



Boy Scout Advancement Requirements Changes

Effective January 1, 2015
with updates through May 18, 2015

The *Guide to Advancement - 2015* and the current edition of *Boy Scout Requirements* are the official Boy Scouts of America sources on Boy Scout advancement procedures.

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, 2015* 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#620714) was released in February, 2015. It contains changes to each rank from Tenderfoot to Eagle and Eagle Palms and the requirements for 3 new merit badges. Of those 3 badges, 1 was released in 2014, and two others were released in February and May, 2015. Two merit badges have been discontinued, as noted in the 2014 edition. The book also contains changes to the requirements for 20 other merit badges. The changes to 2 of those merit badges were released in the Spring of 2014, after the 2014 Requirements Book was issued. Finally, the "Merit Badge Library" listing on the inside back cover, lists 3 new merit badge pamphlets and 58 merit badge pamphlets with revised publication dates ranging from 2010 to 2015 which are after those listed in the 2014 edition.

Click here for a list of all of the merit badge pamphlets, which identifies the most recent edition of each, whether the old pamphlet can still be used, and when the requirements were last revised.

In addition to the new merit badges listed below, BSA has announced plans to release a few more in the coming years, including Exploring, Multi-Media, Computer Aided Design, and Advanced Computing, but no schedule has been announced for those badges.

Scouts that started work before January 1, 2015, on the Computers merit badge, which is now obsolete (and has been replaced by the Digital Technology merit badge) may **CONTINUE** working on that badge using the requirements that were in effect at when they started work. However, because the badge has been discontinued, Scouts may no longer **START** work on the Computers badge. Furthermore, while a Scout that completes the badge may receive advancement credit for earning it, since the badge has been dropped, it may be difficult or impossible to obtain an actual Computers merit badge for the Scout's uniform or merit badge sash, since BSA is no longer producing them, and has removed them from sale at Scout Shops.

Every Scout wishing to advance to Eagle Scout is now required to have earned the Cooking merit badge., It doesn't matter when he earned it, nor whether it was required or not at that time, nor which set of requirements he used. However, only a Scout that started work on the Cooking merit badge before January 1, 2015, (using the pre 2014 requirements) may **CONTINUE** working on that badge using those requirements. Scouts may no longer **START** work on the Cooking badge, using the earlier requirements. Scouts starting work on any merit badge must use the **CURRENT** requirements.

RANK CHANGES

Tenderfoot

Second Class

First Class

Star

Life

Eagle

Eagle Palms

**Tenderfoot, Second Class, and First Class Ranks -
Alternative Requirements**

NEW Merit Badges issued during 2014

Mining in Society - Released on February 24, 2014

**Digital Technology (Replaced Computers) - Released on
April 16, 2014**

NEW Merit Badges issued in 2015

Signs, Signals, and Codes - Released on February 26, 2015

Animation - - Released on May 18, 2015

Merit Badges DISCONTINUED

Computers (Replaced by Digital Technology)

Cinematography (Replaced by Moviemaking)

REVISED Merit Badges

**These merit badges had major changes announced and
published in the Spring of 2014:**

Canoeing

Swimming

These merit badges had major changes:

Insect Study

Whitewater

These merit badges had minor changes:

Architecture

Backpacking

Basketry

Drafting

Energy

Environmental Science

Family Life

First Aid

Fish and Wildlife

Management

Fishing

Mammal Study

Personal Fitness

Public Health

Sustainability

Water Sports

Wood Carving

Changes to Rank Requirements



Tenderfoot

Changes were made to the wording of requirement 15, and new information was added to the footnotes. The new wording reads as follows:

15. **Successfully complete** *Complete* your board of review **for the Tenderfoot rank**.

NOTE: ***For Varsity Scouts working on Boy Scout requirements, replace "troop" with "team" and "Scoutmaster" with "Varsity Scout Coach." The requirements for Tenderfoot, Second Class, and First Class ranks may be worked on simultaneously; however, these ranks must be earned in sequence.** **Alternate Requirements for the Tenderfoot rank** are available for Scouts with physical or mental disabilities if they meet the criteria listed on page 13 of this ***(i.e. the Boy Scout Requirements)*** book.



Second Class

Changes were made to the wording of requirement 13, and new information was added to the footnotes. There is an editorial error in the footnotes, however. The note regarding alternate requirements for Scouts with special needs refers to Tenderfoot, instead of Second Class. The new wording (with the editorial error corrected) reads as follows:

13. **Successfully complete** *Complete* your board of review **for the Second Class rank**.

NOTE: ***For Varsity Scouts working on Boy Scout requirements, replace "troop" with "team" and "Scoutmaster" with "Varsity Scout Coach." The requirements for Tenderfoot, Second Class, and First Class ranks may be worked on simultaneously; however, these ranks must be earned in sequence. Alternate Requirements for the Second Class rank** are available for Scouts with physical or mental disabilities if they meet the criteria listed on page 13 of this (***i.e.*** the *Boy Scout Requirements*) book.



