight.
- f. *h*. Back up straight four paces
- g. i. Halt and dismount.



<u>Leatherwork</u>

Requirement 1 was replaced, as shown below.

- Identify and demonstrate to your counselor the safe use of leatherworking tools. Show correct procedures for handling leathercraft dyes, cements, and finishes. Know first aid for cuts, internal poisoning, and skin irritation. Do the following:
 - a. Explain to your counsel the hazards you are most likely to encounter while using leatherwork tools and materials, and what you should do to anticipate, help prevent, mitigate, or lessen these hazards.
 - b. Show that you know first aid for injuries or illnesses that could occur while working with leather, including minor cuts and scratches, puncture wounds, ingested poisoning, and reactions from exposure to chemicals such as dyes, cements, and finishes used in leatherworking.



Personal Fitness

A new merit badge pamphlet was released in 2013, with revised requirements. The changes, however, were inadvertently omitted from the 2014 Boy Scout Requirements booklet.

Changes were made to requirements 3d, 3h, 6, and 8. In addition, the aerobic fitness and strength test requirements were changed, and the Body Composition Test measurements were replaced with a calculation of the BMI percentile, as shown below.

- 3. d. Are your body weight and composition what you would like them to be, and do you know how to modify them safely through exercise, diet, and *behavior modification* **lifestyle**?
 - h. Do you sleep well at night and wake up feeling *refreshed and energized for* ready to start the new day?
- Before doing requirements 7 and 8, complete the aerobic fitness, flexibility, and muscular strength tests, and along with the body composition tests evaluation as described in the Personal Fitness merit badge pamphlet. Record your results and identify those areas where you feel you need to improve.
- 8. Complete the physical fitness program you outlined in requirement 7. Keep a log of your fitness program activity (how long you exercised; how far you ran, swam, or biked; how many exercise repetitions you completed; your exercise heart rate; etc.). Repeat the aerobic fitness, muscular strength, and flexibility tests every two weeks and record your results. After the 12th week, repeat <u>all of the required activities in each of</u> the three <u>tests test</u> <u>categories</u>, record your results, and show improvement in each one. For the body composition_<u>test</u> <u>evaluation</u>.

compare and analyze your preprogram and postprogram body composition measurements. Discuss the meaning and benefit of your experience, and describe your long-term plans regarding your personal fitness.

- Aerobic Fitness Test
 - 1. Run/walk as far as you can <u>as fast as you can</u> in nine minutes
- Strength Tests
 Record your performance on all three tests.
 <u>You must do the sit-ups exercise and one other (either push-ups or pull-ups). You may also do</u>
 <u>all three for extra experience and benefit.</u>
- <u>Body Composition Test</u>
 <u>Have your parent, counselor, or other adult take and record the following measurements:</u>
 - *Circumference of the right upper arm, midway between the shoulder and the elbow, with the arm hanging naturally and not flexed.*
 - Shoulders, with arms hanging by placing the tape two inches below the top of the shoulders around the arms, chest, and back after breath expiration. Chest, by placing the tape under the arms and around the chest and back at the nipple line after breath expiration.
 - Abdomen circumference at the navel level (relaxed).
 - Circumference of the right thigh, midway between the hip and knee, and not flexed.

If possible, have the same person take the measurements whenever you are ready to be remeasured to chart your progress.

- Body Composition Evaluation (Calculating Your BMI percentile):
 - Step 1 Multiply your weight in pounds by 703.
 - Step 2 Divide the figure you get in No. 1 above by your height in inches.
 - Step 3 Divide the figure you get in No. 2 above by your height in inches to get your BMI.
 - <u>Step 4 Use the chart in the Personal Fitness merit badge pamphlet to determine the BMI percentile for your age.</u>

As an example, if you are 15 years old, you weigh 130 pounds, and you are 5'8" (68") tall, then: 1. 130 x 703 = 91390

- 2. 91390 / 68 = 1344
- 3. 1344 / 68 = 20. This means your BMI is 20.
- 4. From the chart in the pamphlet, you are at the 50th percentile.



Changes were made to requirement 3, as shown below.

3. Show that you have read a book or pamphlet, approved by your counselor, about your kind of pet. Discuss with your counselor what you have learned from what you read.



Pioneering

Requirement 1 was replaced, and changes were made to requirements 2a, and 10, as shown below.

- 1. Show that you know first aid for injuries or illness that could occur while working on pioneering projects, including minor cuts and abrasions, bruises, rope burns, blisters, splinters, sprains, heat and cold reactions, dehydration, and insect bites or stings.
 - Do the following:
 - a. Explain to your counselor the most likely hazards you might encounter while participating in pioneering activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.

- b. Discuss the prevention of, and first aid treatment for, injuries and conditions that could occur while working on pioneering projects, including cuts, scratches, insect bites and stings, rope burns, hypothermia, dehydration, heat exhaustion, heatstroke, sunburn, and falls.
- 2. a. Successfully complete Tenderfoot requirements 4a and 4b and First Class requirements 7a, 7b, and 7e <u>8a</u>. (These are the rope-related requirements.)
- 10. With a group of Scouts, OR on your own, select a pioneering project <u>and get your counselor's approval</u> <u>before you begin building. Your project must not result in anyone reaching a height of greater</u> <u>than 6 feet off the ground</u>. With your counselor's guidance, create a rough sketch of the project. Make a list of the ropes and spars needed, then build the project. (Note: This requirement may be done at summer camp, at district or council events, or on a troop camp outing.)



Pulp and Paper

The various items specified in requirements 2 and 3 were rewritten and rearranged, as shown below.

