



Pioneering

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

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

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.

No one may add or subtract from the official requirements found on Scouting.org.

The requirements were last issued or revised in 2022 • This workbook was updated in February 2024.

Scout's Name: _____ Unit _____ Date Started _____

Counselor's Name: _____ Phone No.: _____ Email: _____

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

1. a. Explain to your counselor the most likely hazards you might encounter while participating in pioneering activities and what you should do to anticipate, help prevent, mitigate, and respond to these hazards.

Hazards:

What you should do :

Anticipate

Prevent

Mitigate

Respond

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- b. Discuss the prevention of, and first aid treatment for, injuries and conditions that could occur while working on pioneering projects, including rope splinters, rope burns, cuts, scratches, insect bites and stings, hypothermia, dehydration, heat exhaustion, heatstroke, sunburn, and falls.

Rope splinters:

Rope burns

Cuts:

Scratches:

Insect bites
and stings:

Hypothermia:

Dehydration:

Heat
Exhaustion:

Heat Stroke:

Sunburn:

Falls:

2. Do the following:

a. Demonstrate the West Country method of whipping a rope.

b. Demonstrate how to tie a rope tackle and the following knots

Clove hitch formed as two half hitches

Butterfly knot

Roundturn with two half hitches, and

Rolling hitch.

c. Demonstrate and explain when to use the following lashings: square, diagonal, round, shear, tripod, and floor

square

diagonal

round

shear

tripod

floor

3. Do the following:

a. Using square and tripod lashings from requirement 2c, build a Tripod Wash Station (or with your counselor's permission, another camp gadget of your own design).

b. Using rolling hitches or roundturns with two half hitches, and round lashings from requirements 2b and 2c, build a 15-foot Scout Stave Flagpole (or with your counselor's permission, another camp gadget of your own design).

c. Using shear, square, and floor lashings, clove hitches on a bight, and rope tackles from requirements 2b and 2c, build a Simple Camp Table (or with your counselor's permission, another camp gadget of your own design).

4. Explain the differences between synthetic ropes and natural-fiber ropes.

Synthetic ropes

Natural-fiber ropes

Discuss which types of rope are suitable for pioneering work and why. Include the following in your discussion: breaking strength, safe working loads, and the care and storage of rope.

Type of rope:

Why suitable:

Breaking strength

Safe working loads

Care & storage

Type of rope:

Why suitable:

Breaking strength

Safe working loads

Care & storage

Type of rope:

Why suitable:

Breaking strength

Safe working loads

Care & storage

- 5. Explain the uses for the back splice, eye splice, and short splice.

Back splice:

Eye splice:

Short splice:

- View a demonstration on forming each splice

- 6. Using a rope-making device or machine, make a rope at least 6 feet long consisting of three strands, each having three yarns.
- Whip the ends.
- 7. Explain the importance of effectively anchoring a pioneering project.

- Describe to your counselor the 3-2-1 anchoring system and the log-and-stake anchoring system.

- 8. Describe the lashings that are used when building a trestle,

- how the poles are positioned.

- and how X braces contribute to the overall structural integrity of a pioneering project.

All pioneering projects must comply with height standards as outlined in the *Guide to Safe Scouting*.

9. Working in a group, (or individually with the help of your counselor) build a full size pioneering structure, using one of the following designs in the merit badge pamphlet.
- Double A-Frame Monkey Bridge
 - Single A-Frame Bridge
 - Single Trestle Bridge
 - Single Lock Bridge
 - 4x4 Square Climbing Tower
 - Four Flag Gateway Tower
 - Double Tripod Chippewa Kitchen
 - Another type of structure approved in advance by your counselor

Carefully plan the project, assembling and organizing all the materials, referring to the points under Safe Pioneering, and complying with the height restrictions in the *Guide to Safe Scouting*

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>.