Digital Technology
Merit Badge Workbook

This workbook can help you but you still need to read the merit badge pamphlet.

The work space provided for each requirement should be used by the Scout to make notes for discussing the item with his counselor, not for providing the full and complete answers. Each Scout must do each requirement.

No one may add or subtract from the official requirements found in **_Boy Scout Requirements_** (Pub. 33216 – SKU 619576).

The requirements were last issued or revised in 2014   •   This workbook was updated in May 2015.

Scout's Name:_____   Unit: _____

Counselor's Name: _____   Counselor's Phone No.: _____

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

> *Note:*   *A workbook for the Boy Scout Cyber Chip is attached at the end of this worksheet. There are 2 sets of requirements for the Cyber Chip for Boy Scouts, depending on Grade level (6-8 or 9-12)*

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.

Text

Sound

Pictures

Videos

☐ b. Describe the difference between lossy and lossless data compression, and give an example where each might be used.

Lossy

Example:	

Lossless

Example:	

☐   c.   Describe two digital devices and how they are made more useful by their programming.

1.	
2.	

☐   d.   Discuss the similarities and differences between computers, mobile devices, and gaming consoles.

	similarities	differences
Computers		
Mobile devices		
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.

1.	
2.	
3.	
4..	

☐ c. Describe what malware is, and explain how to protect your digital devices and the information stored on them.

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5. Do the following:

☐ a. Describe how digital devices are connected to the Internet.

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☐ 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.

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☐ 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.

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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.

	What they do	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.

1.	
2.	
3.	

☐   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

1.	
2.	
3.	

☐   Pick one and find out the education, training, and experience required for this profession.

Career:	

Education:

Training:,

Experience:

☐   Discuss this with your counselor, and explain why this profession might interest you. Report what you learn to your counselor.

☐ b.   Visit a business or an industrial facility that uses digital technology.

☐   Describe four ways digital technology is being used there.

1.
2.
3.
4.

☐   Share what you learned with your counselor.

Requirement resources can be found here:
http://www.meritbadge.org/wiki/index.php/Digital Technology#Requirement resources

Boy Scout Cyber Chip
Workbook

The work space provided for each requirement should be used by the Scout
to make notes for discussing the item with his counselor,
not for providing the full and complete answers.
Each Scout must do each requirement.

No one may add or subtract from the official requirements found in ***Boy Scout Requirements***
(Pub. 33216 – SKU 619756).

The requirements were last issued or revised in <u>2013</u> •   This workbook was updated in <u>May 2015</u>.

Scout's Name:_____   Unit: _____

Counselor's Name: _____   Counselor's Phone No.: _____

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A. Cyber Chip Requirements for Grades 6-8

☐ 1.   Read and sign the Level II Internet Safety Pledge from NetSmartz. (BSA Cyber Chip green card) – Available from BSA

> **Internet Safety Pledge**
>
> 1.   I will think before I post
>
> 2.   I will respect other people online
>
> 3.   I will respect digital media ownership
>
> 4.   I won't meet face-to-face with anyone I meet in the digital world unless I have my parent's permission
>
> 5.   I will protect myself online.

☐ 2.   Write and sign a personalized contract with your parent or guardian that outlines rules for using the computer and mobile devices, including what you can download, what you can post, and consequences for inappropriate use.

General comments

What I can download

What I can post	
Consequences for inappropriate use	

☐ 3. Watch the video "Friend or Fake?", along with two additional videos of your choosing, to see how friends can help each other to stay safe online. (NetSmartz.org/scouting)

	Video Name	Date Watched
☐	Friend or Fake?	
☐		
☐		

☐ 4. As an individual or with your patrol, use the EDGE method and mini lessons to teach Internet safety rules, behavior, and "netiquette" to your troop or another patrol. You are encouraged to use any additional material and information you have researched. Each member of the patrol must have a role and present part of the lesson. (NetSmartz.org/scouting)

☐ 5. Discuss with your unit leader the acceptable standards and practices for using allowed electronic devices, such as phones and games, at your meetings and other Scouting events.