- 2. Learn about the pulp and paper industry.
 - a. Describe the ways the industry plants, grows, and harvests trees.
 - b. Explain how the industry manages its forests so that the supply of trees keeps pace with the demand.
 - C. Tell how the industry has incorporated the concepts of sustainable forest management (SFM).
 - d. Describe two ways the papermaking industry has addressed pollution.
- 3. 2. List the trees that are the major sources of papermaking fibers. <u>Then discuss what other uses are made of the</u> <u>trees and of the forestland owned by the pulp and paper industry. Describe the ways the industry plants,</u> <u>grows, and harvests trees. Explain how the industry manages its forests so that the supply of trees keeps pace</u> <u>with the demand, and tell about one way the industry has incorporated a sustainable forestry concept. Give</u> <u>two ways the papermaking industry has addressed pollution.</u>
 - a. Discuss what other uses are made of the trees and of the forestland owned by the pulp and paper industry.
 - b. Describe two ways of getting fibers from wood, and explain the major differences between them.
 - c. Tell why some pulps are bleached, and describe the process.
- 3. Describe two ways of getting fibers from wood, and explain the major differences. Tell why some pulps are bleached, and describe this process.



Safety

The wording of requirement 7 was changed when the new *Safety* merit badge pamphlet was released.

The revision is as shown below.

7. Explain what the National Terrorism Advisory System is and how you would respond to each threat level type of alert.



Scouting Heritage

A new option c was added to requirement 4 in September, 2013. The revision is shown below.

4. <u>c. Visit an exhibit of Scouting memorabilia or a local museum with a Scouting history gallery, or</u> (with your parent's permission and counselor's approval) visit with someone in your council who is recognized as a dedicated Scouting historian or memorabilia collector. Learn what

you can about the history of Boy Scouting. Give a short report to your counselor on what you saw and learned.



Shotgun Shooting

Changes were made to requirement 2, Option A, items e, i, k, and the shooting skill rules, and Option B, items c, d, g, h, l, n, and the shooting skill rules, as shown below.

Also, all cases of "muzzle-loading" in the requirements were changed to "muzzleloading" (That change is NOT shown below.)

- 2. Option A
 - e. Identify and demonstrate the fundamentals of safely shooting a shotgun. **Explain what a misfire**, hangfire, and squib fire are, and explain the procedures to follow in response to each.
 - i. Demonstrate how to clean a shotgun properly and safely.
 - k. Shooting score required. Hit at least 12 out of 25 targets (48 percent) in two 25-target groups. The two groups need not be shot in consecutive order. A minimum of 50 shots must be fired.

Shooting skill rules:

- Targets may be thrown by a hand trap, manual mechanical trap, or on any trap or skeet field. Note: If using a hand trap or manual mechanical trap, the trap operator should be at least 5 feet to the right and 3 feet to the rear of the shooter. If throwing left-handed with a hand trap this should be reversed, the trap operator should be at least 5 feet to the left and 3 feet to the rear of the shooter.
- All targets should be thrown at a reasonable speed and in the same direction. •
- Targets should be generally thrown so as to climb in the air after leaving the trap.
- Scores may be fired at any time, either in formal competition or in practice.
- Any gauge shotgun not exceeding 12 gauge may be used.
- Standard clay targets customarily used for trap and skeet are to be used.
- Any ammunition, either factory or hand loaded, may be used.
- Only commercially manufactured ammunition may be used. Reloads may not be used in BSA shooting sports programs.
- Shooters must shoot in rounds of 25. Rounds need not be shot continuously or on the same day (the • term "round" refers to a single series of 25 shots).
- If using a trap field, shoot station 3 with traps set to throw straightaway targets. •
- If using a skeet field, shoot station 7 low house. •

Option B

- c. Demonstrate and discuss safe handling rules of the rules for safely handling a muzzleloading shotgun.
- d. Identify the various grades of black powder and their proper **and safe** use.
- g. Identify proper procedures and accessories used for **safely** loading a muzzleloading shotgun.
- h. Demonstrate **the** knowledge, *skill* **skills**, and attitude necessary to safely shoot a muzzleloading shotgun on a range, including range procedures. Explain what a misfire, hangfire, and squibfire are, and explain the procedures to follow in response to each.
- 1. Identify the causes of a muzzleloading shotgun's *failing_failure* to fire and explain or demonstrate proper correction preventive procedures.

n. Shooting score required. -- Hit at least 5 out of 15 targets in each of two 15-target groups. The two groups need not be shot in consecutive order. A minimum of 30 shots must be fired.

Shooting skill rules:

- Targets may be thrown by a hand trap, manual mechanical **trap**, or on any trap or skeet field. Note: if using a hand trap or manual mechanical trap, the trap operator should be at least 5 feet to the right and 3 feet to the rear of the shooter. If throwing left-handed with a hand trap this should be reversed, the trap operator should be at least 5 feet to the left and 3 feet to the rear of the shooter.
- All targets should be thrown at a reasonable speed and in the same direction.
- Targets should be generally thrown so as to climb in the air after leaving the trap.

- Scores may be fired at any time, either in formal competition or in practice.
- Any gauge shotgun not exceeding 10 gauge may be used.
- Standard clay targets customarily used for trap and skeet are to be used.
- On a standard trap field, the shooter should be positioned 8 yards behind the trap house. The trap should be set to throw only straightaway targets
- On a skeet field, shoot station 7 low house.



Weather

Requirement 7 was replaced, a new requirement 8 was added, requirements 8-10 were renumbered 9-11, and a minor change was made to requirement 9a. The revisions are shown below.

7. *Define acid rain. Identify which human activities pollute the atmosphere and the effects such pollution can have on people.*

Identify some human activities that can alter the environment, and describe how they affect the climate and people.

