

Plumbing

Merit Badge Workbook



Merit badges are earned by doing: reading the pamphlet, practicing the skills, and showing your counselor what you have learned.
This workbook gives you a place to organize your notes and track your progress along the way.
Merit badge counselors may not require the use of this or any similar workbook.
You still must satisfy your counselor that you can demonstrate each skill and have learned the information.
Use the space under each requirement to note what you have done and what you want to talk about, not to write out full answers.
When a requirement says discuss, show, tell, explain, or demonstrate, that is what you must do.
No one may add to or subtract from the official requirements found on scouting.org (Guide to Advancement 7.0.4.8).
Scouting America last updated this badge's requirements page on September 19, 2025.
Requirements change from time to time. Double-check scouting.org before you start.

Scout's name: _____ Unit: _____ Date started: _____

Counselor's name: _____ Phone no.: _____ Email: _____

Links marked "Scouting America resources" are the ones Scouting America shares on its official badge page.
This workbook is unofficial and not endorsed by Scouting America.

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1. Do the following:

(a) Describe how a properly working plumbing system protects your family's health and safety.

Scouting America resources: How Plumbing Transformed Public Health (video)

How a properly working plumbing system protects my family's health and safety

(b) List five important local health regulations related to plumbing and tell how they protect health and safety.

Five local health regulations related to plumbing

Regulation	How it protects health and safety

(c) Describe the safety precautions you must take when making home plumbing repairs.

Safety precautions for home plumbing repairs

Requirement 1 completed on _____ counselor initials _____

2. Do the following:

(a) Make a drawing and explain how a home hot- and cold-water supply system works. Tell how you would make it safe from freezing.

My drawing of a home hot- and cold-water supply system (draw here or attach)

How it works

How I would make it safe from freezing

(b) Make a drawing and explain the drainage system of the plumbing in a house. Show and explain the use of drains and vents.

My drawing of a house drainage system, with drains and vents (draw here or attach)

How the drainage system works

Drains and vents

Part	What it is used for
drains	
vents	

Requirement 2 completed on _____ counselor initials _____

3. Show how to use five important plumber's tools.

Scouting America resources: Plumbing Tools List for a Better Toolbox (website w/ video)

Five plumber's tools I showed how to use

Tool	What it is used for	Date shown

Requirement 3 completed on _____ counselor initials _____

4. Identify and explain the following terms: washer, retaining nut, plunger (rubber force cup), solder, flux, elbow, tee, nipple, coupling, plug, union, trap, drainpipe, and water meter.

Plumbing terms

Term	What it is and what it does
washer	
retaining nut	
plunger (rubber force cup)	
solder	
flux	
elbow	
tee	
nipple	
coupling	
plug	
union	
trap	
drainpipe	
water meter	

Requirement 4 completed on _____ counselor initials _____

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5. Name the kinds of pipe that are used most often in a plumbing system. Explain why these pipes are used.

Scouting America resources: Four Types of Pipes Explained! (video)

Kinds of pipe used most often

Kind of pipe	Why it is used

Requirement 5 completed on _____ counselor initials _____

6. Do FOUR of the following, each under the supervision of a knowledgeable adult:

Scouting America resources: Types of Plumbing Pipes (website w/ video)

☐ **(a)** Visit the plumbing section of a hardware store or home center and identify:

Store _____ Date _____ Supervising adult _____

(1) PVC pipe and fittings

What I identified _____

(2) CPVC pipe and fittings

What I identified _____

(3) PEX pipe and fittings

What I identified _____

(4) Copper pipe and fittings

What I identified _____

(5) Steel pipe and fittings

What I identified _____

(6) Specialty plumbing tools

What I identified _____

☐ **(b)** Cut, clean (deburr), PVC or CPVC pipe; solvent weld at least three connections to include a coupling, tee, and elbow.

Scouting America resources: How To Cut, Prime & Cement PVC Pipe & Fittings Like A PRO (How To Bond PVC) Solvent Weld PVC (video)

Date _____ Supervising adult _____

☐ Cut PVC or CPVC pipe
☐ Cleaned (deburred) the pipe
☐ Solvent welded a coupling
☐ Solvent welded a tee
☐ Solvent welded an elbow

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☐ **(c)** Cut PEX pipe; make at least one connection using either a quick-connect fitting or a crimp fitting (using specialized tools).

Date _____ Supervising adult _____

Fitting I used (quick-connect or crimp) _____

☐ **(d)** Solder a copper connection using a gas torch.

Scouting America resources: How To Solder Copper Pipes (video)

Date _____ Supervising adult _____

Steps I followed

_____

☐ **(e)** Replace a kitchen or lavatory faucet.

Scouting America resources: How To Replace a Bathroom Faucet (video) · How to Fix a Leaky Faucet (website w/ video)

Date _____ Supervising adult _____ Kitchen or lavatory _____

Steps I followed

_____

☐ **(f)** Remove, clean or replace, and reinstall a sink or lavatory drain trap.

Scouting America resources: How To Replace a Sink Trap (video)

Date _____ Supervising adult _____

- ☐ Removed the trap
- ☐ Cleaned or replaced it
- ☐ Reinstalled it

☐ **(g)** Properly apply pipe thread tape to a pipe or a plumbing connector.

Date _____ Supervising adult _____ Pipe or connector _____

Requirement 6 completed on _____ counselor initials _____

7. Identify three career opportunities that would use skills and knowledge in plumbing. Pick one and research the training, education, certification requirements, experience, and expenses associated with entering the field. Research the prospects for employment, starting salary, advancement opportunities and career goals associated with this career. Discuss what you learned with your counselor and whether you might be interested in this career.

Scouting America resources: Plumbing Jobs Explained: From Odd Jobs to Owning a Small Business (video)
Plumbers, Pipefitters, and Steamfitters (website)

Three careers that use plumbing skills and knowledge

Career	What the work involves

The career I picked

What I found out about this career

Topic	What I learned
training	
education	
certification requirements	
experience	
expenses	
prospects for employment	
starting salary	
advancement opportunities	
career goals	

What I discussed with my counselor, and whether I might be interested in this career

Requirement 7 completed on counselor initials

Counselor sign-off

Your counselor signs your blue card or approves the badge in Scoutbook, and your unit records it. This line is for your own records.

Counselor's signature Date completed

Official Scouting America resources

Scouting America resources: Plumbing merit badge page (requirements and resources) · Plumbing merit badge pamphlet (free PDF)
All merit badges

Made by Cole at ScoutSmarts.com, an Eagle Scout who loves helping Scouts.
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