First Class

Changes were made to the wording of requirement 14, and new information was added to the footnotes. There is an editorial error in the footnotes, however. The note regarding alternate requirements for Scouts with special needs refers to Tenderfoot, instead of First Class.. The new wording (with the editorial error corrected) reads as follows:

14. **Successfully complete** *Complete* your board of review **for the First Class rank**.

NOTE: ***For Varsity Scouts working on Boy Scout requirements, replace "troop" with "team" and "Scoutmaster" with "Varsity Scout Coach." The requirements for Tenderfoot, Second Class, and First Class ranks may be worked on simultaneously; however, these ranks must be earned in sequence. Alternate Requirements for the First Class rank** are available for Scouts with physical or mental disabilities **if they meet the criteria listed on page 13 of this** (***i.e.*** the *Boy Scout Requirements*) book.



Star

Changes were made to the wording of requirements 5 and 7, and new information was added to the footnotes. The new wording reads as follows:

5. While a First Class Scout, **serve actively** in your unit for four months in one or more of the following positions of responsibility*** (or carry out a unit leader-assigned leadership project to help your unit):

Boy Scout troop.

- Patrol leader,
- **Venture patrol leader**
- assistant senior patrol leader,
- senior patrol leader,
- ~~Venture patrol leader~~
- troop guide,
- Order of the Arrow troop representative,
- den chief,
- scribe,
- librarian,
- historian,
- quartermaster,
- bugler,
- junior assistant Scoutmaster,
- chaplain aide,
- instructor ,
- troop Webmaster, or
- Leave No Trace trainer.

Varsity Scout team.

- Captain,
- cocaptain,
- program manager,
- squad leader,
- team secretary,
- Order of the Arrow team representative,
- librarian,
- historian,
- quartermaster,
- chaplain aide,
- instructor,
- den chief,
- team Webmaster, or
- Leave No Trace trainer.

Venturing crew / Sea Scout ship.

- President,
- vice president,
- secretary,
- treasurer,
- den chief,
- quartermaster,
- historian,
- guide,
- boatswain,
- boatswain's mate,
- yeoman,
- purser,
- storekeeper,
- crew/ship Webmaster, or
- Leave No Trace trainer.

Lone Scout.

Leadership responsibility in his school, religious organization, club, or elsewhere in his community.

7. **Successfully complete** *Complete* your board of review.†

*** For Varsity Scouts working on Boy Scout requirements, replace "troop" with "team" and "Scoutmaster" with "Varsity Scout Coach."**

For Venturers working on Boy Scout requirements, replace "troop" with "crew" and "Scoutmaster" with "Crew Advisor."

For Sea Scouts working on Boy Scout requirements, replace "troop" with "ship" and "Scoutmaster" with "Skipper."

**** A Scout may choose Choose** any of the ~~15~~ **17** required merit badges in the ~~12~~ **13** categories to fulfill requirement 3. See *page 16 of this book* **requirement 3 in the Eagle Scout rank requirements** for a *complete* list of **badges** required *badges* for Eagle.

***** Assistant patrol leader is not an approved position of responsibility for the Star rank.**

† If the board of review does not approve the Scout's advancement, the decision may be appealed in accordance with Guide to Advancement topic 8.0.4.0.



Life

Changes were made to the wording of requirements 5 & 8, and new information was added to the footnotes. The new wording reads as follows:

5. While a Star Scout, **serve actively** in your unit for 6 months in one or more of the positions of responsibility*** listed in **requirement 5 for Star Scout** (or carry out a unit leader-assigned leadership project to help your unit).
8. **Successfully complete** *Complete* your board of review.†

*** For Varsity Scouts working on Boy Scout requirements, replace "troop" with "team" and "Scoutmaster" with "Varsity Scout Coach."**

For Venturers working on Boy Scout requirements, replace "troop" with "crew" and "Scoutmaster" with "Crew Advisor."

For Sea Scouts working on Boy Scout requirements, replace "troop" with "ship" and "Scoutmaster" with "Skipper."

**** *A Scout may choose* Choose** any of the ~~15~~ **17** required merit badges in the ~~12~~ **13** categories to fulfill requirement 3. See ~~page 16 of this book~~ **requirement 3 in the Eagle Scout rank requirements** for a *complete* list of **badges** required *badges* for Eagle.

***** Assistant patrol leader is not an approved position of responsibility for the Life rank.**

† If the board of review does not approve the Scout's advancement, the decision may be appealed in accordance with Guide to Advancement topic 8.0.4.0.