- 8. Describe how the tilt of Earth's axis helps determine the climate of a region near the equator, near the poles, and across the area in between.
- 9. 8. Do ONE of the following:
- Make one of the following instruments: 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 such as local radio and television stations, NOAA Weather Radio <u>All Hazards</u>, and Internet sources (with your parent's permission). Record the following information at the same time every day: wind direction and speed, temperature, precipitation, and types of clouds. Be sure to make a note of any morning dew or frost. In the log, also list the weather forecasts from radio or television at the same time each day and show how the weather really turned out.
- b. Visit a National Weather Service office or talk with a local radio or television 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. Determine how severe weather and flood warnings reach the homes in your community.
- 10. 9. Do ONE of the following:
 - a. Give a talk of at least five minutes to a group (such as your unit or a Cub Scout pack) explaining the outdoor safety rules in the event of lightning, flash floods, and tornadoes. Before your talk, share your outline with your counselor for approval.
 - b. Read several articles about acid rain and give a prepared talk of at least five minutes about the articles to a group (such as your unit or a Cub Scout pack). Before your talk, share your outline with your counselor for approval.
- 11. 10. Find out about a weather-related career opportunity that interests you. Discuss with and explain to your counselor what training and education are required for such a position, and the responsibilities required of such a position.

Merit Badges with Changed Requirements

This group of merit badges have changes to their requirements which first appeared in the 2014 Boy Scout Requirements booklet.



Camping

A footnote was added to requirement 9a as shown below. This change was not noted in the list of changes on the inside front cover of the 2014 Boy Scout Requirements booklet.

9. a. Camp a total of at least 20 nights at designated Scouting activities or events.* One long-term camping experience of up to six consecutive nights may be applied toward this requirement. Sleep each night under the sky or in a tent you have pitched. If the camp provides a tent that has already been pitched, you need not pitch your own tent.

*All campouts since becoming a Boy Scout or Varsity Scout may count toward this requirement.



American Heritage

Requirement 3c was revised as shown below.

3. c. Research your family's history. Find out how various events and situations in American history affected your family. If your family immigrated to America, tell the reasons why. Share what you find with your counselor. *Tell why your family came to America.*



Archaeology

Requirements 1, 2, 7a, and 7b were revised. The revisions are shown below.

- 1. Tell what archaeology is and explain how it differs from anthropology, geology, paleontology, <u>treasure</u> <u>hunting</u>, and history.
- 2. Describe each of the following steps of the archaeological process: site location, <u>development of a research</u> <u>design, historical research</u>, site excavation, artifact identification and examination, interpretation, preservation, and information sharing.
- 7. Do ONE of the following:
 - a. Make a list of items you would include in a time capsule. Discuss with your merit badge counselor what archaeologists a thousand years from now might learn *from the contents of your capsule* about you and the culture in which you live based on the contents of your capsule.
 - b. Make a list of the trash your family throws out during one week. Discuss with your counselor what archaeologists finding that trash a thousand years from now might learn from it about you and your family if they found your trash a thousand years from now.



Aviation

Changes were made to requirements 1e, 2c, and 4b. Requirement 2e was deleted, causing 2f and 2g to be renumbered as 2e and 2f. The revisions are shown below. There is a typo in requirement 2f in the 2014 Boy Scout Requirements booklet. When the requirements were renumbered, they did not change the reference from 2f to 2e at the end of the requirement.

- 1. e. Explain the following: <u>the sport pilot</u>, the recreational pilot and the private pilot certificates; the instrument rating.
- c. Obtain and learn how to read an aeronautical chart. Measure a true course on the chart. Correct it for magnetic variation, compass deviation, and wind drift. *Arrive at* to determine a compass heading.
 - e. On a map, mark a route for an imaginary airline trip to at least three different locations. Start from the commercial airport nearest your home. From timetables (obtained from agents or online from a computer, with your parent's permission), decide when you will get to and leave from all connecting points. Create an aviation flight plan and itinerary for each destination.
 - *e. f.* Explain the purposes and functions of the various instruments found in a typical single-engine aircraft: attitude indicator, heading indicator, altimeter, airspeed indicator, turn and bank indicator, vertical speed indicator, compass, navigation (GPS and VOR) and communication radios, tachometer, oil pressure gauge, and oil temperature gauge.
 - f. g. Create an original poster of an aircraft instrument panel. Include and identify the instruments and radios discussed in requirement $\frac{2f}{2e}$.
- b. Visit a Federal Aviation Administration facility a control tower, terminal radar control facility, air route traffic control center, *flight service station*, or Flight Standards District Office. (Phone directory listings are under U.S. Government Offices, Transportation Department, Federal Aviation Administration. Call in advance.) Report on the operation and your impressions of the facility.



Communication

Minor changes were made to requirements 5 and 8. The revisions are shown below.

- 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.
 Present Prepare an objective report that includes all points of view that were expressed, and share this with your counselor.
- 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.



Composite Materials

A very minor change was made to requirement 2b as shown below.

 b. Compare the similarities and differences between composites and wood, aluminum, copper, and steel. Explain the physical, electrical, mechanical, corrosive, flammability, cost, and other such properties. For each of these raw materials, give one example *for of* how it can be shaped and used for a specific application.



Disabilities Awareness

Changes were made to requirements 2, 3a, 3b, and 3d. The revisions are shown below.

- 2. Visit an agency that works with people with physical, mental, emotional, or educational disabilities. Collect and read information about the agency's activities. Learn about opportunities its members have for training, employment, and education. **Discuss what you have learned with your counselor**.
- 3. Do TWO of the following:
 - a. Talk to a Scout who has a disability and learn about his experiences taking part in Scouting activities and earning different merit badges. Discuss what you have learned with your counselor.
 - b. Talk to an individual who has a disability and learn about this person's experiences and the activities in which this person likes to participate. Discuss what you have learned with your counselor.
 - d. Learn about independent living aids such as service animals, canes, and <u>augmentative communication</u> <u>devices such as</u> teletypewriters (TTYs). Discuss with your counselor how people use such aids.



