



Outdoor Fun That Is Timeless!

Like always, the majority of today's Scouts love the kind of woody activities that provide outdoor fun that's involving and challenging. This kind of fun is timeless! Building a good pioneering project requires rope, wood, good sense, and skill. When successfully completed, there's a happy feeling of accomplishment. As Baden-Powell said, "Pioneering is practical and character building: the two essential ingredients of any program material for Scouts."

Pioneering is all about using basic and advanced Scout skills to get things done, to make life in the outdoors easier, and to have just plain old-fashioned good times.

Objectives

This month's activities should:

- Teach basic knot and lashing skills.
- Let Scouts put those skills to use.
- Introduce principles of engineering as Scouts build pioneering projects.
- Offer opportunities to practice planning, problem solving, and teamwork.
- Build self-confidence.

RELATED ADVANCEMENT AND AWARDS

- Scout requirements 4a and 4b
- Tenderfoot requirements 1b, 3a, 3b, and 3c
- Second Class requirements 1a, 1b, and 1c
- First Class requirements 3a, 3b, 3c, and 3d
- Climbing and Pioneering merit badges
- Totin' Chip and Paul Bunyan Woodsman
- Ranger: Outdoor Living History elective



Leadership Planning

As a leadership team, you may want to discuss the following items during your planning meetings when choosing pioneering as your program feature.

1. What will our main event be?
2. Where will we do our main event?
3. Do we have enough rope to teach knot tying?
4. Do we have access to pioneering poles?
5. Do we need to transport pioneering poles and other equipment to the site of our main event? If so, how will we do that?
6. How proficient are our Scouts and leaders in pioneering skills?
7. How can we involve parents?
8. What parts of the Pioneering merit badge can we focus on?
9. How can we use pioneering activities to promote team building?
10. To meet our needs, what should we change in the sample meeting plans?

PARENTS CAN HELP WITH THE PIONEERING PROGRAM FEATURE BY:

1. Sharing their expertise
2. Providing transportation to and from the main event for Scouts and equipment
3. Supplying pioneering materials and equipment (poles, stakes, ropes, mallets, etc.)
4. Providing storage for pioneering materials
5. Maintaining current Youth Protection certification, which is required of all adults providing transportation for or participating in outings

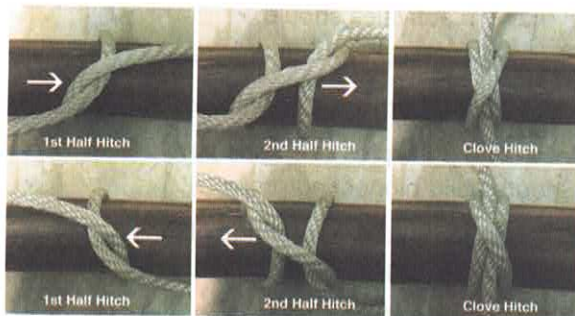


Projects that exceed the 6-foot height limitation can be done in a Scout camp setting as long as each project has the proper safety features and fall protection, such as belay lines. Consult the *Guide to Safe Scouting*. All pioneering projects are temporary in nature. Towers, bridges, and other structures that have been lashed together must be dismantled when they are no longer being used. This is both a matter of safety and a part of the BSA's outdoor ethics policies.

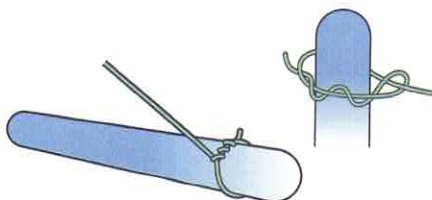
PIONEERING PRINCIPLES

To build pioneering projects, you need to master a few basic skills.

Clove hitch: used to begin and end most lashings. In pioneering, the clove hitch is applied by forming two half-hitches and then bringing them together. See www.programresources.org/half-hitches-and-lashings/ for a how-to video.



Timber hitch: used to begin the diagonal lashing





What Is Pioneering?

Pioneering is the knowledge and skill of using simple materials to build structures that are used in a wide range of Scouting activities. These skills are sometimes referred to as “backwoods engineering.”

Down through the ages, people have used ropes, spars, and simple hardware to build bridges, towers, and even their own shelters. In the early development of our country, pioneering methods were used in mining and transportation, to clear the wilderness, and to build roads and bridges. So it is understandable that the term “backwoods engineering” was applied.

The same skills can be used by Scouts to build pioneering projects ranging in complexity from a simple camp gadget to a sturdy bridge.

