



Fire Safety

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.

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.

Merit Badge Counselors may not require the use of this or any similar workbooks.

No one may add or subtract from the official requirements found in Boy Scout Requirements (Pub. 33216 – SKU 637685).

The requirements were last issued or revised in 2017 • This workbook was updated in January 2017.

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
Comments or suggestions for changes to the **requirements** for the **merit badge** should be sent to: Merit.Badge@Scouting.Org

NOTE The numbering of the requirements in this workbook matches the numbering used in the 2017 edition of *Boy Scout Requirements*. In the 2016 edition of the *Fire Safety* merit badge pamphlet, a few requirements are numbered differently. Requirement 3 is shown as requirement 3a, requirement 12 is shown as requirement 3b, and requirement 13 is shown as requirement 12. Other than the numbering, the requirements are identical.

1. Do the following:

- a. Demonstrate the technique of stop, drop, cover, roll, cover your face, and cool.

Explain how burn injuries can be prevented.

- b. List the most frequent causes of burn injuries.

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c. Explain how to safely discard and store flammable liquids.

2. Explain the chemistry and physics of fire.

Name the parts of the fire tetrahedron.

1)	
2)	
3)	
4)	

Explain why vapors are important to the burning process.

Name the products of combustion.

Give an example of how fire grows and what happens.

3. Name the most frequent causes of fire in the home and give examples of ways they can be prevented. Include a discussion about fires caused by smoking in the home, cooking, candles, fireplaces, and electrical appliances.

4. Explain the role of human behavior in the arson problem in this country.

5. List the actions and common circumstances that cause seasonal and holiday related fires.

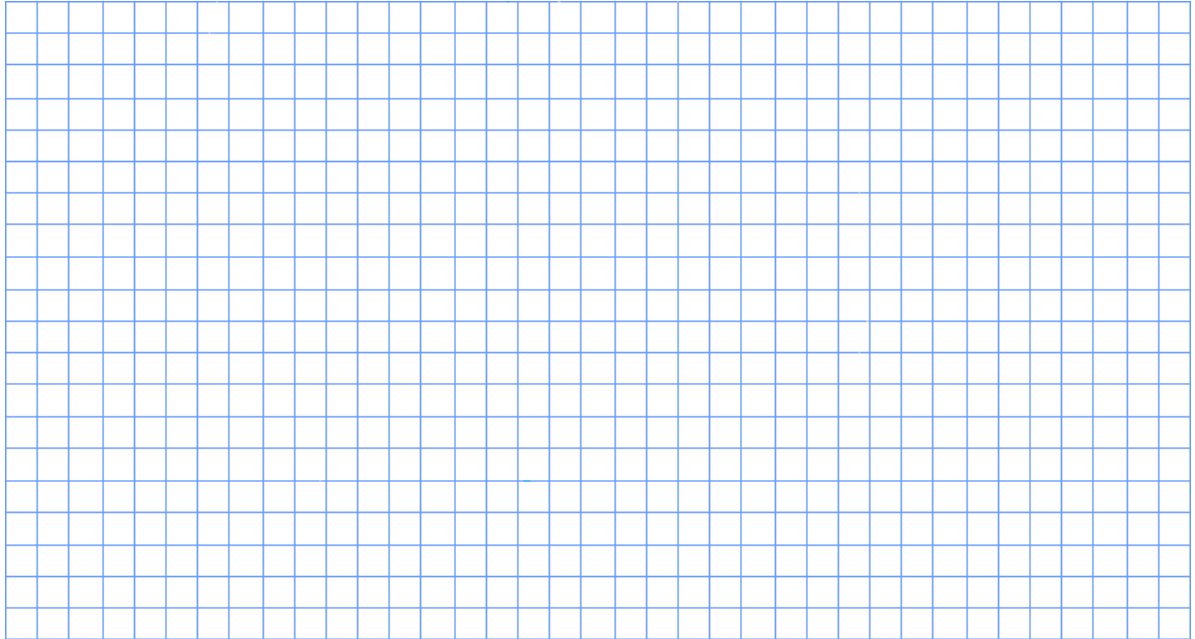
Explain how these fires can be prevented.

- 6. Conduct a home safety survey with the help of an adult.
(See the Sample Home Safety Checklist at the end of this workbook.)

Then do the following:

- a. Draw a home fire escape plan, create a home fire-drill schedule, and conduct a home fire drill.

- Home fire escape plan.



Home fire-drill schedule

- Conduct a home fire drill.
- b. Test a smoke alarm and demonstrate regular maintenance of a smoke alarm.
- c. Explain what to do when you smell gas and when you smell smoke.