Eagle

Although not identified in the list of changes on the inside front cover of the Boy Scout Requirements book, a very minor change was made to the wording of requirement 5, a typo in

one footnote was corrected, and a number of new footnotes were added. The new wording and footnotes read as follows:

3. Earn a total of 21 merit badges (10 more than you already have), including the following:
 - a. **First Aid**
 - b. **Citizenship in the Community**
 - c. **Citizenship in the Nation**
 - d. **Citizenship in the World**
 - e. **Communication**
 - f. **Cooking**
 - g. **Personal Fitness**
 - h. **Emergency Preparedness** OR **Lifesaving**
 - i. **Environmental Science** OR **Sustainability**
 - j. **Personal Management**
 - k. **Swimming** OR **Hiking** OR **Cycling**
 - l. **Camping**, and
 - m. **Family Life*****
4. While a Life Scout, **serve actively** in your unit for a period of 6 months in one or more of the following positions of responsibility:***

Boy Scout troop.	Varsity Scout team.	Venturing crew / Sea Scout ship.
<ul style="list-style-type: none"> ○ Patrol leader, ○ assistant senior patrol leader, ○ senior patrol leader, ○ Venture patrol leader, ○ troop guide, ○ Order of the Arrow troop representative, ○ den chief, ○ scribe, ○ librarian, ○ historian, ○ quartermaster, ○ junior assistant Scoutmaster, ○ chaplain aide, ○ instructor, ○ Webmaster, or ○ Leave No Trace trainer 	<ul style="list-style-type: none"> ○ Captain, ○ cocaptain, ○ program manager, ○ squad leader, ○ team secretary, ○ Order of the Arrow team representative, ○ librarian, ○ historian ○ quartermaster, ○ chaplain aide, ○ instructor, or ○ den chief. ○ Webmaster, or ○ Leave No Trace trainer 	<ul style="list-style-type: none"> ○ President, ○ vice president, ○ secretary, ○ treasurer, ○ quartermaster ○ historian ○ den chief, ○ guide ○ boatswain, ○ boatswain's mate, ○ yeoman, ○ purser, ○ storekeeper ○ Webmaster, or ○ Leave No Trace trainer
	<p>Lone Scout. Leadership responsibility in his school, religious organization, club, or elsewhere in his</p>	

community.

5. While a Life Scout, plan, develop, and give leadership to others in a **service project** helpful to any religious institution, any school, or your community. (The project must benefit an organization other than Boy Scouting.) **A The** project proposal must be approved by the organization benefiting from the effort, your unit leader and unit committee, and the council or district before you start. You must use the **Eagle Scout Service Project Workbook**, BSA publication No. 512-927, in meeting this requirement. (To learn more about the Eagle Scout service project, see the **Guide to Advancement**, topics 9.0.2.0 through 9.0.2.16.)
7. Successfully complete an Eagle Scout board of review.*** In preparation for your board of review, prepare and attach to your Eagle Scout Rank Application a statement of your ambitions and life purpose and a listing of positions held in your religious institution, school, camp, community, or other organizations, during which you demonstrated leadership skills. Include honors and awards received during this service. (This requirement may be met after age 18; see **below**.)

Note: As of Jan. 1, 2014, the Cooking merit badge is required for the Eagle Scout rank.

***For Varsity Scouts working on Boy Scout requirements, replace "troop" with "team" and "Scoutmaster" with "Varsity Scout Coach." For Venturers working on Boy Scout requirements, replace "troop" with "crew" and "Scoutmaster" with "Crew Advisor." For Sea Scouts working on Boy Scout requirements, replace "troop" with "ship" and "Scoutmaster" with "Skipper."**

*** **** You must choose only one merit badge listed in items (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.

*****Assistant patrol leader and bugler are not approved positions of responsibility for the Eagle Scout rank. Likewise, a unit leader-assigned leadership project should not be used in lieu of serving in a position of responsibility.**

******If a Scout believes he has completed all requirements for Eagle, but is denied a unit signature or a Scoutmaster conference, he may request a board of review under disputed circumstances in accordance with Guide to Advancement, topic 8.0.3.2. If the board of review does not approve the Scout's advancement, the decision may be appealed in accordance with Guide to Advancement, topic 8.0.4.0. Although rarely granted, if a Scout foresees that, due to no fault or choice of his own, he will be unable to complete the Eagle Scout rank requirements before age 18, he may apply for a limited time extension in accordance with 3 topic 9.0.4.0.**



Eagle Palms

Changes were made to the wording of requirements 4 and 5, and new information was added to the footnotes. The new wording reads as follows:

4. ~~Take Part~~ **Participate** in a Scoutmaster conference.
5. **Successfully complete your** ~~Complete a~~ board of review.

*** For Varsity Scouts working on Boy Scout requirements, replace "troop" with "team" and "Scoutmaster" with "Varsity Scout Coach."**

For Venturers working on Boy Scout requirements, replace "troop" with "crew" and "Scoutmaster" with "Crew Advisor."

For Sea Scouts working on Boy Scout requirements, replace "troop" with "ship" and "Scoutmaster" with "Skipper."

Tenderfoot, Second Class, and First Class Ranks - Alternative Requirements

A new sentence was added to the first paragraph of this article. That paragraph now reads as follows:

A Scout who has a permanent physical or mental disability (or a disability expected to last more than two years or beyond the 18th birthday) and is unable to complete all of the requirements for Tenderfoot, Second Class, or First Class rank may, with his parents or guardian, submit a request to the council advancement committee to complete alternative requirements. Below are the procedures for applying for alternative requirements. **To help facilitate this process, use the Individual Scout Achievement Plan, No. 512-936, which can be found at <http://www.scouting.org/specialneeds.aspx>.**

NEW Merit Badges



Mining in Society

This is a NEW Merit Badge that was introduced on February 24, 2014, the official "Earn Date", when Scouts had authorization to begin earning the badge. The requirements 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.
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Digital Technology (Replaced 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 was April 16, 2014. This badge replaced the Computers merit badge, which has now been discontinued. However, since it is a NEW badge, with substantially different requirements, Scouts may earn Digital Technology, even if they have already earned Computers.