Whatever the project, the same applied principles of physics, geometry, and math are used. But keep in mind that all the information in this program feature is eventually used for a practical, hands-on application—that is, to build something.

Pioneering is a good foundation for many Scouting activities. You must learn and then put into practice such disciplines as planning ahead and teamwork. You can also put to use the basic skills learned in rank advancement, such as knot tying and lashing. But most of all, pioneering provides a practical way to experience the joy of accomplishment when you’ve built something that is useful for yourself or others.

Ropes and Spars

See www.programresources.org/ropes-and-spars/ to view videos about ropes and spars.

Pioneering Skill How-to Videos

See www.programresources.org/pioneering-skills/ to view the following videos about pioneering skills:

- Rope Tackle (Trucker’s Hitch)
- Square Lashing
- Round Lashing
- Tripod Lashing

- Floor Lashing
- Shear Lashing
- Roundturn with Two Half Hitches
- Diagonal Lashing
- Butterfly Knot
- Clove Hitch/Half Hitches
- Anchoring Pioneering Projects

PIONEERING SAFETY

In all Scouting activities, safety must come first. Through the challenges, fun, and rewards that go hand in hand with pioneering, there can be no substitute for prudent behavior and common sense. As you begin your pioneering activities, safety must be your first consideration. You and your group should keep the following safety points in mind.

Pioneering Safety Points

1. Before and after each use, check all equipment, ropes, poles, tools, and hardware to ensure they are in good working condition.
2. All equipment should be treated with respect and used appropriately for its intended purpose.
3. Appoint a safety officer who, along with the rest of the group, should constantly check the work site to keep it clean of debris. Equipment should be kept in an organized fashion before, during, and after its use.
4. During the construction of a project, only one person should give instructions and signals.
5. There should always be plenty of room between the person carrying spars and people around them.
6. Do not work during rainy or wet conditions. Rope and spars become slippery, and your footing can become unsteady. Knots can slip when wet and become unsafe.
7. Wear clothing to fit the season and wear gloves when necessary to protect your hands. Work smart and do not lift more than you can handle.



8. Spars resting on the ground are not for standing upon. They can unexpectedly roll, causing injuries.
9. When lifting a spar to facilitate the frapping of a tripod or shear lashing, care should always be taken to ensure the person working the rope doesn't injure their fingers.
10. Take regular breaks to discuss the work in progress and ensure that everyone understands what is required of them.
11. Use extra care when using heavy mallets to pound in pioneering stakes.
12. For added safety, heel in the legs of a structure from 4 to 6 inches.
13. If the design calls for a certain size and type of rope or spar, do not substitute something of lesser strength.
14. Before allowing general use, run a complete test to see that everything is working correctly.
15. Keep checking all anchors on the pioneering project as strain is applied during use.
16. The number of people using a platform should be strictly limited to the maximum number established beforehand and announced by the safety officer.
17. There should be only one person on a monkey bridge at a time.
18. Jumping or playing around while on a structure is unacceptable. Scouts should only climb on board their project after all lashings are tight and the structure has been completely inspected.
19. While crossing a monkey bridge, people shouldn't bounce or purposely swing or sway on the ropes, nor should anyone race to see how quickly they can get across.
20. Those waiting their turn to cross a monkey bridge should stay off the ropes between the anchors and the bridge framework.
21. Everyone should stay completely off a monkey bridge whenever the foot and hand ropes are being tightened or the spanner ropes are being adjusted.
22. When the day's work is complete, untie all knots, coil all ropes, check all hardware, and store everything in its proper place.





PIONEERING GAMES

Catch the Snapper

Equipment: For each patrol, four Scout staves, six 6-foot lashing ropes, one 3-foot cord, one fishing sinker, and a mousetrap or rattrap

How to play: Form a “river” by marking two parallel lines 15 feet apart. The patrols line up on one “riverbank.” On the opposite bank is a cocked mousetrap or rattrap. Patrol members use all their materials to build a long fishing pole, which they use to catch the “snapper.”

Scoring: The first patrol to lift the mousetrap or rattrap up by catching it on their fishing sinker wins.

Ladder Building

Equipment: For each patrol, two 8-foot-by-4-inch spars, four 3- to 4-foot-by-2-inch “rungs,” eight 15-foot lashing ropes

How to play: Each patrol will lash together a ladder with four rungs, spacing the rungs from the bottom, about 1 foot apart, using eight square lashings. When sturdy, the whole patrol will stand the ladder up. While one patrol member at a time takes a tum climbing to the top rung, the rest of the patrol carefully holds their ladder steady with both hands.