B. Cyber Chip Requirements for Grades 9-12

☐ 1.   Read and sign the Level II Internet Safety Pledge from NetSmartz. (BSA Cyber Chip green card) – Available from BSA

Internet Safety Pledge
1.   I will think before I post
2.   I will respect other people online
3.   I will respect digital media ownership
4.   I won't meet face-to-face with anyone I meet in the digital world unless I have my parent's permission
5.   I will protect myself online.

☐ 2.   Write and sign a personalized contract with your parent or guardian that outlines rules for using the computer and mobile devices, including what you can download, what you can post, and consequences for inappropriate use.

General comments	
What I can download	
What I can post	
Consequences for inappropriate use	

☐ 3. Discuss with your parents the benefits and potential dangers teenagers might experience when using social media.

☐ Give examples of each.

☐ 4. Watch three "Real-Life Story" videos to learn the impact on teens. (NetSmartz.org/scouting)

	Video Name	Date Watched
☐		
☐		
☐		

☐ 5. As an individual or patrol, use the EDGE method and the Teen Volunteer Kit to teach Internet safety rules, behavior, and "netiquette" to your troop or another patrol. You are encouraged to use any additional material and information you have researched. Each member of the patrol must have a role and present part of the lesson. (NetSmartz.org/scouting)

☐   6.   Discuss with your unit leader the acceptable standards and practices for using allowed electronic devices such as phones and games at your meetings and other Scouting events.

Note: **All Cyber Chips will expire annually. Each Scout will need to "recharge" the chip by going back to the NetSmartz Recharge area. This space will hold new information, news, and a place for the Scout to recommit to net safety and netiquette. Then, with the unit leader, the Scout can add the new date to the Cyber Chip card or certificate.**

Requirement resources can be found here:

http://www.scouting.org/cyberchip.aspx and http://www.netsmartz.org/scouting

Important excerpts from the *Guide To Advancement - 2015*, No. 33088 (SKU-620573)

[1.0.0.0] — Introduction
The current edition of the *Guide to Advancement* is the official source for administering advancement in all Boy Scouts of America programs: Cub Scouting, Boy Scouting, Varsity Scouting, Venturing, and Sea Scouts. It replaces any previous BSA advancement manuals and previous editions of the *Guide to Advancement*.

[Page 2, and 5.0.1.4] — Policy on Unauthorized Changes to Advancement Program
No council, committee, district, unit, or individual has the authority to add to, or subtract from, advancement requirements. There are limited exceptions relating only to youth members with special needs. For details see section 10, "Advancement for Members With Special Needs".

[Page 2] — The "Guide to Safe Scouting" Applies
Policies and procedures outlined in the *Guide to Safe Scouting*, No. 34416, apply to all BSA activities, including those related to advancement and Eagle Scout service projects.

[7.0.3.1] — The Buddy System and Certifying Completion
A youth member must not meet one-on-one with an adult. Sessions with counselors must take place where others can view the interaction, or the Scout must have a buddy: a friend, parent, guardian, brother, sister, or other relative—or better yet, another Scout working on the same badge—along with him attending the session. If merit badge counseling or instruction includes any Web-based interaction, it must be conducted in accordance with the BSA Social Media Guidelines (http://www.scouting.org/Marketing/Resources/SocialMedia). For example, always copy one or more authorized adults on email messages between counselors and Scouts.
When the Scout meets with the counselor, he should bring any required projects. If these cannot be transported, he should present evidence, such as photographs or adult verification. His unit leader, for example, might state that a satisfactory bridge or tower has been built for the Pioneering merit badge, or that meals were prepared for Cooking. If there are questions that requirements were met, a counselor may confirm with adults involved. Once satisfied, the counselor signs the blue card using the date upon which the Scout completed the requirements, or in the case of partials, initials the individual requirements passed.
Note that from time to time, it may be appropriate for a requirement that has been met for one badge to also count for another. See "Fulfilling More Than One Requirement With a Single Activity," 4.2.3.6.