Gas:	
Smoke	

d. Explain how you would report a fire alarm.

e. Explain what fire safety equipment can be found in public buildings.

f. Explain who should use fire extinguishers and when these devices can be used.

g. Explain how to extinguish a grease pan fire.

h. Explain what fire safety precautions you should take when you are in a public building.

7. Do the following:

- a. Demonstrate lighting a match safely.
- b. Demonstrate the safe way to start a charcoal fire.
- c. Demonstrate how to safely light a candle.

Discuss with your counselor how to safely use candles.

8. Explain the difference between combustible and noncombustible liquids and between combustible and noncombustible fabrics.

Liquids:

Fabrics:

9. Do the following:

- a. Describe for your counselor the safe way to refuel a liquid fuel engine, such as a lawn mower, weed eater, an outboard motor, farm machine, or an automobile with gas from an approved gas can.
- b. Demonstrate the safety factors, such as proper ventilation, for auxiliary heating devices and the proper way to fuel those devices.

10. Do the following:

- a. Explain the cost of outdoor and wildland fires and how to prevent them.

Cost:

How to prevent them:

- b. Demonstrate setting up and putting out a cooking fire.
- c. Demonstrate using a camp stove and lantern.
- d. Explain how to set up a campsite safe from fire.

- 11. Visit a fire station.

Identify the types of fire trucks.

Find out about the fire prevention activities in your community:

- 12. Determine if smoke detectors are required in all dwellings within your municipality. If so, explain which specific types are required. Tell your counselor what type of smoke detectors your house has or needs.

- 13. Choose a fire safety related career that interests you and describe the level of education required and responsibilities of a person in that position.

Career:

Education:

Responsibilities:

Tell why this position interests you.

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>.

Check safety steps that are being taking in your home. Write N/A if the item is not applicable. Items left blank may present a safety hazard. This list provides some sample safety steps you might take. See your Safety Merit Badge pamphlet and counselor for more information. Ask your parent or guardian before making any changes.

Stairways, Halls, and Outdoor Steps

- Stairways with three or more steps have a strong handrail and slip resistant finish.
- Stairways & halls are kept free from boxes, toys, shoes, brooms, tools, and other tripping hazards.
- Gates at top and bottom of stairs prevent children from falling.
- The head and foot of stairs have no small or loose rugs.
- Stair carpeting or covering is fastened securely.
- Stairways & halls have good lighting, controllable at each end.

Kitchen

- Matches are kept where children cannot get them.
- Emergency numbers are posted next to the telephone, including 911 and poison control.
- Knives & sharp instruments are kept in knife drawers or holder.
- Can openers don't leave sharp edges on cans.
- Disinfectants & cleaning products are out of reach of children.
- Pan handles are turned away from stove edges.
- Spilled grease, water, or bits of food are wiped up immediately.
- Pot holders are located near the stove, within easy reach.
- A dry chemical fire extinguisher is mounted near the stove.

Attic and Basement

- Ladder is strong, solid, and sturdily constructed.
- Stairway is sturdy and well lighted.
- Children keep skates and play gear in a specific place.
- Walls and beams are free from protruding nails.
- Fuses or circuit breakers are the proper size.
- Rubbish & flammable materials are in covered metal cans.
- Wastepaper is kept away from furnace and stairs.

Living Room and Dining Room

- Furniture is placed to allow easy passage in an emergency.
- Before bedtime, furniture placement is checked for orderliness.
- Furniture and woodwork solid, in good repair, and free from splinters and rough spots.
- Fireplace screen fits snugly.
- Rugs are fastened or laid on non-slip pads.
- Rugs are kept from curling at their edges.
- Wax on floors is thoroughly buffed.
- Fire in fireplace is extinguished at bedtime.
- Candles are in stable holders and fully extinguished after use, before bedtime, or before leaving home.

Bathroom

- Tub and shower are equipped with strong handholds.
- Tub floor has non-slip surface.
- Poisons and dangerous chemicals are marked, sealed shut in original containers, and out of reach of children.
- Medicines are out of reach of children in childproof containers.
- No one takes medicine in the dark.

Bedroom

- Smoke alarm has fresh battery or secure electrical connection & is tested regularly.
- Carbon monoxide detector has fresh battery or secure electrical connection and is tested regularly.
- Furniture placement for clear passage between bed and door.
- Light switch or lamp is within easy reach from bed.
- A night-light illuminates bedroom or hall.
- Bureau and dresser drawers are closed when not in use.
- Bar across upper bunk beds helps prevent falls.
- Children are taught not to lean against windows or screens.
- Low sill windows have sturdy screens to prevent children from falling out.
- Smoking in bed is prohibited.
- Gas and electric heating devices are turned off at bedtime.