Electricity

Changes were made to requirement 8 as shown below.

8. On <u>Make</u> a floor plan of a room in your home, make a wiring diagram of the lights, switches, and outlets for a room in your home. Show which fuse or circuit breaker protects each one.



<u>Entrepreneurship</u>

The requirements were completely rewritten. The revised requirements are shown below.

- 1. In your own words, define entrepreneurship. Explain to your merit badge counselor how entrepreneurs impact the U.S. economy.
- 2. Explain to your counselor why having good skills in the following areas is important for an entrepreneur: communication, planning, organization, problem solving, decision making, basic math, adaptability, technical and social skills, teamwork, and leadership.
- 3. Identify and interview an individual who has started a business. Learn about this person's educational background, early work experiences, where the idea for the business came from, and what was involved in starting the business. Find out how the entrepreneur raised the capital (money) to start the business, examples of successes and challenges faced, and how the business is currently doing (if applicable). Discuss with your counselor what you have learned.
- 4. Think of as many ideas for a business as you can, and write them down. From your list, select three ideas you believe represent the best opportunities. Choose one of these and explain to your counselor why you selected it and why you feel it can be successful.
- 5. Create a written business plan for your idea that includes all of the following:
 - a. Product or Service
 - 1. Describe the product or service to be offered.
 - 2. Identify goals for your business.
 - 3. Explain how you can make enough of the product or perform the service to meet your goals.

- 4. Identify and describe the potential liability risks for your product or service.
- 5. Determine what type of license, if any, you might need in order to sell or make your product or service.
- b. Market Analysis
 - 1. Identify the types of people who would buy your product or service.
 - 2. Identify your business's competitors, and describe their strengths and weaknesses.
 - 3. Describe what makes your product or service unique.
- c. Financial
 - 1. Determine how much money you will need to start your business, and identify how you will obtain the money.
 - 2. Determine the cost of offering your product or service and the price you will charge in order to make a profit.
 - 3. Describe what will happen with the money you make from the sales of your product or service.
- d. Personnel
 - 1. Determine what parts of the business you will handle yourself, and describe your qualifications.
 - 2. Determine whether you will need additional help to operate your business. If you will need help, describe the responsibilities and qualifications needed for the personnel who will fill each role.
- e. Promotion and Marketing
 - 1. Describe the methods you will use to promote your business to potential customers.
 - 2. Explain how you will utilize the Internet and social media to increase awareness of your product or service.
 - 3. Design a promotional flier or poster for your product or service.
- 6. When you believe your business idea is feasible, imagine your business idea is now up and running. What successes and problems might you experience? How would you overcome any failures? Discuss with your counselor any ethical questions you might face and how you would deal with them.



Fishing

A change was made to requirement 9 as shown below.

Note that there is a minor difference in requirement 4 between the 2014 Boy Scout Requirements booklet and the *Fishing* merit badge pamphlet. The word shown in <u>this format</u> appears only in the pamphlet.

- 4. Demonstrate how to tie the following knots: <u>improved</u> clinch, Palomar, turle, blood loop (barrel knot), and double surgeon's loop. Explain how and when each knot is used.
- 9. Catch at least one fish <u>and identify it</u>. If regulations and health concerns permit, clean and cook a fish you have caught. Otherwise, acquire a fish and cook it.



Indian Lore

Requirement 4e was revised as shown below.

4. e. *Learn in English (or the language you commonly speak at home or in the troop) an Indian story of at least 25 words, or any number of shorter ones adding up to 300 words. Tell the story or stories at a Scout meeting or campfire.*

Learn an Indian story of up to 300 words (or several shorter stories adding up to no more than 300 words). Tell the story or stories at a Scout gathering or campfire.



<u>Nature</u>

Requirement 4b1 was revised as shown below.

4. b. 1. In the field, identify three species of wild *animals* mammals.



Plant Science

A new requirement 3 was added. Old requirements 3-7 were renumbered as 4-8, and changes were made to requirements 4, and 8-Option 1-E3a. The revisions are shown below.

- 3. Explain how honeybees and other pollinating insects are important to plant life.
- Explain how water, light, air, temperature, *pollinators*, and pests affect plants. Describe the nature and function of soil and explain its importance. Tell about the texture, structure, and composition of fertile soil. Tell how soil may be improved.
- 5. 4. Tell how to propagate plants by seeds, roots, cuttings, tubers, and grafting. Grow a plant by ONE of these methods.
- **6. 5.** List by common name at least 10 native plants and 10 cultivated plants that grow near your home. List five invasive nonnative plants in your area and tell how they may be harmful. Tell how the spread of invasive plants may be avoided or controlled in ways that are not damaging to humans, wildlife, and the environment.
- 7. 6. Name and tell about careers in agronomy, horticulture, and botany. Write a paragraph about a career in one of these fields that interests you.
- 7. 7. Choose ONE of the following options and complete each requirement:

OPTION 1: AGRONOMY

E. 3. a. Collect, count, and label samples of each for display: perennial grasses, annual grasses, legumes, and broadleaf weeds. Indicate how each grass and legume is used. *Tell the kind of* Keep a log of the site where you found each sample and share it with your counselor.



Railroading

Changes were made to requirements 2b and 7b, as shown below.

- 2. b. List and explain the various forms of public/mass transit using rail as the fixed guide path.
- 7. b. Explain the meaning of three *whistle* <u>horn</u> signals.



Rowing

Minor changes were made to a number of requirements, and they were renumbered. The revisions are shown below.

