



Plumbing

Merit Badge Study Guide

• Organize thoughts to prepare • Take notes • Keep track of progress

Merit badge counselors may not require the use of this or any other workbook. Scouts must still demonstrate that have learned the material and can perform each required skill. If a requirement directs you to discuss, show, "tell, explain, demonstrate, identify, or anything similar, the requirement must be completed as written. No one may add to or remove anything from the official requirements listed in Scoutbook or on scouting.org/skills/merit-badges.

The requirements were last revised in 2025 • This workbook was updated in 2025.

Scout's Name: _____ Unit _____ Date Started _____
Counselor's Name: _____ Phone No.: _____ Email: _____

Read the [merit badge pamphlet](#).

View helpful online video resources for each requirement at scouting.org/merit-badges/plumbing.

1. Do the following:

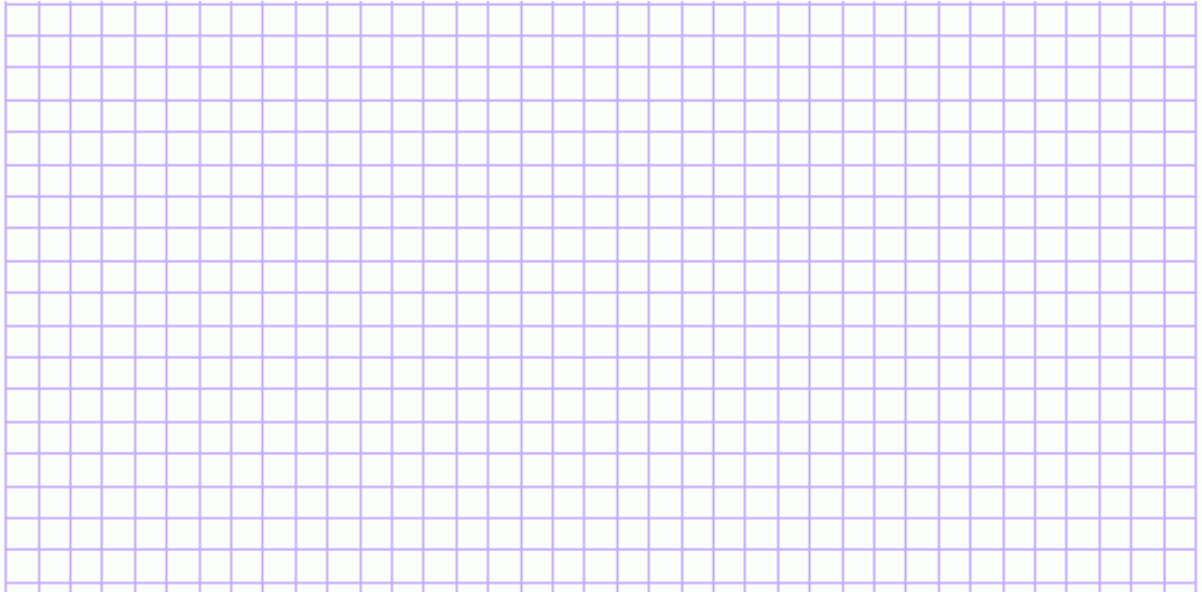
a Describe how a properly working plumbing system protects your family's health and safety.

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

1.	
2.	
3.	

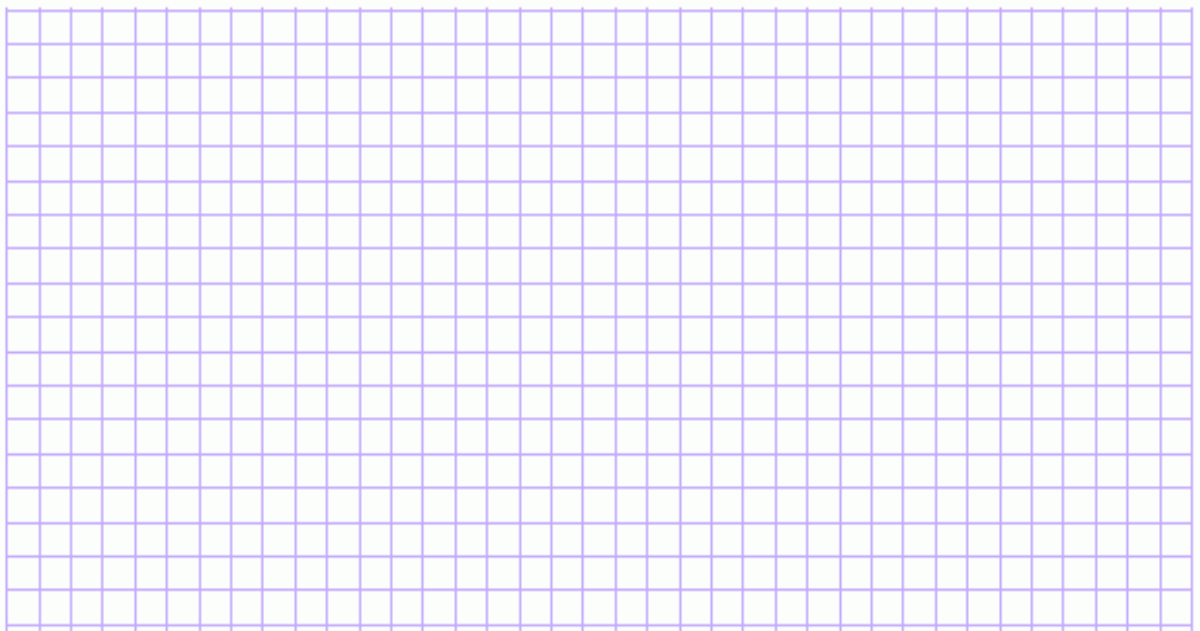
2. Do the following:

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.

b Make a drawing and explain the drainage system of the plumbing in a house.



Retaining nut:

Plunger (rubber force cup):

Solder:

Flux:

Elbow:

Tee:

Nipple:

Coupling:

Plug:

Union:

Trap:

Drainpipe:

Water meter:

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

1.		
2.		
3.		
4.		
5.		

6. **Do FOUR of the following, each under the supervision of a knowledgeable adult:**
- (a) Visit the plumbing section of a hardware store or home center and identify:
 - 1. PVC pipe and fittings
 - 2. CPVC pipe and fittings
 - 3. PEX pipe and fittings
 - 4. Copper pipe and fittings
 - 5. Steel pipe and fittings
 - 6. Specialty plumbing tools.
 - (b) Cut, clean (deburr), PVC or CPVC pipe; solvent weld at least three connections to include a coupling, tee, and elbow.
 - (c) Cut PEX pipe; make at least one connection using either a quick-connect fitting or a crimp fitting (using specialized tools).
 - (d) Solder a copper connection using a gas torch.
 - (e) Replace a kitchen or lavatory faucet.
 - (f) Remove, clean or replace, and reinstall a sink or lavatory drain trap.
 - (g) Properly apply pipe thread tape to a pipe or a plumbing connector.

7. Careers. Do ONE of the following:

- (a) Identify three career opportunities that would use skills and knowledge in plumbing.

1.	
2.	
3.	

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.

Career: _____

Training	
Education	
Certification Requirements	
Experience	
Expenses associated with entering field	
Prospects for employment	
Starting salary	
Advancement opportunities	
Career goals associated with this career	

Discuss what you learned with your counselor and whether you might be interested in this career.

Notes:	