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.
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Animation

This is a NEW merit badge. Although the requirements were included in the 2015 Boy Scout Requirements booklet, Scouts could not earn the badge until the official "Earn Date" which was May 18, 2015. The requirements are as follows:

1. General knowledge.

Do the following:

- a. In your own words, describe to your counselor what animation is.
- b. Discuss with your counselor a brief history of animation.

2. Principles of animation.

Choose five of the following 12 principles of animation, and discuss how each one makes an animation appear more believable:

- squash and stretch,
- anticipation,
- staging,
- straight-ahead action and pose to pose,
- follow through and overlapping action,

- slow in and slow out,
- arcs,
- secondary action,
- timing,
- exaggeration,
- solid drawing,
- appeal.

3. Projects.

With your counselor's approval, choose two animation techniques and do the following for each:

- a. Plan your animation using thumbnail sketches and/or layout drawings.
- b. Create the animation.
- c. Share your animations with your counselor. Explain how you created each one, and discuss any improvements that could be made.

4. Animation in our world.

Do the following:

- a. Tour an animation studio or a business where animation is used, either in person, via video, or via the Internet. Share what you have learned with your counselor.
- b. Discuss with your counselor how animation might be used in the future to make your life more enjoyable and productive.

5. Careers.

Learn about three career opportunities in animation. Pick one and find out about the education, training, and experience required for this profession. Discuss your findings with your counselor. Explain why this profession might interest you.



Signs, Signals, and Codes

This is a NEW merit badge. Although the requirements were included in the 2015 Boy Scout Requirements booklet, Scouts could not earn the badge until the official "Earn Date" which was February 26, 2015. The requirements are as follows:

1. Discuss with your counselor the importance of signs, signals, and codes, and why people need these different methods of communication. Briefly discuss the history and development of signs, signals, and codes.
2. Explain the importance of signaling in emergency communications. Discuss with your counselor the types of emergency or distress signals one might use to attract airborne search-and-rescue personnel if lost in the outdoors or trying to summon assistance during a disaster. Illustrate these signaling examples by the use of photos or drawings.
3. Do the following:
 - a. Describe what Morse code is and the various means by which it can be sent. Spell your first name using Morse code. Send or receive a message of

- six to 10 words using Morse code.
 - b. Describe what American Sign Language (ASL) is and how it is used today. Spell your first name using American Sign Language. Send or receive a message of six to 10 words using ASL.
- 4. Give your counselor a brief explanation about semaphore, why it is used, how it is used, and where it is used. Explain the difference between semaphore flags and nautical flags. Then do the following:
 - a. Spell your first name using semaphore. Send or receive a message of six to 10 words using semaphore.
 - b. Using illustrations or photographs, identify 10 examples of nautical flags and discuss their importance.
- 5. Explain the braille reading technique and how it helps individuals with sight impairment to communicate. Then do the following:
 - a. Either by sight or by touch, identify the letters of the braille alphabet that spell your name. By sight or touch, decode a braille message at least six words long.
 - b. Create a message in braille at least six words long, and share this with your counselor.
- 6. Do the following:
 - a. Describe to your counselor six sound-only signals that are in use today. Discuss the pros and cons of using sound signals versus other types of signals.
 - b. Demonstrate to your counselor six different silent Scout signals. Use these Scout signals to direct the movements and actions of your patrol or troop.
- 7. On a Scout outing, lay out a trail for your patrol or troop to follow. Cover at least one mile in distance and use at least six different trail signs and markers. After the Scouts have completed the trail, follow no-trace principles by replacing or returning trail markers to their original locations.
- 8. For THREE of the following activities, demonstrate five signals each. Tell what the signals mean and why they are used:
 - a. Sports official's hand signs/signals
 - b. Heavy-equipment operator's hand signals
 - c. Aircraft carrier catapult crew signals
 - d. Cyclist's hand signals
 - e. An activity selected by you and your counselor
- 9. Share with your counselor 10 examples of symbols used in everyday life. Design your own symbol. Share it with your counselor and explain what it means. Then do the following:
 - a. Show examples of 10 traffic signs and explain their meaning.
 - b. Using a topographical map, explain what a map legend is and discuss its importance. Point out 10 map symbols and explain the meaning of each.
 - c. Discuss text-message symbols and why they are commonly used. Give examples of your favorite 10 text symbols or emoticons. Then see if your counselor or parent can identify the meaning or usage of each symbol.
- 10. Briefly discuss the history of secret code writing (cryptography). Make up your own secret code and write a message of up to 25 words using this code. Share the message with a friend or fellow Scout. Then share the message and code key

with your counselor and discuss the effectiveness of your code.

