



# Computers

## 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 34765).

The requirements were last issued or revised in 2010 • This workbook was updated in January 2014.

Scout's Name: \_\_\_\_\_

Unit: \_\_\_\_\_

Counselor's Name: \_\_\_\_\_

Counselor's Phone No.: \_\_\_\_\_

<http://www.USScouts.Org> • <http://www.MeritBadge.Org>

Please submit errors, omissions, comments or suggestions about this **workbook** to: [Workbooks@USScouts.Org](mailto:Workbooks@USScouts.Org)  
 Comments or suggestions for changes to the **requirements** for the **merit badge** should be sent to: [Merit.Badge@Scouting.Org](mailto:Merit.Badge@Scouting.Org)

1. Discuss with your counselor the tips for online safety.


2. Give a short history of the computer.


Explain how the invention of the computer has affected society, science, and technology.

Society:


Science:


Technology:


3. Do the following:

a. Describe four uses of computers outside the home.

1.	
2.	
3.	

4.


b. Describe three ways you and your family could use a personal computer other than for games and entertainment.

1.


2.


3.


4. Explain the following to your counselor:

a. The five major parts of a computer.

Part

Explanation

1.


2.


3.


4.


5.


b. How text, sound, sound, pictures, and video files are stored in a computer's memory

Text:


Sound:


Pictures:


Video files:


c. How file compression works and how compression affects the quality of the file.

How compression works:


How compression affects the quality of the file:


- d. Describe two computer chip-based devices, and describe how they are "smarter" because of the chip and its program.

Device 1:	
Device 2:	

How are they "smarter"?

1.	
2.	

- 5. Do the following:
  - a. Explain what a program or software application is and how it is developed.


b. Name three programming languages, and describe their uses.

	Language	Uses
1.		
2.		
3.		

c. Name four software packages you or your family could use, and explain how you would use them.

	Packages	Uses
1.		
2.		
3.		
4.		

- d. Discuss ways you can help protect a computer from viruses and how to protect the information stored on a computer.

How to protect from viruses:


How to protect the information:


- e. Describe how computers are linked to generate and access the Internet and the World Wide Web.


6. Do THREE of the following:

- a. Using a spreadsheet program, develop a food budget for a patrol weekend campout.
- b. Using a word processor, write a letter to the parents of your troop's Scouts inviting them to a court of honor.
- c. Using a computer graphics program, design and draw a campsite plan for your troop.
- d. Using a computer graphics program, create a flier for an upcoming troop event, incorporating both text and some type of visual such as a photograph or illustration.
- e. 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 Web sites. Share what you found with your counselor, and explain how you used the search engine to find this information.
- f. Using a presentation software program of your choice, develop a report about a topic that has been approved by your counselor. For your presentation, create at least 10 slides.
- g. Using a digital camera, take a picture of a troop activity. Transfer the picture file to a computer and use photographic software to make it small enough to send easily as an e-mail attachment. Then, using a computer connected to the Internet (with your parent's permission), send an e-mail to someone you know. In your message, include the photograph as an attachment. Verify that the person received your e-mail and was able to view the attachment.
- h. Using a database manager, create a troop roster that includes the name, rank, patrol, and telephone number of each Scout. Show your counselor that you can sort the register by each of the following categories: rank, patrol, and alphabetically by name.

7. Do ONE of the following:

- a. Using a database program of your choice, create a troop roster that includes the name, rank, patrol, and telephone number of each Scout.
- Create a form within the database manager to access each Scout's information individually. Show your counselor how the form works.
- b. Using a software package of your choice for computer aided design (CAD), create an engineering-style drawing of a simple object. Include the top, bottom, and at least one side view and the dimensions.
- c. Create a blog and use it as an online journal of your Scouting activities, including group discussions and meetings, campouts, and other events. Your blog should have at least five entries and two photographs or illustrations. You need not post the blog to the Internet, but you will need to share it with your counselor. If you decide to go live with your blog, you must first share it with your parents AND counselor and get their approval.
- d. Create a Web page for your troop, patrol, school, or place of worship. Include at least three articles and two photographs or illustrations. Your Web page should have at least one link to a Web site that would be 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 it with your parents AND counselor and get their approval.
- e. Visit a business or an industrial plant that uses computers. Observe what tasks the computers accomplish, and be prepared to discuss what you have learned.


8. Explain the following to your counselor:

- a. Why copyright laws exist.




- b. Why it is not permissible to accept a free copy of a paid, copyrighted computer game or program from a friend unless the game or program is considered freeware or shareware.


Explain the concepts of freeware and shareware.

Freeware


Shareware


- c. The restrictions and limitations of downloading music from the Internet.


9. Find out about three career opportunities in the computer industry.

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.


**Requirement resources can be found here:**  
[http://www.meritbadge.org/wiki/index.php/Computers#Requirement\\_resources](http://www.meritbadge.org/wiki/index.php/Computers#Requirement_resources)

## Important excerpts from the [Guide To Advancement - 2013](#), No. 33088 (SKU-618673)

### [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, including *Advancement Committee Policies and Procedures*, *Advancement and Recognition Policies and Procedures*, 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.

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 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.

- 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 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.

### [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.