- 1. Show that you know first aid for and how to prevent injuries or illnesses that could occur while rowing, including cold and heat reactions, dehydration, contusions, lacerations, and blisters.
 - **2.** Do the following:
 - a. Identify the conditions that must exist before performing CPR on a person. Explain how such conditions are recognized.

Explain to your counselor the most likely hazards you may encounter while participating in rowing activities, including weather- and water-related hazards, and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.

- b. Demonstrate proper technique for performing CPR using a training device approved by your counselor. Review prevention, symptoms, and first-aid treatment for the following injuries or illnesses that can occur while rowing: blisters, hypothermia, heat related illnesses, dehydration, sunburn, sprains, and strains.
- c. Review the BSA Safety Afloat policy. Explain to your counselor how this applies to rowing activities.
- 2. 3. 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.
- 3. 4. Review and discuss Safety Afloat and demonstrate the proper fit and use of personal flotation devices (PFDs). Review the characteristics of life jackets most appropriate for rowing and why one must always be worn while rowing. Then demonstrate how to select and fit a life jacket.
- **4. 5.** Do ONE of the following:
 - a. Alone or with a passenger, do the following *correctly* in either a fixed-seat or sliding-seat rowboat:
 - 1. Launch
 - 2. Row in a straight line for *a quarter mile* **100 yards.** Stop, *make a* pivot *turn*, and return to the starting point.
 - 3. Backwater in a straight line for 50 25 yards. Make a turn under way and return to the starting point.
 - 4. Land and moor or rack your craft.
 - 5. Tie the following mooring knots: clove hitch, roundturn with two half hitches, bowline, Wellman's knot, and mooring hitch.
 - b. Participate as a rowing team member in a competitive rowing meet. The team may be sponsored by a school, club, or Scout unit. The meet must include competition between two or more teams with different sponsors. Complete at least 10 hours of team practice prior to the meet.
- **<u>5.</u>** 6. Do ONE of the following:
 - a. In a fixed-seat rowboat, come alongside a *dock pier* and help a passenger into the boat. Pull away from the *dock pier*, change positions with your passenger, and *scull in good form demonstrate sculling* over the stern *for 10 yards, including at least one 180 degree turn* or side. Resume your rowing position, return alongside the pier, and help your passenger out of the boat.
 - b. In a sliding-seat rowboat, come alongside a pier and, with your buddy assisting you, get out onto the pier. Help your buddy into the boat. Reverse roles with your buddy and repeat the procedure.
- **<u>6.</u>** 7. Participate in a swamped boat drill, including righting and stabilizing the craft, reboarding in deep water, and making headway. Tell why you should stay with a swamped boat.
- 7. 8. Alone in a rowboat, push off from the shore or a dock pier. Row 10 20 yards to a swimmer. While giving instructions to the swimmer, *turn* pivot the boat so that the swimmer can hold onto the stern. Tow him to shore.
- 9. Show or explain the proper use of anchors for rowboats.
- **8.** *10.* Describe the following:
 - a. Types of *crafts* craft used in commercial, competitive, and recreational rowing.

- b. Four common boat building materials. Give some positive and negative points of each.
- c. Types of oarlocks used in competitive, and recreational rowing.
- **<u>9.</u>** *H***.** Discuss the following:
 - a. The advantage of feathering oars while rowing
 - b. Precautions regarding strong winds and heavy waves, and boat-handling procedures in rough water and windstorms.
 - c. How to properly fit out and maintain a boat in season, and how to prepare and store a boat for winter
 - d. How to *calculate the weight a boat can carry under normal conditions* determine the proper length of oars.
 - e. The differences between fixed-seat and sliding-seat rowing
 - f. The different meanings of the term sculling in fixed- and sliding-seat rowing
 - g. The health benefits from rowing for exercise

Salesmanship

Requirement 5a was revised as shown below.

5. a. Help your unit raise funds through sales either of merchandise or of tickets to a Scout show event.



SALE

Search and Rescue

Requirement 5 was replaced and a footnote added, as shown below.

5. Complete the training for ICS 100, Introduction to Incident Command System. Print out the certificate of completion and show it to your counselor. Discuss with your counselor how the ICS compares with Scouting's patrol method.

Working with your counselor, become familiar with the Incident Command System. You may use any combination of resource materials, such as printed or online. Discuss with your counselor how features of the ICS compare with Scouting's patrol method*

*Scouts who have already completed the original requirement 5 as published in the current Search and Rescue merit badge pamphlet need not redo this updated requirement in order to earn the badge.



Space Exploration

The requirements were changed by adding a new requirement 1d, and revised wording to requirements 5a, 5c, 6a, and 7. The revisions are shown below.

- 1. d. International relations and cooperation
- a. Discuss with your counselor an unmanned <u>a robotic</u> space exploration mission and an early manned <u>a historic crewed</u> mission. Tell about each mission's major discoveries, its importance, and what we was learned from it about the planets, moons, or regions of space explored.
 - c. Design *an unmanned* **a robotic** mission to another planet or moon that will return samples of its surface to Earth. Name the planet or moon your spacecraft will visit. Show how your design will cope with the conditions of the planet's or moon's environment.
- 6. a. Space shuttle <u>or any other crewed orbital vehicle, whether government owned (U.S. or foreign)</u> or commercial.
- Design an inhabited base located on the Moon or Mars within our solar system, such as Titan, asteroids, or other locations that humans might want to explore in person. Make drawings or a model of your base. In your design, consider and plan for the following:

This group of merit badges have changes to their requirements which first appeared during 2014 after the 2014 Boy Scout Requirements booklet was issued.