DISCONTINUED Merit Badges



Computers

Subsequent to the release of the Digital Technology Merit Badge in 2014, this badge has been discontinued as of January 1, 2015.

If a Scout started work on this merit badge before the end of 2014, he may continue work toward completing the badge and receive advancement credit for it. However, the actual badge (patch) may be hard to obtain. See *Guide to Advancement* topic 7.0.4.3.



Cinematography

This badge was renamed "Moviemaking", with a few minor changes to the requirements. The same badge is used.

REVISED Merit Badges



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

1. ~~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.~~

2. ~~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. ~~5.~~ 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 bent-shaft 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. ~~e.~~ Marathon
 - e. ~~d.~~ Freestyle
 - f. ~~e.~~ Whitewater
 - g. ~~f.~~ Canoe poling



Swimming

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 that started the badge during 2014 could use either the old or new requirements. Scouts that started 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~~ **of** 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 and First Class rank requirements 9a-9c~~
 - o ~~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.~~
 - o ~~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.*
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 life jacket**, 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. ~~7.~~ 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 open water 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.*
 - OR
 - 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.*



Insect Study

New requirements 1 and 7 were added, and old requirement 8 was replaced by new requirement 10. Old requirements 1-7, and 9-11, although unchanged, were renumbered as 2-6, 8, 9, and 11-13. The requirements now read as follows:

1. **Do the following:**

- a. **Explain to your counselor the most likely hazards associated with exposure to ants and bees and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.**
 - b. **Discuss the prevention of and treatment for health concerns that could occur while working with ants and bees, including insect bites and anaphylactic shock.**
2. ~~1.~~ Tell how insects are different from all other animals. Show how insects are different from centipedes and spiders.
 3. ~~2.~~ Point out and name the main parts of an insect.
 4. ~~3.~~ Describe the characteristics that distinguish the principal families and orders of insects.
 5. ~~4.~~ Do the following:
 - a. Observe 20 different live species of insects in their habitat. In your observations, include at least four orders of insects.
 - b. Make a scrapbook of the 20 insects you observe in 4a. Include photographs, sketches, illustrations, and articles. Label each insect with its common and scientific names, where possible. Share your scrapbook with your merit badge counselor.

6. ~~5.~~ Do the following:
 - a. From your scrapbook collection, identify three species of insects helpful to humans and five species of insects harmful to humans.
 - b. Describe some general methods of insect control.
 7. **Explain the symbiotic relationship between bees and humankind. Explain what colony collapse disorder (CCD) is and some of the possible causes. Discuss how CCD affects our food supply.**
 8. ~~6.~~ Compare the life histories of a butterfly and a grasshopper. Tell how they are different.
 9. ~~7.~~ Raise an insect through the complete metamorphosis from its larval stage to its adult stage (e.g. raise a butterfly or moth from a caterpillar.*
 10. ~~8.~~ *Observe an ant colony or a beehive. Tell that you saw.*
Do ONE of the following:
 - a. **Observe an ant colony in a formicarium (ant farm). Find the queen and worker ants. Explain to your counselor the different chambers found within an ant colony.**
 - b. **Study a hive of bees. Remove the combs and find the queen. Estimate the amount of brood and count the number of queen cells. Explain how to determine the amount of honey in the hive.**
 11. ~~9.~~ Tell the things that make social insects different from solitary insects.
 12. ~~10.~~ Tell how insects fit in the food chains of other insects, fish, birds, and mammals.
 13. ~~11.~~ Find out about three career opportunities in insect study. Pick one and find out about the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.
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Whitewater

The requirements were substantially rewritten and rearranged. The requirements now read as follows:

1. Do the following:
 - a. Explain to your counselor the most likely hazards you may encounter while participating in whitewater activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.
 - b. Review with your counselor the prevention, symptoms, and first aid treatment for the following injuries or illnesses that could occur while participating in whitewater activities including cold-water shock; hypothermia; head, neck, and back injuries; heat-related illnesses; sunburn; dehydration; blisters; bruises; cuts; sprains and strains; shoulder dislocation; and submersion injuries.
 - c. Discuss with your counselor the BSA Safety Afloat policy and the American Whitewater safety guidelines.
2. Do the following:

- a. Explain the following river features:
 - upstream V,
 - downstream V,
 - riffle,
 - eddy,
 - eddy line,
 - pillow,
 - ledge,
 - bend,
 - shallows,
 - current,
 - drop,
 - horizon line,
 - wave,
 - standing wave,
 - wave train.
 - b. Explain when, why, and how you should scout a river while ashore and while on the river.
3. Before doing requirements 4 through 12, earn the Canoeing merit badge if you will be using a canoe to earn this merit badge. If you will be using a kayak, earn the Kayaking merit badge. Then do the following:
- a. If you will be using a canoe to earn this merit badge, demonstrate strokes and maneuvers from the Canoeing merit badge to the satisfaction of your merit badge counselor.
- OR
- b. If you will be using a kayak to earn this merit badge, demonstrate strokes and maneuvers from the Kayaking merit badge to the satisfaction of your merit badge counselor.
4. Do ONE of the following:
- a. If you are completing these requirements as a tandem canoeist, perform the following on calm water:
 1. Demonstrate the following strokes in the bow:
 - cross forward,
 - bow draw,
 - cross bow draw,
 - bow pry,
 - Duffek,
 - sculling draw, and
 - sculling pushaway (reverse scull).
 2. Demonstrate the following strokes in the stern:
 - stern draw,
 - stern pry,
 - sculling draw,
 - sculling pushaway (reverse scull), and
 - forward with stern pry.
 3. Demonstrate a high brace, low brace, and a righting pry.

