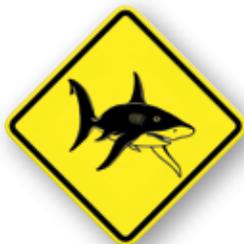
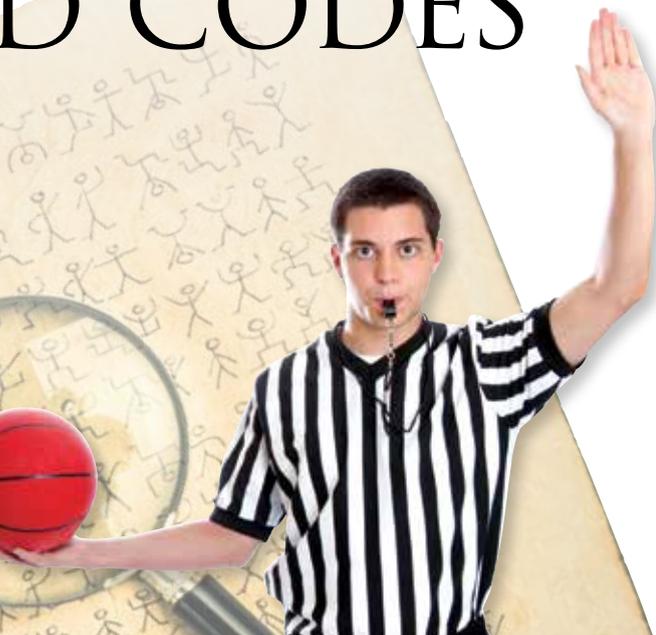


# MERIT BADGE SERIES



# SIGNS, SIGNALS AND CODES



BOY SCOUTS OF AMERICA®

BOY SCOUTS OF AMERICA  
MERIT BADGE SERIES

# SIGNS, SIGNALS, AND CODES



*"Enhancing our youths' competitive edge through merit badges"*



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# Requirements

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.

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To satisfy the braille writing requirement 5b for this merit badge, you do not need to emboss braille dots in thick paper. Rather, you may use a pencil or pen to draw the dots on ordinary paper, copying the characters of the braille alphabet to spell out your message letter by letter.

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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.

# Resources

## Scouting Literature

*Boy Scout Handbook, Fieldbook; Communication, Digital Technology, Disabilities Awareness, Emergency Preparedness, Graphic Arts, Indian Lore, Programming, Radio, Railroading, Search and Rescue, and Wilderness Survival* merit badge pamphlets.

## Websites, Tutorials, and Apps

### American Sign Language

American Sign Language University  
Website: <http://www.lifeprint.com>

dDeaf World  
Website: <http://www.ddeafworld.com>

Handspeak®  
Website: <http://www.handspeak.com>

Learn American Sign Language  
tablet/smartphone app

Signing Savvy  
Website: <http://www.signingsavvy.com>

### Braille

Braille Alphabet  
Website: <http://www.braillealphabet.org>

BrailleBack, tablet/smartphone app

Braille Bug®  
Website: <http://www.braillebug.afb.org>

Braille Flash Cards  
Website: <http://www.printableflashcards.net/preview/Braille>

## Cryptography

Break the Code  
Website: <http://www.cia.gov/kids-page/games/break-the-code>

CryptoClub  
Website: <http://www.cryptoclub.org>

Crypto Museum  
Website: <http://www.cryptomuseum.com>

Journey Into Cryptography  
Website: <http://www.khanacademy.org/computing/computer-science/cryptography>

Secret Language: Cryptography & Secret Codes  
Website: <http://www.exploratorium.edu/ronh/secret/secret.html>

## Morse Code

AE Morse Code Tutor,  
tablet/smartphone app

Learn Morse Code  
Website: <http://www.learnmorsecode.com>

Morse Code Machine  
Website: <http://www.boyslife.org/games/online-games/575/morse-code-machine>

Morse-It, tablet/smartphone app

### **Nautical Flags**

International Code Flags  
or Signaling Flags

Website: <http://www.boatsafe.com/nauticalknowhow/flags.htm>

Nautical Flags and Their Meanings

Website: <http://www.marine waypoints.com/learn/flags/flags.shtml>

Nautical Flags—International Code Flags

Website: <http://www.soundkeepers.com/kids/alphabet>

### **Rescue and Distress Signals**

Basic Survival Strategy

Website: <http://www.cap-es.net/zips/bsssh.PDF>

Boating Distress Signals

Website: <http://boatsafe.com/nauticalknowhow/distress.htm>

Camping Distress Signals

Website: <http://www.camping-field-guide.com/distress-signals.html>

Ground-to-Air Signals

Website: <http://www.cap-es.net/zips/gnd2airsignals.PDF>

### **Semaphore**

Semaphore Flag Signaling

Website: <http://inter.scoutnet.org/semaphore>

Semaphore Flag Signaling System

Website: <http://www.marine waypoints.com/learn/flags/semaphore/semaphore.shtml>

Semaphore *Flag Signalling*  
tablet/smartphone app

### **Trail Signs**

Trail Signs & Blazes

Website: <http://www.inquiry.net/outdoor/skills/seton/blazes.htm>

Trail Signs of Direction

Website: [http://www.inquiry.net/outdoor/skills/beard/signs\\_direction.htm](http://www.inquiry.net/outdoor/skills/beard/signs_direction.htm)

Trail Signs: Traditional

Website: <http://www.inquiry.net/outdoor/skills/b-p/signs.htm>

### **Wigwag and Other Signals**

The Science Notebook

Website: <http://science-notebook.com/gilbert-signal01.html>

Sending WIGWAG Code

Website: <http://www.cranburyscouts.org/WigWagBL.htm>

Signalman Sam's Signaling  
Resource Page

Website: <http://www.cranburyscouts.org/SamsPage.htm>

Smiley Symbols Dictionary

Website: <http://www.planetpals.com/smiley.html>

### **Books and CDs**

American Radio Relay League.

Your Introduction to Morse Code  
(audio CDs). ARRL, 2008.

Araujo, Lynn. *Historical Signals  
and Semaphores*.

U.S. Games Systems, 2006.

Blackwood, Gary. *Mysterious Messages:  
A History of Codes and Ciphers*.  
Dutton, 2009.

- Collins, Harold S., et al. *Braille for the Sighted: Beginning Braille*. Garlic Press, 1998.
- Fletcher, Archibald Lee. *Boy Scouts Signal Sender, or When Wigwag Knowledge Paid*. Big Rock, 2011.
- Janeczko, Paul B. *Top Secret: A Handbook of Codes, Ciphers and Secret Writing*. Candlewick, 2006.
- Johnson, Bud. *Break the Code: Cryptography for Beginners*. Dover, 2013.
- Lunde, Paul. *The Book of Codes: Understanding the World of Hidden Messages*. University of California Press, 2009.
- National Imagery and Mapping Agency (NIMA). *International Code of Signals*. Starpath, 2009.
- Seton, Ernest Thompson. *Sign Talk: A Universal Signal Code*. Nabu Press, 2014.
- Signal Corps. *Manual of Visual Signaling*. United States Army Signal Corps, 2013.
- Sternberg, Martin L.A. *American Sign Language Dictionary*. Harper Perennial, 1998.
- Warner, Penny. *Signing Fun: American Sign Language Vocabulary, Phrases, Games, and Activities*. Gallaudet University Press, 2006.

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