Canoeing

New requirements were published on Scouting.org in June, 2014. and a new edition of the Canoeing merit badge pamphlet was to be issued. The requirements were rearranged as follows, and the wording of a number of them was revised:

- Old requirements 1, 2, and 4 were replaced by new requirements 1a 1c.
- Old requirement 3 became requirement 2.
- Old requirements 5a-5k became requirements 3a-3c, 4a-4b, 5a-5b, 6, and 7a-7c.
- Old requirements 6a-6h became requirements 8a-8d and 9a-9d.
- Old requirement 7a-g became requirements 10a-g, and a new requirement 10h was added.
- Old requirement 8 became requirement 11.
- Old requirement 9 became requirement 12, the introduction was revised, and old requirement 9e was dropped.
- Old requirement 10a was replaced with requirements 13a and 13b, and 10b-10f became 13c-13g.

Scouts starting the badge during 2014 may use either the old or new requirements. Those that start after December 31, 2014 must use the new requirements. The changes are as follows:

- Show that you know first aid for injuries or illnesses that could occur while canoeing, including hypothermia, heat reactions, dehydration, insect stings, tick bites, and blisters.
 Do the following:
 - a. Explain to your counselor the most likely hazards you may encounter while participating in canoeing activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.
 - b. Review prevention, symptoms, and first-aid treatment for the following injuries or illnesses that could occur while canoeing: blisters, cold-water shock and hypothermia, dehydration, heat-related illnesses, sunburn, sprains, and strains.
 - c. Discuss the BSA Safety Afloat policy. Tell how it applies to canoeing activities.
- 2. Do the following:
 - a. Identify the conditions that must exist before performing CPR on a person. Explain how such conditions are recognized.
 - b. Demonstrate the proper technique for performing CPR using a training device approved by your counselor.
- 3. 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 floating.
- 4. Discuss the following:
 - a. The BSA Safety Afloat policy. Tell how it applies to canoeing activities.
 - b. The most common weather and water-related hazards encountered while canoeing and how to deal safely with each one.
- 3. $\frac{5}{2}$. Do the following:
 - a. Name and point out the major parts of a canoe.
 - b. Describe how the length and shape of a canoe affect its performance.
 - c. Discuss the advantages and disadvantages of the different materials used to make canoes.
 - *d.* Name and point out the parts of a paddle. Explain the difference between a straight and bent-shaft paddle and when each is best used.
 - e. Demonstrate how to correctly size a paddle for a paddler in a sitting position and a kneeling position.
 - f. Name the different types of personal flotation devices (PFDs), and explain when each type should be used.
 - g. Show how to properly fit and test a PFD of correct size.
 - h. Discuss the general care and maintenance of canoeing equipment.

- *i. Discuss what personal and group equipment would be appropriate for a canoe camping trip. Describe how personal and group equipment can be packed and protected from water.*
- j. Demonstrate how to load and secure equipment in a canoe.
- *k.* Using appropriate knots, demonstrate how to secure a canoe to a rack on land, a vehicle, or a canoe trailer. **4.** Do the following:
 - a. Name and point out the parts of a paddle. Explain the difference between a straight and bentshaft paddle and when each is best used.
 - b. Demonstrate how to size correctly a paddle for a paddler in a sitting position and a kneeling position.
- 5. Do the following:
 - a. Discuss with your counselor the characteristics of life jackets most appropriate for canoeing and tell why a life jacket must always be worn while paddling.
 - b. Demonstrate how to select and properly fit the correct size life jacket.
- 6. Discuss with your counselor the general care and maintenance of canoes, paddles, and other canoeing equipment.
- 7. Do the following:
 - a. Discuss what personal and group equipment would be appropriate for a canoe camping trip. Describe how personal and group equipment can be packed and protected from water.
 - b. Using the containers and packs from requirement 7a, demonstrate how to load and secure the containers and other equipment in the canoe.
 - c. Using appropriate knots, including a trucker's hitch, tautline hitch, and bowline, demonstrate how to secure a canoe to a vehicle or a trailer, or if these are not available, a rack on land.
- 8. 6. With a companion, *wearing the proper PFD and appropriately dressed for the weather and water conditions,* use a properly equipped canoe to demonstrate the following:
 - a. Safely carry and launch the canoe from a dock or shore (both, if possible).
 - b. Safely land the canoe on a dock or shore (both, if possible) and return it to its proper storage location.
 - c. Demonstrate kneeling and sitting positions in a canoe and explain the proper use for each position.
 - d. Change places while afloat in the canoe.
 - e. In deep water, exit the canoe and get back in without capsizing.
 - f. Capsize the canoe and demonstrate how staying with a capsized canoe will support both paddlers.
 - g. Swim, tow, or push a swamped canoe 50 feet to shallow water. In the shallow water, empty the swamped canoe and reenter it.
 - *h.* In deep water, rescue a swamped canoe and its paddlers by emptying the swamped canoe and helping the paddlers safely reenter their boat without capsizing.
- 9. With a companion, use a properly equipped canoe to demonstrate the following:
 - a. In deep water, exit the canoe and get back in without capsizing.
 - b. Safely perform a controlled capsize of the canoe and demonstrate how staying with a capsized canoe will support both paddlers.
 - c. Swim, tow, or push a swamped canoe 50 feet to shallow water. In the shallow water, empty the swamped canoe and reenter it.
 - d. In deep water, rescue a swamped canoe and its paddlers by emptying the swamped canoe and helping the paddlers safely reenter their boat without capsizing.
- 10. 7. With a companion, wearing the proper PFD and appropriately dressed for the weather and water conditions,
 - use a properly equipped canoe to demonstrate the following paddling strokes as both a bow and stern paddler: a. Forward stroke
 - b. Backstroke
 - c. Draw
 - d. Pushaway
 - e. Forward sweep
 - f. Reverse *or back* sweep
 - For stern paddling only:
 - g. J-stroke
 - h. Rudder stroke
- 11. 8. Using the strokes in requirement 7 10, and in an order determined by your counselor, use a properly equipped canoe to demonstrate the following tandem maneuvers while paddling on opposite sides and without

changing sides. *Repeat after switching positions and paddling sides:* Each paddler must demonstrate these maneuvers in both the bow and stern and on opposite paddling sides:

- a. Pivot or spin the canoe in either direction.
- b. Move the canoe sideways or abeam in either direction.
- c. Stop the canoe.
- d. Move the canoe in a straight line for 50 yards.
- 12. 9. Wearing the proper PFD and appropriately dressed for the weather and water conditions, Use a properly equipped canoe to demonstrate solo canoe handling:
 - a. Launch from shore or a pier (both, if possible).
 - b. Using a single-blade paddle and paddling only on one side, demonstrate proper form and use of the forward stroke, backstroke, draw stroke, pushaway stroke, forward sweep, reverse or back sweep, and J-stroke, and rudder stroke. Repeat while paddling on the other side.
 - c. While paddling on one side only, paddle a 50-yard course making at least one turn underway and one reverse of direction. Repeat while paddling on the other side.
 - d. Make a proper landing at a dock or shore (both, if possible). Store canoe properly (with assistance, if needed). *e. In deep water, exit the canoe and then get back in without capsizing.*
- 13. 10. Discuss the following types of canoeing:
 - a. Olympic *flatwater* canoe sprint
 - b. Flatwater and river touring
 - c. **b.** Outrigger
 - d. c. Marathon
 - e. d. Freestyle
 - f. e. Whitewater
 - g. <u>f</u>. Canoe poling



<u>Swimming</u>

On May 8, 2014, revised requirements were announced in the April/May 2014 Advancement News, along with a report that a new edition of the Swimming merit badge pamphlet would be issued in time for the 2014 summer camp season. The requirements were rewritten and rearranged as follows:

- Old requirements 1, 5, 6, 7, and 9 became new requirements 1b, 3, 5, 6, 7.
- From old requirement 3, Second Class requirement 8c, and First Class requirements 9b and 9c became new requirements 4a, 2, and 4b.
- Portions of old requirements 10a and 10b were merged and became new requirement 8.
- Old requirements 2, 4, 8, 10c, and 10d were deleted.
- New requirement 1a was added, along with a note to requirement 7.
- Minor editing changes were made to some requirements.

Scouts starting the badge during 2014 may use either the old or new requirements. Those that start after December 31, 2014 must use the new requirements. The changes are as follows:

- 1. Do the following:
 - a. Explain to your counselor how Scouting's Safe Swim Defense plan anticipates, helps prevent and mitigate, and provides responses to likely hazards you may encounter during swimming activities.
 - b. Discuss the prevention *of* and treatment *for* <u>of</u> health concerns that could occur while swimming, including hypothermia, dehydration, sunburn, heat exhaustion, heatstroke, muscle cramps, hyperventilation, spinal injury, stings and bites, and cuts and scrapes.
- 2. *Do the following:*
 - a. Identify the conditions that must exist before performing CPR on a person. Explain how to recognize such conditions
 - b. Demonstrate proper technique for performing CPR using a training device approved by your counselor.

Before doing the following requirements, successfully complete the BSA swimmer test: Jump feet first 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.

3. Before doing the following requirements, successfully complete Second Class rank requirements 8a-8c 8and First Class rank requirements 9a-9c

Second Class rank requirements:

- (8a) Tell what precautions must be taken for a safe swim.
- (8b) Demonstrate your ability to jump feetfirst into water over your head in depth, level off and swim 25 feet on the surface, stop, turn sharply, resume swimming, then return to your starting place.
- (8c) Demonstrate water rescue methods by reaching with your arm or leg, reaching with a suitable object, and by throwing lines and objects. Explain why swimming rescues should not be attempted when a reaching or throwing rescue is possible, and explain why and how a rescue swimmer should avoid contact with the victim.
- First Class rank requirements:
- (9a) Tell what precautions should be taken for a safe trip afloat.
- (9b) Before doing the following requirements, successfully complete the BSA swimmer test. Jump feetfirst into water over your head in depth, 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 swum continuously and include at least one sharp turn. After completing the swim, rest by floating.
- (9c) With a helper and a practice victim, show a line rescue both as tender and as rescuer. (The practice victim should be approximately 30 feet from shore in deep water).

Swim continuously for 150 yards using the following strokes in good form and in a strong manner: front crawl or trudgen for 25 yards, back crawl for 25 yards, sidestroke for 25 yards, breaststroke for 25 yards, and elementary backstroke for 50 yards.

- 4. Demonstrate survival skills by jumping feetfirst into deep water wearing clothes (shoes, socks, swim trunks, long pants, belt, and long-sleeved shirt). Remove shoes and socks, inflate the shirt, and show that you can float using the shirt for support. Remove and inflate the pants for support. Swim 50 feet using the inflated pants for support, then show how to reinflate the pants while still afloat. Do the following:
 - a. Demonstrate water rescue methods by reaching with your arm or leg, by reaching with a suitable object, and by throwing lines and objects. Explain why swimming rescues should not be attempted when a reaching or throwing rescue is possible, and explain why and how a rescue swimmer should avoid contact with the victim.
 - b. With a helper and a practice victim, show a line rescue both as tender and as rescuer. The practice victim should be approximately 30 feet from shore in deep water.
- 5. Swim continuously for 150 yards using the following strokes in good form and in a strong manner: front crawl or trudgen for 25 yards, back crawl for 25 yards, sidestroke for 25 yards, breaststroke for 25 yards, and elementary backstroke for 50 yards.
- 5. 6. Do the following:
 - a. Float *faceup* face up in a resting position for at least one minute.
 - b. Demonstrate survival floating for at least five minutes.
 - c. While wearing a properly fitted *personal floatation device (PFD)* U.S. Coast Guard–approved <u>life jacket</u>, demonstrate the HELP and huddle positions. Explain their purposes.
 - d. Explain why swimming or survival floating will hasten the onset of hypothermia in cold water.
- 6. $\frac{7}{2}$ In water over your head, but not to exceed 10 feet, do each of the following:
 - a. Use the *feetfirst* feet first method of surface diving and bring an object up from the bottom.
 - b. Do a headfirst surface dive (pike or tuck), and bring the object up again.