OR

b. If you are completing these requirements as a solo canoeist, perform the following on calm water:

1. Demonstrate the following strokes:

- cross forward,
- bow draw,
- cross bow draw,
- stern draw,
- pry,
- stern pry,
- Duffek,
- sculling draw,
- sculling pushaway (reverse scull), and
- forward with stern pry.

2. Demonstrate a high brace, low brace, and righting pry.

OR

c. If you are completing these requirements as a solo kayaker, perform the following on calm water:

1. Demonstrate the following strokes:

- Duffek,
- bow draw,
- rudder, and
- sculling draw.

2. Demonstrate a high brace and low brace.

5. Do the following:

- a. Explain the International Scale of River Difficulty and apply the scale to the stretch of river approved by your counselor.
- b. Identify the specific characteristics of the river that are factors in your classification according to the International Scale.
- c. Discuss how the level of flow changes a river from one class to another and what effects different flow rates have on the features of a river and its hazards.

6. Explain the importance of communication during every whitewater outing.

Demonstrate knowledge and ability to use the following American Whitewater Universal River Signals, both visual and auditory:

- "Stop,"
- "Are you OK?,"
- "Help/emergency,"
- "Run river right,"
- "Run river left," and
- "All clear-come ahead."

7. Do ONE of the following:

- a. If completing this merit badge in a canoe, describe the various types of canoes used on moving water and how they differ in design, materials, and purpose.

OR

- b. If completing this merit badge in a kayak, describe the various types of kayaks used on moving water and explain how they differ in design, materials, and purpose.

8. Discuss the personal and group equipment necessary for a safe whitewater outing

and how and why it is used. Explain how to pack and protect these items.

9. Do the following:
 - a. Demonstrate your ability to read a Class II section of river approved by your counselor. Describe the most desirable paths or lines of travel as well as alternative routes and options. Point out how to use the existing water features to your advantage, and explain how to best avoid the hazards present.
 - b. Wearing a proper life jacket and being appropriately dressed for the weather and water conditions, perform the following skills in moving water in a properly equipped whitewater craft of your choice (tandem canoe, solo canoe, or solo kayak). If a tandem canoe is used, the skills must be demonstrated from both the bow and stern positions.
 1. Launch and land.
 2. Paddle forward in a straight line.
 3. Backpaddle.
 4. Ferry upstream.
 5. Ferry downstream.
 6. Eddy turn.
 7. Peel out.
10. Explain and demonstrate the following to your counselor:
 - a. Self-rescue and procedures when capsized in moving water, including a wet exit if necessary
 - b. Proper use of a throw rope to rescue a swimmer in whitewater
 - c. Proper technique for receiving a throw rope as a swimmer
 - d. Portaging - where portaging would be appropriate, and when and how to do it
 - e. The whitewater buddy system using at least three persons and three craft
11. Discuss the use of inflatable rafts on moving water. In your discussion, explain the special safety precautions that should be taken when using an inflatable raft and the risks of "tubing" on moving water.
12. Participate in a whitewater trip using either a canoe or kayak on a Class I or Class II river. Help to prepare a written plan, specifying the route, schedule, equipment, safety precautions, and emergency procedures. Determine local rules and obtain permission from landowners and land managers in advance. Explain what steps you have taken to comply with BSA Safety Afloat and the American Whitewater safety guidelines. Execute the plan with others.



Architecture

The note following requirement 3b was revised. The note now reads as follows:

Note: To visit a construction site will require advance planning. You will need permission from your parents, counselor, the architect, and the construction site manager. A construction site is a very dangerous place. While there, you will need to closely follow the site manager's directions and comply with all the safety procedures, including wearing a hard hat protective eyewear, and proper footwear. **Be aware of the changing**

conditions at the site, and stay with the architect or site manager.



