Digital Technology
Merit Badge Workbook

This workbook can help you but you still need to read the merit badge pamphlet.
This Workbook can help you organize your thoughts as you prepare to meet with your merit badge counselor

Merit Badge Counselors may not require the use of this or any similar workbooks.
You still must satisfy your counselor that you can demonstrate each skill and have learned the information.
You should use the work space provided for each requirement to keep track of which requirements have been completed,
and to make notes for discussing the item with your counselor, not for providing full and complete answers.
If a requirement says that you must take an action using words such as "discuss", "show",
"tell", "explain", "demonstrate", "identify", etc, that is what you must do.
No one may add or subtract from the official requirements found in Scouts BSA Requirements (Pub.# 33216) and/or on Scouting.org.

The requirements were last issued or revised in 2023   •   This workbook was updated in January 2023.

Scout's Name:_____   Unit: _____

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

☐ 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, and pictures are digitized for storage.

Text

Sound

Pictures

☐ 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 the difference between a local area network (LAN) versus a wide area network (WAN)

The difference between a local area network (LAN) versus a wide area network (WAN)

LAN	
WAN	

4. Do the following:
   a. Explain what a program or software application or "app" is and how a computer uses a CPU and memory to execute it.

☐ 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.

5. Do the following:

☐ a. Describe how at least two different ways data can be transferred through the internet.

`1	
2	

☐ 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.

	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 (with your parent of guardian's permission) a report on the internet 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.

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

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

Scouts BSA Cyber Chip Workbook

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No one may add or subtract from the official requirements found in Scouts BSA Requirements (Pub. 33216 – SKU 653801).

The requirements were last issued or revised in <u>2020</u> •   This workbook was updated in <u>June 2020</u>.

Scout's Name:_____   Unit: _____

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

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A. Cyber Chip Requirements for Grades 6-8

☐ 1. Read and sign the Level II Internet Safety Pledge on the BSA Cyber Chip card. (BSA Cyber Chip green card; can be ordered at www.scoutshop.org.)

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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.

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☐ 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" (www.nsteens.org/Videos/FriendOrFake), along with two additional videos of your choosing (www.nsteens.org/Videos/FriendOrFake) **{from the list below}**, to see how friends can help each other to stay safe online.

- **Post to be Private** (youtu.be/mBsoODqfQgA)
- **Split Decisions** (youtu.be/HLUv8DHt_R4)
- **Two Kinds of Stupid** (youtu.be/T6ulH2bWCnY)

	Video Name	Date Watched
☐	Friend or Fake?	
☐		
☐		

☐ 4. As an individual or with your patrol, use the EDGE method 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.

☐ 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 on the BSA Cyber Chip card. (BSA Cyber Chip green card; can be ordered at www.scoutshop.org.)

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.

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☐   Give examples of each.

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☐ 4. Watch three **{of the following}** "Real-Life Story" videos (www.nsteens.org/videos.aspx?Brand=Real-Life-Stories) to learn the impact on teens.

- **Friend or Fake? (**youtu.be/Nb1zAY_cc8o**)**
- **Post to be Private (**youtu.be/mBsoODqfQgA**)**
- **Split Decisions (**youtu.be/HLUv8DHt_R4**)**
- **Two Kinds of Stupid (**youtu.be/T6ulH2bWCnY**)**

	Video Name	Date Watched
☐		
☐		
☐		

☐ 5. As an individual or patrol, use the EDGE method and the Student Project Kit www.missingkids.org/content/dam/netsmartz/downloadable/studentprojectkit/Student_Project_Kit_V1.5.pdf) 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.

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☐   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 go to Netsmartz (www.netsmartz.org) and complete two new resources 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.

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

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Editor's Note: **The text in this form** is additional material which is found on the scouting.org website, that does not appear in the 2020 Scouts BSA Requirements booklet (33216 - SKU 653801).