Merit Badge: PIONEERING **Date Recommendations submitted: JULY, 2014**

Current Requirement or wording (include req. number, page number and paragraph)	Suggested Revisions (exact wording)	Comments as to why the recommendation and how it will affect the Merit Badge
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. b. Discuss the prevention of, and first aid treatment for, injuries and conditions that could occur while working on pioneering projects, including cuts, scratches, insect bites and stings, rope burns, hypothermia, dehydration, heat exhaustion, heatstroke, sunburn, and falls.	1. In order to avoid accidents and injuries, become familiar with the principles of Safe Pioneering.	Those of us directly involved with Scout Pioneering find it curious that pioneering is considered hazardous. When carried out carefully and correctly, it's far less dangerous than many other contemporary Scouting Activities. In the '93 / '98 edition of the pamphlet, Pioneering Legend, Adolph Peschke includes 15 safety points. (The current edition lists 9 interpretive guidelines.) Through several years of observing Scout behavior during pioneering activities, I have included 7 additional safety measures which, in conjunction with Adolph's well-worded 15, are presented in the "Safe Pioneering" section.
2. Do the following: a. Successfully complete Tenderfoot requirements 4a and 4b and First Class requirements 7a, 7b, and 8a. (These are the rope-related requirements.) b. Tie the following: square knot, bowline, sheepshank, sheet bend, and roundturn with two half hitches. c. Demonstrate the following: tripod and round lashings.	3. Master the following knots and explain how they relate to Pioneering: a) Half Hitches and Clove Hitch b) Butterfly Knot, c) Rolling Hitch d) Roundturn With Two Half Hitches, e) Water Knot f) Carrick Bend g) Draw Hitch 4. Learn when to use the following lashings, and become proficient in tying them: a) Square b) Diagonal c) Round d) Shear e) Tripod f) Floor	One would hope that Scouts taking Pioneering Merit Badge are at least okay with tying the basic knots required for Tenderfoot and First Class. However, many of these knots are not (or should not) be used in Pioneering, namely the stand alone Double Half Hitch, Taut -Line Hitch (both basic to setting up campsites), and Sheepshank. The pioneering knots I've included all have specific and understandable uses when DOING pioneering. Presented in conjunction with their applications, they come to life and can be learned within their proper context. The same applies to the listed lashings. When presented in context and especially when USED to build pioneering structures, they become relevant!

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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. Explain how to improve your throwing distance by adding weight to the end of your rope.	omit	Nice to know, but irrelevant to the basic and practical aspects pertaining to Scout Pioneering in the BSA, especially as they apply to the present height restrictions.
4. Explain the differences between synthetic ropes and 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. 5. Explain the uses for the back splice, eye splice, and short splice. Using 1/4- or 3/8-inch three-stranded rope, demonstrate how to form 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.	2. Become acquainted with: a) different types of ropes and cords along with their advantages and disadvantages in relation to Pioneering. 5. Become acquainted with: a) how to make rope b) how to tie a Back Splice, Eye Splice, and Short Splice c) how to whip rope with either a West Country or Sailmaker's Whipping	All interesting stuff and under certain circumstances, useful. However, Pioneering as it pertains to putting skills into action to build structures is not about history and how various techniques were utilized in the past. It's about the fun inherent in applying the principles of Scout Engineering—working cooperatively together to plan, prepare and construct projects of all different sizes, to experience success and enjoy the results, and to have fun with and use what was built. Under normal circumstances, (like at summer camp) there's only so much time to complete the merit badge. It can be very time consuming when each Scout must individually make rope and learn each splice. Hence, becoming acquainted with the information and skills will suffice quite nicely and affords a greater degree of attention and time to actually experiencing what's directly relevant and fun—building things! This naturally contributes to coming away from the class with a whole lot more wherewithal to actually use and share with others the real pioneering skills that are gained.

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7. Build a scale model of a signal tower or a monkey bridge. Correctly anchor the model using either the 1-1-1 anchoring system or the log and stake anchoring method. Describe the design of your project and explain how the anchoring system works.	7. Learn how to construct and how and when to use anchors, employing different configurations of pioneering stakes.	Building a model can be revealing when planning a new design, but is a far cry from actually constructing real structures. This is not model-making or arts and crafts, and painstaking fine motor skills shouldn't be a part of the picture. There's just way too many real things to really build. On the other hand, Anchoring Pioneering Projects repeatedly comes into play when building an array of structures and should be given a much more thorough and comprehensive treatment.
8. Demonstrate the use of rope tackle to lift a weight of 25 pounds and pulling a log at least 6 inches in diameter and 6 feet long with the tackle. Use the tackle to put tension on a line. Explain the advantages and limitations of using a rope tackle. In your explanation, describe the potential damage that friction can do to a rope.	6. Demonstrate how to make and use a Rope Tackle to tighten and secure a load bearing line.	The rope tackle is frequently employed in pioneering relating to anchoring larger structures that are not self-standing. From a practical standpoint, merely demonstrating a mechanical advantage doesn't cut it. Using it in conjunction with a monkey bridge or guy lines does.

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9. By yourself, build an A-trestle OR X-trestle OR H-trestle using square and diagonal lashings. Explain the application of the trestle you build. Demonstrate how to tie two spars together using a shear lashing.	8. With one other person do each of the following: (a) build and raise a Simple Flagpole comprised of four Scout Staves (b) build a Simple Camp Table (c) build two interlocking H-Trestles) 9. By yourself: build a Tripod Hand Wash Station.	First of all, what's referred to as an H-Frame trestle IS a trestle. It's a basic component of many large projects and is configured in such a way that the spars making up the X-brace need to be sprung together with a Diagonal Lashing. (What's referred to as A-trestle and X-Trestle don't use a Diagonal Lashing.) Together, the small projects in requirements 8 and 9 all employ practical pioneering skills demonstrating and featuring all the required lashings and knots in relevant contexts. They all yield genuinely useful camp gadgets that can be built again and again in a variety of Scouting and camping applications (except for 8(c) which is used in larger projects). The designs for each of these small projects are in the pamphlet.
10. With a group of Scouts, OR on your own, select a pioneering project and get your counselor's approval before you begin building. Your project must not result in anyone reaching a height of greater than 6 feet off the ground. With your counselor's guidance, create a rough sketch of the project. Make a list of the ropes and spars needed, then build the project. (Note: This requirement may be done at summer camp, at district or council events, or on a troop camp outing.)	10. (a) Study what questions to ask before building a pioneering project. (b) Select one of the projects included in this pamphlet, or a project you plan that does not feature a climbing height greater than six feet off the ground, and with the approval of your counselor build it as a joint venture with other Scouts.	Now is the time to actually build something larger than a small camp gadget. The projects listed in the pamphlet are all tried and true "boy-sized" structures, and include designs, illustrations, and guidelines.