Nursery

- Bars on cribs are closely spaced – no more than 2 3/8" apart so baby's head cannot slip between them.
- Crib is approved by Consumer Products or similar.
- Crib is free from sharp edges or corners.
- Crib does not have a "drop" side.
- Sleeping garments and covers keep baby warm without danger of smothering.
- Pillows are kept out of bassinet or crib.
- No thin, plastic material is in or near the crib.
- No toys or objects in or near the crib or within reach of any child under 3 are less than 1 inch in diameter and 2 inches long.
- No toys or objects have small parts that can be removed.
- Children are taught not to give marbles, etc. to younger children.
- Toys are sturdy, do not come apart easily, & have no sharp edges or points.
- Nontoxic paint is used on baby furniture and toys.
- All houseplants are nonpoisonous.

Stoves, Furnaces, and Heaters

- Stoves are away from curtains.
- Stoves & furnace pipes and flues are inspected & cleaned annually.
- Gas burners are properly adjusted and free from leaks.
- Gas water and space heaters are equipped with vents or flues.
- Water heater or boiler has a safety valve & is checked yearly.
- Water heater temperature is set below 120 degrees Fahrenheit to reduce the risk of serious burns.
- Flames of gas burners are protected from drafts.
- Insulating shield protects woodwork within 18" of furnace, etc.
- Keep flammable materials away from stoves, furnaces, etc.
- A wrench is stored near the shut-off valve of outside gas line.
- The flue is opened before using the fireplace.

Porch, Yard, and Garage

- Railings and banisters are sound and inspected periodically.
- Steps and walks are kept free from ice and snow.
- Yard/play space are free from holes, stones, glass, etc.
- Tools and dangerous articles are out of reach of children.
- Dangerous products & chemicals are kept in original containers in locked storage areas.
- Wires and low fences are brightly painted or clearly marked.
- Wells, cisterns, and pits are kept securely covered.
- Disposable materials are not burned outside.
- An area is marked off in the garage for bicycles, wagons, etc.
- Lawn mower is equipped with proper safeguards.

Workshop

- Good ventilation exists, especially when sanding or painting.
- Safety goggles or face mask, and hearing protection are worn when working with or around power tools, and an appropriate eyewash is available.
- Baking soda is kept handy to neutralize acid burns.
- All electrical tools are either grounded with three-wire plugs or are double-insulated.
- Work area is well lit & free of clutter, scraps, rags.
- All tools have a place & are in their place.
- Guards are in place on all power tools.
- A push stick is available for use with power saws.
- Tools are unplugged when not in use and before changing blades, servicing or repairing.

Electrical Devices and Fixtures

- Electrical fixtures and appliances are located & used beyond arm's length of the sink, stove, tub, shower, or other grounded metal unless outlet is protected by a ground-fault interrupter.
- Do not touch electrical fixtures or appliances with wet hands.

- Disconnect seldom-used appliances when not in use.
- Household appliances are disconnected before repairs.
- Light bulbs are installed in all lamp sockets.
- All pull-type sockets have an insulating link.
- Frayed or worn electric cords are promptly replaced.
- Long trailing cords are not in evidence.
- Cords are kept out from under rugs, doors, and furniture.
- UA-approved extension cords are the proper size.
- Children are taught never to touch electric sockets or fixtures.
- Fuses are adequate for the load and are not bypassed.
- Circuit breakers are labeled and not overloaded.

General

- Home has smoke and Carbon Monoxide detectors, with at least one smoke detector in each bedroom, near the kitchen, and in the basement & garage.
- Everything has a place and is in its place.
- Stepladders are in good repair and stored out of the way.
- Window screens and storm windows are securely fastened.
- Guns are stored unloaded and in locked cases.
- Guns and ammunition are stored separately.
- Children are permitted to use only blunt-end scissors.
- Housework clothing has no drooping sleeves, sashes, or frills.
- Shoes worn for housework have low heels.
- All shoes are in good repair.
- Kerosene, gasoline, paint thinners, and other volatile materials are stored outside in special, clearly marked metal containers.
- Oil mops, dust rags, painting equipment, and other oily materials are stored outside in open metal containers.
- Everyone turns on a light before entering a dark room.
- Matches are extinguished before they're thrown away.
- Children are never permitted to play with matches.
- Fire extinguishers are readily available and in good working order.

For Emergency

- Know how to get emergency help (911, poison control, etc.).
- Be able to find water, gas, & electric shutoffs. Check annually.
- First aid kit approved by your doctor/American Red Cross.
- Know basic first aid procedures.
- Have a fire escape plan from your home.
- Emergency water supply.
- Handheld flashlights readily available.
- In earthquake-prone areas, make sure that the water heater and bookcases are bolted to the walls.

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. Partial completions 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.