Backpacking

Requirement 3d was added, requirements 6b and 8a were revised, and requirement 9 was revised and rearranged. The changes are as follows:

3. d. **Explain the purpose of an emergency response plan.**
 6. b. While on a trek, use a map and compass to establish your position on the ground *at least three times* at three different *places* **locations**, OR use a GPS receiver unit to establish your position on a topographic map and on the ground *at least three times* at three different *places* **locations**.
 8. a. Explain the advantages and disadvantages of ~~three~~ **the** different types of backpacking stoves using at least three different types of fuel.
 9. Do the following:
 - a. Write a plan **that includes a schedule** for a patrol/**crew** backpacking hike *that includes a schedule* **of at least 2 miles.**
 - b. **Conduct a prehike inspection of the patrol and its equipment.**
 - c. ~~b.~~ Show that you know how to properly pack your personal gear and your share of the crew's gear and food.
 - d. ~~e.~~ Show you can properly shoulder your pack and adjust it for proper wear.
 - e. ~~Conduct a prehike inspection of the patrol and its equipment.~~
While ~~carrying your pack,~~ **using the plan you developed for requirement 9a, carry your fully loaded pack to** complete a hike of at least 2 miles.
-



Basketry

Requirement 1 was replaced. The requirement now reads as follows:

1. ~~Describe precautions you should take to safely use basketry tools and materials.~~
Do the following:
 - a. **Explain to your counselor the hazards you are most likely to encounter while using basketry tools and materials, 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, including cuts, scratches, and scrapes, that could occur while working with basketry tools and materials.**
-



Drafting

Requirements 2a, 2b, 3a, and 3b were revised. The changes are as follows:

2.
 - a. **Architectural:** Make a scale drawing of an architectural project. The architectural drawing may be a floor plan, electrical, plumbing, or mechanical service plan; elevation plan; or landscaping plan. Use an architect's scale and show dimensions to communicate the actual size of features. Include any important sectional drawings, notes, and considerations necessary for construction.
 - b. **Mechanical:** Make a scale drawing of some mechanical device or interesting object. The mechanical drawing may be of the orthographic or isometric style. Use an engineer's scale and show dimensions to communicate the actual size of features. Include any important sectional drawings, notes, and manufacturing considerations.
3.
 - a. **Architectural:** Make a scale drawing of an architectural project. The architectural drawing may be a floor plan, electrical, plumbing, or mechanical service plan; elevation plan; or landscaping plan. Use an architect's scale and show dimensions to communicate the actual size of features. Include any important sectional drawings, notes, and considerations necessary for construction.
 - b. **Mechanical:** Make a scale drawing of some mechanical device or interesting object. The mechanical drawing may be of the orthographic or isometric style. Use an engineer's scale and show dimensions to communicate the actual size of features. Include any important sectional drawings, notes, and manufacturing considerations.



Energy

Requirements 2a and 4b were revised. The changes are as follows:

2.
 - a. Explain how THREE of the following devices use energy, and explain their energy conversions: toaster, greenhouse, lightbulb, bow drill, cell phone, nuclear reactor, sweat lodge.
4.
 - b. Describe ways you and your family can use energy resources more wisely. In preparing your discussion, consider the energy required for the things you do and use on a daily basis (cooking, showering, using lights, driving, watching TV, using the computer). Explain what is meant by sustainable energy sources. Explain how you can change your energy use through reuse and recycling.



Environmental Science

Requirement 3e2 was revised. The changes are as follows:

3. e. 2. Do research on one species that was endangered, ~~or~~ threatened, or of special concern but ~~which~~ that has now recovered. Find out how the organism recovered, and what its new status is. Write a 100-word report on the species and discuss it with your counselor.
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Family Life

Requirement 3 was revised. Requirement 6b was revised with a new subject and a footnote added. The changes are as follows:

3. Prepare a list of your regular home duties or chores (at least five) and do them for 90 days. Keep a record of how often you do each of them. Discuss with your counselor the effect your chores had on your family.
6. After this discussion, plan and carry out a family meeting* to include the following subjects:
 - b. 3. How your chores in requirement 3 contributed to your role in the family
 4. ~~3.~~ Personal and family finances
 5. ~~4.~~ A crisis situation within your family
 6. ~~5.~~ The effect of technology on your family
 7. ~~6.~~ Good etiquette and manners

*This conversation may take place with only one or both of your parents or guardians.



First Aid

Requirement 2b was revised. The requirement now reads as follows:

2. b. Explain the term *triage*. Explain the steps necessary to assess and handle a medical emergency until help arrives.

NOTE: The 2015 edition of Boy Scout Requirements has a typo in requirement 2b. The word "access" is incorrectly used, when the correct term is "assess".



Fish and Wildlife Management

Requirements 5b and 7c were revised. The changes are as follows:

5. b. Construct, erect, and check regularly bird feeders and keep written records of the kinds of birds visiting the feeders *in-the-winter*.
7. c. Examine the stomach contents of three *species-of* fish and record the findings. It is not necessary to catch any fish for this option. You must (*may*) visit a cleaning station set up for fishermen or find another, similar alternative.

Note: The last sentence of requirement 7c has read "You may visit ..." in the merit badge pamphlet, and "You must visit ..." in *Boy Scout Requirements* since it was added in 2004.