- c. Do a headfirst surface dive to a depth of at least 5 feet and swim underwater for three strokes. Come to the surface, take a breath, and repeat the sequence twice.
- 8. Do ONE of the following:
 - a. Demonstrate snorkeling and scuba diving knowledge:
 - 1. Demonstrate selection and fit of mask, snorkel, and fins; discuss safety in both pool and openwater snorkeling.
 - 2. Demonstrate proper use of mask, snorkel, and fins for underwater search and rescue.
 - 3. Describe the sport of scuba diving or snorkeling, and demonstrate your knowledge of BSA policies and procedures relating to that sport.
 - ΘR
 - b. Demonstrate the following competitive swimming skills:
 - 1. Racing dive from a pool edge or dock edge (no elevated dives from racing platforms or starting blocks)
 - 2. Racing form for 25 yards on one competitive stroke (front crawl, back crawl, breaststroke, or butterfly)
 - *3. Racing turns for the stroke that you chose in 8b(2), OR, if the camp facilities cannot accommodate the racing turn, repeat 8b(2) with and additional stroke.*
 - 4. Describe the sport of competitive swimming.
- 7. 9. Following the guidelines set in the BSA Safe Swim Defense, in water at least 7 feet deep^{*}, show a standing headfirst dive from a dock or pool deck. Show a long shallow dive, also from the dock or pool deck.
 - If your state, city, or local community requires a water depth greater than 7 feet, it is important to abide by that mandate.
- 8. Explain the health benefits of regular aerobic exercise, and discuss why swimming is favored as both fitness and therapeutic exercise.
- 10. Do the following:
 - a. Explain the health benefits of regular aerobic exercise, and explain why many people today do not get enough of the beneficial kinds of exercise.
 - b. Discuss why swimming is favored as both a fitness and a therapeutic exercise.
 - c. Write a plan for a swimming exercise program that will promote aerobic/vascular fitness, strength and muscle tone, body flexibility, and weight control for a person of Scout age. Identify resources and facilities available in your home community that would be needed for such a program.
 - d. Discuss with your counselor the incentives and obstacles for staying with the fitness program you created in requirement 10c. Explain the unique benefits that could be gained from this program, and discuss how personal health awareness and self discipline would relate to your own willingness and ability to pursue such a program.

Special Opportunities



Stand Up Paddleboarding

The following requirements for this new aquatics award were added to the booklet.

- 1. Review the BSA Safety Afloat policy. Explain to your instructor how this applies to stand up paddleboarding.
- 2. Before fulfilling other requirements, successfully complete the BSA swimmer test: Jump feet first into water over the head in depth, level off, and begin swimming. 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 one sharp turn. After completing the swim, rest by floating.
- 3. Explain safety considerations for stand up paddleboarding in the following environments: lake, moving water, whitewater, open ocean, ocean surf.
- 4. Review the characteristics of life jackets most appropriate for stand up paddleboarding and understand why one must always be worn while paddling. Then demonstrate how to select and fit a life jacket for stand up paddleboarding.
- 5. Describe the correct type of leash to wear in the appropriate water venues.
- 6. Name and point out:
 - a. The major parts of a stand up paddleboard
 - b. The parts of a paddle for stand up paddleboarding
- 7. Discuss:
 - a. The different types of stand up paddleboards
 - b. How to correctly size and hold a paddle for stand up paddleboarding
- 8. Using a properly outfitted stand up paddleboard, demonstrate the following:
 - a. How to safely carry a stand up paddleboard
 - b. How to safely paddle away from a dock or shoreline (on knees)
 - c. How to stand and balance on a board in the neutral position
 - d. How to appropriately fall off a board
 - e. How to remount the board
 - f. Forward stroke
 - g. Back stroke
 - h. Forward sweep
 - i. Reverse sweep
 - j. Draw stroke
 - k. One self-rescue technique—lay on your stomach and paddle with your hands
- 9. With supervision from your instructor, paddle a course that involves:
 - a. A straight line for 25 yards and stop within one board length
 - b. A figure 8
 - c. Moving abeam to the right 10 feet and to the left 10 feet



BSA Lifeguard

The requirements for this certification were added to the booklet. The requirements, which are extensive, were completely revised in 2013. The requirements have not been reproduced here. Rather than list the requirements here, they can be seen at this web address: http://usscouts.org/advance/boyscout/lifeguard.asp



National Court of Honor Lifesaving and Meritorious Action Awards

The information about these awards was changed by deletion of the Heroism Award, which may be discontinued, pending a final decision from the National Court of Honor. The information which was deleted is shown below.

<u>Heroism Award.</u>

Has demonstrated heroism and skill in averting serious injury or saving or attempting to save a life at minimum risk to self.



Religious Emblems

A few minor changes were made to the contact information for some of the emblems.

Rather than list the changes here, see the Religious Emblems listing for Boy Scouts (and Varsity Scouts, Venturers, and Sea Scouts) at this web address: http://usscouts.org/advance/boyscout/religious.asp

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