Scoring: Each patrol that successfully tests their ladder wins.



A library of lashing skill challenges, with revealing video illustrations, is available at www.programresources.org.

Everyone on the Tripod

Equipment: For each patrol, three 8-foot-by-4-inch spars, three sturdy 6-foot-by-3-inch spars, six 15-foot lashing ropes, one 20-foot lashing rope

How to play: On signal, patrol members lash the three 8-foot spars into a tripod using the 20-foot rope. When finished, they set up the tripod and, using six square lashings, lash a 6-foot spar between each of the legs. When all lashings are completed and the tripod is strong and secure, all the patrol members stand on the 6-foot spars, making sure their weight is evenly distributed.

Scoring: The first patrol with all its members off the ground wins.

Lift Seat Procession

Equipment: For each patrol, two 15-foot lashing ropes, two 6-foot-by-3-inch spars, four to six 3-foot-by-2-inch floor spars

How to play: Scouts will construct a lift seat by lashing the floor spars to the 6-foot platform supports, using two floor lashings. When completed, four Scouts carry one Scout, seated and holding on, to a turning line and back. The process is repeated for a designated amount of times, carrying a different Scout each time.

Note: This is not a race.

Scoring: Points are awarded in accordance with how efficiently the patrols use their lift seats to carry their members.





E.D.G.E. Ideas

Explain how it is done—Tell them.

Demonstrate the steps—Show them.

Guide learners as they practice—Watch them do it.

Enable them to succeed on their own—Have them practice/teach it.

EXPLAIN

- Show pictures and videos of pioneering projects.
- Explain the steps in building pioneering projects.
- Discuss project safety requirements.
- Explain how to do pioneering projects while following outdoor ethics principles.
- Teach the mnemonic device “Wrap thrice, frap twice.”

DEMONSTRATE

- Show how to apply underhand loops over an open pole to form half-hitches.
- Demonstrate how to finish a lashing with a clove hitch and snug it up tight against the wraps by forming two half-hitches.
- Demonstrate how to effectively whip a rope using the half knot whipping.

GUIDE

- Work one-on-one with Scouts as they learn knots and lashings. (Stand beside them rather than facing them.)
- Have Scouts build simple pioneering projects while you watch.
- Give feedback as Scouts tie knots and make lashings.
- After Scouts complete a pioneering project, encourage them to evaluate their own work. Are the lashings tight? Is the project sufficiently anchored? How much does it look like the model?

ENABLE

- Distribute diagrams or models of pioneering projects and have Scouts replicate them.
- Challenge Scouts to invent their own projects.
- Pair learners with new Scouts so that they can practice the EDGE method to teach the skills they’ve just learned.
- Provide activities that require Scouts to put the skills they’ve learned into action.

MAIN EVENT SUMMARIES

● ESSENTIAL	■ CHALLENGING	◆ ADVANCED
Day Activity	Day Activity	Weekend Activity
Camp kitchen gadgets—Select an array of camp kitchen gadgets to build, spend the morning setting up an awesome camp kitchen, and then cook up an impressive feast.	Chippewa kitchen—Build a double tripod Chippewa kitchen and cook foil packets or Dutch oven cobbler for distribution at a public gathering.	“Scout Engineering” weekend—On an overnight camping trip, each patrol constructs a camp table and hand-washing station for their patrol site, and participates in a selected troopwide pioneering project.



PIONEERING

Meeting Plan: Round Lashing



Week 1 Date _____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	As Scouts arrive, play the video from the 2017 jamboree pioneering area (https://youtu.be/AtVkpjMAu_I).		
Opening Ceremony 10 minutes	Flag presentation Oath and Law Uniform inspection		7 p.m.
Group Instruction 10 minutes	View the videos "How to Tie Half-Hitches to Finish Many Lashings" and "Round Lashing" at www.programresources.org .		7:10 p.m.
Skills Instruction 45 minutes	<ul style="list-style-type: none"> Learn to tie a series of half-hitches, proceeding from the right and the left. Learn to join two Scout staves with two round lashings. 		7:20 p.m.
	Review the above skills.		
	Build a flagpole outdoors using four Scout staves supported by three guylines.		
Breakout Groups 10 minutes	Patrols review printed copies of 22 Pioneering Safety Points (available at www.scoutpioneering.com).		8:05 p.m.
Game 10 minutes	Play Catch the Snapper (described earlier).		8:15 p.m.
Closing 5 minutes	Announcements Leader's minute Closing		8:25 p.m.
Total 90 minutes of meeting			
After the Meeting 15 minutes	Leadership team reviews plans for the next meeting and for the main event.		