Fishing

There was a minor difference in requirement 4 between the 2014 *Boy Scout Requirements* booklet and the *Fishing* merit badge pamphlet. That discrepancy has now been corrected in the 2015 *Boy Scout Requirements* booklet. The revised requirement now reads as follows:

4. Demonstrate how to tie the following knots: **improved** clinch, Palomar, turtle, blood loop (barrel knot), and double surgeon's loop. Explain how and when each knot is used.
-



Mammal Study

Requirements 3c and 4b were revised. The changes are as follows:

3. c. From study and reading, write a simple **life** history of one nongame mammal that lives in your area. Tell how this mammal lived before its habitat was affected in any way by humans. Tell how it reproduces, what it eats, and its natural habitat. Describe its dependency upon plants, upon other animals (including humans), and how they depend upon it. Tell how it is helpful or harmful to humankind.
 4. b. Take good pictures of two kinds of mammals in the wild. Record *light* **the date(s), time of day, weather** conditions, *film-used, exposure* **approximate distance from the animal, habitat conditions**, and **any** other factors, *including notes on the activities of the pictured animals* **you feel may have influenced the animal's activity and behavior**.
-



Personal Fitness

Requirements 1a, 3d, and 3h were revised and now match the requirements found in the merit badge pamphlet. Those changes are as follows:

1. a. Before completing requirements 2 through 9, have your health-care practitioner give you a physical examination, using the Scout medical examination form. Describe the examination. Tell what questions ~~you were~~ the doctor asked about your health. Tell what health or medical recommendations ~~were~~ the doctor made and report what you have done in response to the recommendations. Explain the following:
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?

The text describing the requirements for the Aerobic Fitness, Flexibility, and Strength, and Body Composition Tests was removed from the Boy Scout Requirements Book. The current *Personal Fitness* merit badge pamphlet lists the requirements for those tests. Although the requirements for the Flexibility test have not changed, the requirements for the Aerobic Fitness and Strength tests have changed slightly, and the Body Composition Test has been replaced with a Body Composition Evaluation that involves a calculation of the BMI percentile. The requirements for those tests and the evaluation are found in the merit badge pamphlet. In addition, the merit badge pamphlet has different wording for requirements 6 and 8 than what appears in *Boy Scout Requirements*.

The differences in requirements 6 and 8 between the merit badge pamphlet and the Boy Scout Requirements booklet, plus the changes which were made to the Aerobic Fitness and Strength tests, and the Body Composition Test/Evaluation, which are only in the current *Personal Fitness* merit badge pamphlet, are as follows:

6. 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 all of the required activities in each of the three ~~tests~~ test categories, record your results, and show improvement in each one. For the body composition ~~test~~ evaluation, 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 **as fast as you can** in nine minutes

- Strength Tests

Record your performance on all three tests.

You must do the sit-ups exercise and one other (either push-ups or pull-ups). You may also do all three for extra experience and benefit.

- *Body Composition Test*

Have your parent, counselor, or other adult take and record the following measurements:

- *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.**
- **Step 4 - Use the chart in the *Personal Fitness* merit badge pamphlet to determine the BMI percentile for your age.**

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

1. **$130 \times 703 = 91390$**
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.**



Public Health

Requirements 1, 2c, 5a, and 7a were revised. The changes are as follows:

1. Explain what public health is. Explain how Escherichia coli (E. coli), tetanus, AIDS, encephalitis, salmonellosis, and Lyme disease are contracted. Then, pick any four of the following diseases and explain how each one is contracted **and possibly prevented**: gonorrhea, West Nile virus, botulism, influenza, syphilis, hepatitis, emphysema, meningitis, herpes, lead poisoning. For all 10 diseases, explain the type or form of the disease (viral, bacterial, environmental, toxin), any possible vectors for transmission, ways to help prevent **exposure or** the spread of infection, and available treatments.
2. c. Using the diseases you chose for requirement 1, discuss the diseases for which there is currently no treatment or immunization. **If treatments or immunizations are available for the diseases you chose, discuss others on the list.**
5. a. Visit a municipal wastewater treatment facility OR a solid-waste management operation in your community. Describe how the facility safely treats and disposes of sewage or solid waste. Describe how sewage and solid waste should be disposed of under wilderness camping conditions **OR visit the mosquito abatement district facility in your community. Tell how your community attempts to control the mosquito population and why.**
7. a. Compare the four leading causes of mortality (death) in your community for any of the past five years with the four leading causes of *morbidity (incidence of disease)* in your community. Explain how the public health agency you visited is trying to reduce the mortality and morbidity rates of these leading causes of illness and death.



Sustainability

Requirement 2-Water-A was revised. The changes are as follows:

2. WATER
 - 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

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.

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.



Water Sports

Requirement 4b was revised. Those changes are as follows:

4. b. Name the different types of ~~personal flotation devices (PFDs)~~ **life jackets**, and explain when each type should be used. Show how to choose and properly fit a ~~PFD~~ **life jacket**.



Wood Carving

Requirements 4c, 4d, and 6 were revised. The changes are as follows:

4. c. **"V" cut**
d. ~~e.~~ Score line **or Stop cut**
~~d. Stop cut~~
6. Plan your own or select a project from **this** ~~the Wood Carving~~ merit badge pamphlet and complete a simple carving in the round.

This analysis was prepared as a service to Scouts and Scouters nationwide

Paul S. Wolf, Secretary, US Scouting Service Project, Inc.

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