



Computers

Merit Badge Workbook

This workbook can help you organize your notes but you still need to read the merit badge pamphlet (book). No one can add or subtract from the Boy Scout Requirements #33215. Workbooks for all merit badges are at: <http://usscouts.org/mb/wkbks/list.asp>.

Send comments to: craig@craiglincoln.com. Requirements revised: 2006, Workbook updated: January 2008.

Scout's Name: _____ Unit: _____

Counselor's Name: _____ Counselor's Ph #: _____

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

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

In your explanation, give a short history of the computer. _____

3. Do the following:

a. Explain four different uses of computers.

1 _____

2 _____

3 _____

4 _____

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

1 _____

2 _____

3 _____

4. Explain to your counselor the following:

a. The major parts of a computer system

Part

Explanation

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

b. How the types of files used to store text, _____

sound, _____

pictures, _____

and video are stored in a computer's memory _____

5. Do the following:

a. Explain what a program is _____

and how it is developed. _____

b. Give three examples of 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 keep secure information that has been saved on a computer. _____

e. Describe how computers are linked to form the Internet and the World Wide Web. _____

6. Do THREE of the following:

a. Use a database manager to 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. _____

b. Use a spreadsheet program to develop a food budget for a patrol weekend campout. _____

c. Use a word processor to write a letter to the parents of your troop's Scouts inviting them to a court of honor. Use the program's mail merge feature to make a personalized copy of the letter for each family. _____

d. Use a computer graphics program to design and draw a campsite plan for your troop, OR design a flyer for an upcoming troop event. _____

e. Using a software package of your choice, develop a short presentation about a topic that has been approved by your counselor. For your presentation create at least 10 slides. _____

f. Using an Internet search engine, 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. _____

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

7. Do ONE of the following:

- a. 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. _____
- _____
- _____
- 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. Use a general purpose programming language to write a simple program application of your choice, subject to approval by your counselor. _____
- _____
- d. Design a Web page for your troop, patrol, school, or place of worship. You need not post the page to a Web site. However, if you decide to do so, you will first need to get your parent's permission and your counselor's approval, as well as permission from the host site. _____
- _____

8. For each of the following categories, discuss several related terms: input and output devices, _____
- _____

storage media, _____

memory, _____

processors and coprocessors, _____

modems or network cards, _____

networks, _____

World Wide Web and Internet, _____

Wi-Fi.

- a. Why it is not permissible to accept a free copy of a copyrighted computer game or program from a friend _____

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

- c. Why copyright laws exist

10. Pick two career opportunities in the computer field that interest you. Find out what education, training, and experience those positions require. Report what you learn to your counselor.

Opportunity_

Education, training, and experience.

Opportunity_

Education, training, and experience.