*All times are suggested.






PIONEERING

Meeting Plan: Square Lashing



Week 2 Date _____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	As Scouts arrive, play Rope Tackle Tug of War (see www.programresources.org).		
Opening Ceremony 10 minutes	Flag presentation Oath and Law Uniform inspection		7 p.m.
Group Instruction 10 minutes	View the "Square Lashing (Mark II)" video at www.programresources.org .		7:10 p.m.
Skills Instruction 40 minutes	 Using a 6-foot lashing rope, join two Scout staves with a tight square lashing.		7:20 p.m.
	 Using a 15-foot, 1/4-inch manila lashing rope, join two 3-inch diameter spars with a tight square lashing.		
	 With a partner, join two 3-inch diameter spars with a square lashing, passing the lashing rope back and forth to attain the maximum degree of tightness.		
Breakout Groups 15 minutes	Patrols select the project(s) they will build during the main event. (Ideas for camp gadgets and larger projects can be found at www.scoutpioneering.com .)		8 p.m.
Game 10 minutes	Play Ladder Building (described earlier).		8:15 p.m.
Closing 5 minutes	Announcements Leader's minute Closing		8:25 p.m.
Total 90 minutes of meeting			
After the Meeting 15 minutes	Leadership team reviews plans for the next meeting and for the main event.		

*All times are suggested.






PIONEERING

Meeting Plan: Tripod Lashing



Week 3 Date _____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	Hitching Challenge—Scouts apply underhand loops to vertical hitching posts, racing to see who's the fastest. (See www.programresources.org .)		
Opening Ceremony 10 minutes	Flag presentation Oath and Law Uniform inspection		7 p.m.
Group Instruction 5 minutes	View the "Tripod Lashing (Plain Turns)" video at www.programresources.org .		7:10 p.m.
Skills Instruction 45 minutes	 Using a 10-foot lashing rope, learn to lash together three Scout staves with a tripod lashing, properly spreading the legs and standing it up.		7:15 p.m.
	 Using three additional Scout staves or shorter poles, join each leg of a tripod with another, using six 6-foot lashing ropes and tight square lashings.		
	 Using the prescribed materials and approach, build a hand-washing station. (Refer to the design at www.scoutpioneering.com .)		
Breakout Groups 15 minutes	Patrols make a complete list of the materials they will need for the main event.		8 p.m.
Game 10 minutes	Play Everyone on the Tripod (described earlier).		8:15 p.m.
Closing 5 minutes	Announcements Leader's minute Closing		8:25 p.m.
Total 90 minutes of meeting			
After the Meeting 15 minutes	Leadership team reviews plans for the next meeting and for the main event.		

*All times are suggested.






PIONEERING

Meeting Plan: Floor Lashing



Week 4 Date _____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	Erect a 15-foot Scout stave flagpole or a self-standing flagpole (see www.programresources.org).		
Opening Ceremony 10 minutes	Flag presentation using the flagpole Scouts have just erected Oath and Law Uniform inspection		7 p.m.
Group Instruction 15 minutes	View the "Floor Lashing (Double)" video at www.programresources.org .		7:10 p.m.
Skills Instruction 35 minutes	 Learn how to tie a floor lashing, and practice by using binder twine to lash dowels (as floor spars) onto Scout staves (as platform supports).		7:25 p.m.
	 With two floor lashings, lash Scout staves or other poles to two supporting poles, as if you're making a table top.		
	 Using the design for a simple camp table as a point of reference, lash together a table (see www.scoutpioneering.com).		
Breakout Groups 15 minutes	<ul style="list-style-type: none"> • Prepare the menu for the main event. • Prepare a patrol duty roster for the main event. 		8 p.m.
Game 10 minutes	Play Lift Seat Processional (described earlier).		8:15 p.m.
Closing 5 minutes	Announcements Leader's minute Closing		8:25 p.m.
Total 90 minutes of meeting			
After the Meeting 5 minutes	Leadership team reviews plans for the next meeting and for the main event.		

*All times are suggested.



