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.
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 2014 • This workbook was updated in June 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

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1. Do the following:

   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 basic and West Country methods of whipping a rope.

☐ Fuse the ends of a rope.

b. Demonstrate how to tie the following knots

- ☐ Clove hitch
- ☐ Butterfly knot
- ☐ Roundturn with two half hitches
- ☐ Rolling hitch
- ☐ Water knot
- ☐ Carrick bend
- ☐ Sheepshank
- ☐ Sheet bend

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

- ☐ Square lashing
- ☐ Diagonallashing
- ☐ Round lashing
- ☐ Shear lashing
- ☐ Tripod lashing
- ☐ Floor lashing

3. Explain why it is useful to be able to throw a rope, then demonstrate how to coil and throw a 40-foot length of 1/4- or 3/8-inch rope.

☐ Demonstrate how to coil and throw a 40-foot length of 1/4- or 3/8-inch rope

Explain how to improve your throwing distance by adding weight to the end of your rope.

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	

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Why suitable:	
Breaking strength	
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Scout's Name: _____

Type of rope:	
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5. Explain the uses for the back splice, eye splice, and short splice.

Back splice:

Eye splice:

Short splice:

Using 1/4- or 3/8-inch three-stranded rope, demonstrate how to form each splice.

- ☐ Back splice
- ☐ Eye splice
- ☐ Short 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 1-1-1 anchoring system and the log-and-stake anchoring methods.

☐ 8. With the approval of your counselor, demonstrate and use a rope tackle. Be sure the rope tackle is secured properly.

Explain the advantages and limitations of using a rope tackle.

Advantages:

Limitations:

Describe the potential damage that friction can do to a rope..

All pioneering projects constructed for this merit badge must comply with height standards as outlined in the Guide to Safe Scouting.

☐ 9. By yourself, build a trestle using square and diagonal lashings.

Explain why trestles are used when constructing pioneering projects.

10. With the approval of your counselor and using appropriate lashings and pioneering techniques, build and use one full-size pioneering project from either group A or group B. Your project must comply with the requirements of the Guide to Safe Scouting. (Requirement 10 may be done at summer camp, at district or council events, or on a troop camp outing.)

    Group A: Tower OR bridge

    Anchor your project as appropriate and necessary. Explain how your anchoring system works.

    Group A projects may be worked on in a group and with others.

    Group B: Camp chair OR camp table

    Group B projects must be worked on individually.

Project selected:

Counselor's approval: _____ Date: _____

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.