



# Plumbing

## 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 Scouts BSA Requirements (Pub. 33216 – SKU 653801).

The requirements were last issued or revised in 2017 • This workbook was updated in June 2020.

Scout's Name: \_\_\_\_\_ Unit: \_\_\_\_\_

Counselor's Name: \_\_\_\_\_ Phone No.: \_\_\_\_\_ Email: \_\_\_\_\_

<http://www.USScouts.Org> • <http://www.MeritBadge.Org>

Please submit errors, omissions, comments or suggestions about this **workbook** to: [Workbooks@USScouts.Org](mailto:Workbooks@USScouts.Org)

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

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.	

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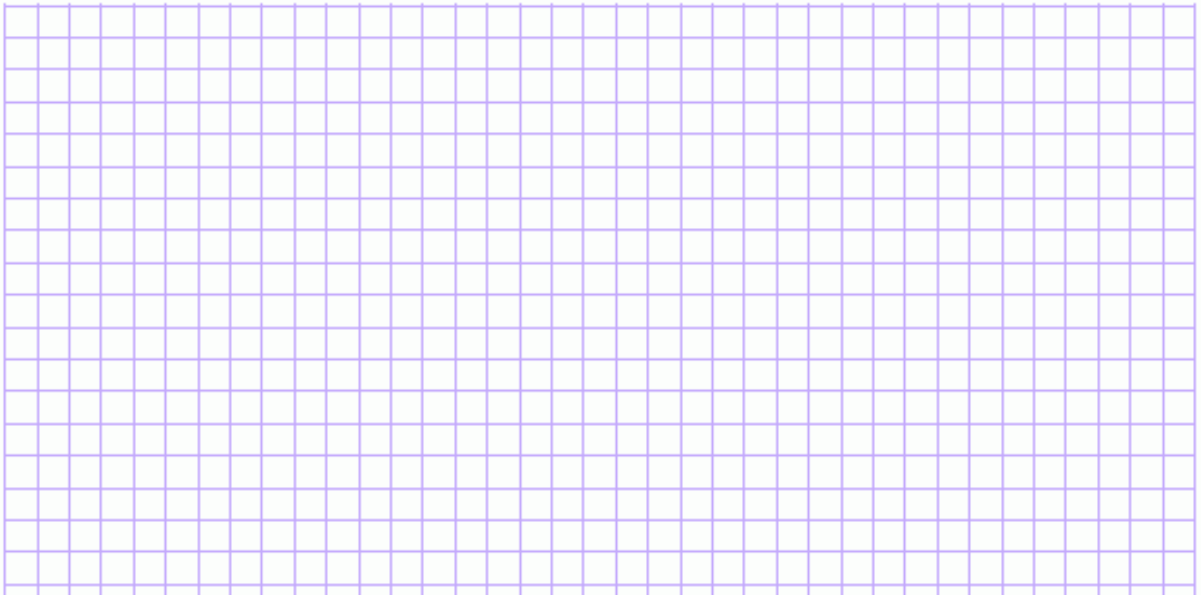
3.	
4.	
5.	

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

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

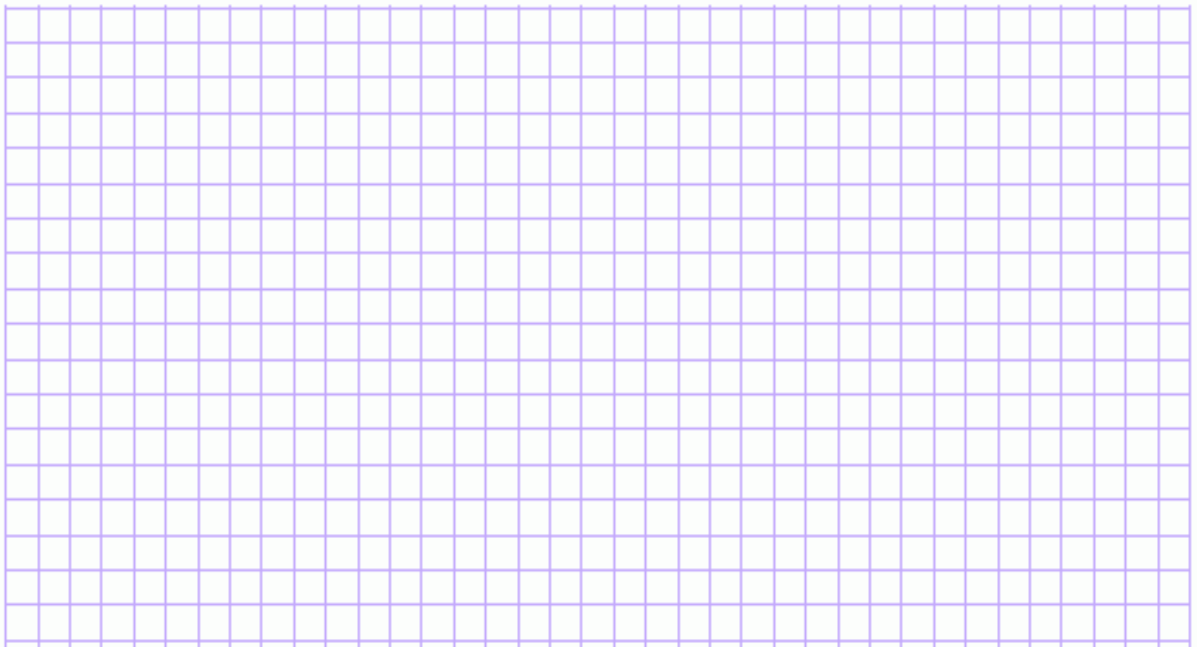
2. Do the following:

- 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.



Explain the drainage system of the plumbing in a house


- ☐ Show and explain the use of drains and vents.


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

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<input type="checkbox"/> 5.	

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

Washer:


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. Cut, thread, and connect two pieces of metal pipe.
- ☐ 7. Under the supervision of a knowledgeable adult, solder three copper tube connections using a gas torch. Include one tee, two straight pieces, and one coupling.
8. Do the following:
- ☐ a. Replace a washer in a faucet.
  - ☐ b. Clean out a sink or lavatory trap.

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>.