PIONEERING

Main Event: Camp Kitchen Gadgets



Date _____

Logistics

Location: _____

Departure time: _____

Return time: _____

Duration of activity: 4 hours

Budget: Completed _____ Approved _____

Camping: Duty roster _____ Menu _____

Transportation: Group _____ Self _____

Essential (Tier I)

Select an array of camp kitchen gadgets to build, spend the morning setting up an awesome camp kitchen, and then cook up an impressive feast.

Equipment List

- Plans for each project listing procedures and materials
- Enough Scout staves and small poles to build the selected camp gadgets as specified in the plans
- Enough binder twine and/or the required lengths of lashing rope as specified in the plans
- Cooking supplies and lunch recipes and ingredients
- Water
- Scout Basic Essentials (Review the list and take what you need.)

Activity

- Find and reserve a location that accommodates your cookout and building plans.
- Set up the patrol kitchen areas appropriate for each patrol's needs.
- Lay out the materials for the selected gadgets and commence building the projects.
- Cook the feast.
- Put the camp gadgets to good use.
- Disassemble and return everything to the same (or better) condition.

Safety

- Cellphones are a good idea as appropriate, and have a first-aid kit handy. Use the buddy system. Be careful with stoves and cooking fires.
- Two-deep adult leadership is required for all activities.

Notes



PIONEERING

Main Event: Chippewa Kitchen



Date _____

Logistics

Location: _____

Departure time: _____

Return time: _____

Duration of activity: 4 hours

Budget: Completed _____ Approved _____

Camping: Duty roster _____ Menu _____

Transportation: Group _____ Self _____

Challenging (Tier II)

Build a double tripod Chippewa kitchen and cook foil packets or Dutch oven cobbler for distribution at a public gathering.

Equipment List

- Plans for the project detailing procedures and required materials
- Enough of the specified size spars and cordage to build the project
- Burlap or canvas covering for the cooking platform and access to the appropriate amount of mineral soil
- All necessary ingredients, and cooking and serving supplies

Activity

- Secure permission and permits to distribute food at the appropriate gathering.
- Find and reserve a location with adequate space for the project.
- Set out the supplies and equipment.
- Build the Chippewa Kitchen.
- Cook the food, eat, and distribute.
- Disassemble and return everything to the same (or better) condition.

Safety

- Cellphones are a good idea as appropriate, and have a first-aid kit handy. Use the buddy system. Practice all applicable Pioneering Safety Points.
- Two-deep adult leadership is required for all activities.

Notes



PIONEERING

Main Event: "Scout Engineering" Weekend



Date _____

Logistics

Location: _____

Departure time: _____

Return time: _____

Duration of activity: Weekend

Budget: Completed _____ Approved _____

Camping: Duty roster _____ Menu _____

Transportation: Group _____ Self _____

◆ Advanced (Tier III)

On an overnight camping trip, each patrol constructs a camp table and hand-washing station for their patrol site, and participates in a selected troopwide pioneering project.

Equipment List

- Plans for the project detailing procedures and required materials
- Enough of the specified size poles, spars, cordage, and other required materials to build the projects
- Camping gear (individual and group)

Activity

- Find and reserve a location appropriate for the patrol sites and project.
- Set up patrol sites and lay out the materials for patrol camp gadgets.
- Begin construction of table and wash station.
- Assign crews for subassemblies, lay out the materials, and appoint a safety officer.
- Build the selected project.
- Make use of the project as intended.
- Break down all projects and properly store all materials.

Safety

- Cellphones are a good idea as appropriate, and have a first-aid kit handy. Use the buddy system. Practice all applicable Pioneering Safety Points.
- Two-deep adult leadership is required for all activities.

Notes



RESOURCES AND REFERENCES

Books

Climbing and Pioneering merit badge pamphlets

Fieldbook

Knots and How to Tie Them

Scouts BSA Handbook for Boys

Scouts BSA Handbook for Girls

Websites

Pioneering Made Easy

Website: www.pioneeringmadeeasy.co.uk

PioneeringProjects.org

Website: www.pioneeringprojects.org

Scout Pioneering

Website: www.scoutpioneering.com

Troop Program Resources

Website: www.programresources.org

Related Program Features

Climbing and Rappelling, Engineering, COPE

Photo and Illustration Credits

Pages 11-1 (all, BSA file), 11-2 (*clove hitch*, Larry Green Photography; *timber hitch illustration*, BSA/John McDearmon), 11-4 (*dishwashing station*, Larry Green Photography; *lashing*, BSA/Tom Copeland), and 11-5 (*both*, Larry Green Photography)

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