[7.0.3.2] — Group Instruction
It is acceptable—and sometimes desirable—for merit badges to be taught in group settings. This often occurs at camp and merit badge midways, fairs, clinics, or similar events. Interactive group discussions can support learning. The method can also be attractive to "guest experts" assisting registered and approved counselors. Slide shows, skits, demonstrations, panels, and various other techniques can also be employed, but as any teacher can attest, not everyone will learn all the material.
There must be attention to each individual's projects and his fulfillment of *all* requirements. We must know that every Scout —actually and *personally*— completed them. If, for example, a requirement uses words like "show," "demonstrate," or "discuss," then every Scout must do that. It is unacceptable to award badges on the basis of sitting in classrooms *watching* demonstrations, or remaining silent during discussions.
It is sometimes reported that Scouts who have received merit badges through group instructional settings have not fulfilled all the requirements. To offer a quality merit badge program, council and district advancement committees should ensure the following are in place for all group instructional events.

- A culture is established for merit badge group instructional events that partial completions are acceptable expected results.
- A guide or information sheet is distributed in advance of events that promotes the acceptability of partials, explains how merit badges can be finished after events, lists merit badge prerequisites, and provides other helpful information that will establish realistic expectations for the number of merit badges that can be earned at an event.
- Merit badge counselors are known to be registered and approved.
- Any guest experts or guest speakers, or others assisting who are not registered and approved as merit badge counselors, do not accept the responsibilities of, or behave as, merit badge counselors, either at a group instructional event or at any other time. Their service is temporary, not ongoing.
- Counselors agree to sign off only requirements that Scouts have actually and personally completed.
- Counselors agree not to assume prerequisites have been completed without some level of evidence that the work has been done. Pictures and letters from other merit badge counselors or unit leaders are the best form of prerequisite documentation when the actual work done cannot be brought to the camp or site of the merit badge event.
- There is a mechanism for unit leaders or others to report concerns to a council advancement committee on summer camp merit badge programs, group instructional events, and any other merit badge counseling issues—especially in instances where it is believed BSA procedures are not followed. See "Reporting Merit Badge Counseling Concerns," 11.1.0.0.
- There must be attention to each individual's projects and his fulfillment of all requirements. We must know that every Scout—actually and personally—completed them.

It is permissible for guest speakers, guest experts, or others who are not merit badge counselors to assist in the counseling process. Those providing such assistance must be under the direction of a registered and approved counselor who is readily available onsite, and provides personal supervision to assure all applicable BSA policies and procedures—including those related to BSA Youth Protection—are in place and followed.

[7.0.3.3] — Partial Completions
A Scout need not pass all the requirements of one merit badge with the same counselor. It may be that due to timing or location issues, etc., he must meet with a different counselor to finish the badge. The Application for Merit Badge has a place to record what has been finished—a "partial." In the center section on the reverse of the blue card, the counselor initials for each requirement passed. In the case of a partial completion, the counselor does not retain his or her portion of the card. A subsequent counselor may choose not to accept partial work, but this should be rare. A Scout, if he believes he is being treated unfairly, may work with his unit leader to find another counselor. An example for the use of a signed partial would be to take it to camp as proof of prerequisites. Partials have no expiration except the Scout's 18th birthday. Units, districts, or councils shall not establish other expiration dates for partial merit badges.

[7.0.4.8] — Unofficial Worksheets and Learning Aids
Worksheets and other materials that may be of assistance in earning merit badges are available from a variety of places including unofficial sources on the Internet and even troop libraries. Use of these aids is permissible as long as the materials can be correlated with the current requirements that Scouts must fulfill. Completing "worksheets" may suffice where a requirement calls for something in writing, but this would not work for a requirement where the Scout must discuss, tell, show, or demonstrate, etc. Note that Scouts shall not be required to use these learning aids in order to complete a merit badge.

(NOTE: It is not necessary to print this page.)