

ORIENTEERING

The Thinking Sport

Imagine a baseball player who never leaves the batting cage or a football player who never suits up for a game. Many Scouts are like that when it comes to map and compass use. They learn how to read maps and follow compass headings, but they never really apply those skills.

One way to use map reading and compass skills is when you are hiking or backpacking. If there is a fork in the trail you are following, you want to follow the right path, not a path that leads straight up a mountain or over a cliff!

But another way to use those skills is in the sport of orienteering. This is an exciting, fast-paced game where players race across the countryside looking for controls—square orange-and-white markers—that are marked on a map. The fastest player wins, but only if he or she visits all the controls in the correct order. (Special punches at the controls—or high-tech equivalents—keep the players honest.)

This month's activities will teach Scouts the skills they need to keep themselves found when hiking and backpacking—and the skills they need to compete in orienteering meets.

Objectives

This month's activities should:

- Teach Scouts basic map and compass skills.
- Give Scouts multiple opportunities to practice their map and compass skills.
- Introduce Scouts to the sport of orienteering.
- Help Scouts work toward the Orienteering merit badge.
- Foster self-confidence and team building.

RELATED ADVANCEMENT AND AWARDS

- Tenderfoot requirement 2
- Second Class requirements 1a, 1b, and 3a
- First Class requirements 1, 2, and 3
- Backpacking, Geocaching, Hiking, and Orienteering merit badges
- Backpacking, Operation On-Target, and Orienteering Varsity Scout activity pins
- Ranger: Requirement 5
- Quest: Requirement 5

Leadership Planning

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

1. What will our main event be?
2. Where will we have our main event?
3. How proficient are our Scouts and leaders in orienteering skills?
4. How can we involve parents?
5. Are there local orienteering clubs that could provide expertise?
6. Can we find local or regional orienteering meets to participate in?
7. Do we have access to enough orienteering compasses for meetings and the main event?
8. Do we have access to orienteering controls, cards, and punches or e-boxes?
9. Where can we get topographical maps of our area and the site of the main event?
10. How much of the Orienteering merit badge and other related advancement and awards requirements can we complete this month?
11. How can we use orienteering activities to promote team building?
12. To meet our needs, what should we change in the sample meeting plans?

PARENTS CAN HELP WITH THE ORIENTEERING PROGRAM FEATURE BY:

1. Sharing their expertise
2. Providing transportation for the main event
3. Supplying compasses and other equipment
4. Helping to set up and dismantle orienteering courses

ORIENTEERING BASICS

The sport of orienteering began in the late 19th century in Scandinavia. In its classic form, orienteers (competitors) are given a topographic map with a series of controls marked on it. They find these controls in order and return to the starting point; the orienteer with the best time wins.



Controls, which are square orange and white kites, hang from trees or are attached to posts in the ground. Attached to each is either a punch that marks a distinctive pattern on a control card or an e-box where orienteers insert an e-card or memory stick (something like a USB flash drive) to record the control number and time. Controls appear at distinctive locations such as a gate or the crest of a hill.

Controls, punches, and punch cards are relatively inexpensive, and you may be able to borrow them. However, you could also use alternatives. For example, you could use laminated pieces of cardboard with code words written on them that Scouts have to write down as they go through the course.

Orienteering tests your body and your brain. Part of the fun is figuring out the best route between control points—which probably isn't a straight line. For example, you might find a "handrail," a road that closely parallels the route you need to follow; you could follow it a certain distance and then head back into the woods to the control. Or you might "aim off," intentionally veering a little to the right so that when you have gone the right distance you know the control will be on your left.

Note: While orienteering is primarily an individual sport, BSA Youth Protection procedures call for using the buddy system when participating in orienteering meets.

COURSE DESIGNATIONS

Orienteering USA uses different levels to indicate course difficulty.

COLOR	DIFFICULTY	TERRAIN	LENGTH
White	Intended for novice orienteers	Trails	2–3 km (1.25–2 miles)
Yellow	Intended for advanced beginners	Mostly trails	3–5 km (2–3 miles)
Orange	Intended for intermediate-level orienteers	Cross-country	4.5–7 km (2.75–4.25 miles)
Brown	Technically advanced and physically demanding; designed for older orienteers in terms of distance, climb, and terrain	Cross-country	3–5 km (2–3 miles)
Green	Technically advanced and of a moderate distance	Cross-country	4.5–7 km (2.75–4.25 miles)
Red	Technically advanced with a high degree of physical difficulty appropriate for elite female competitors	Cross-country	6–10 km (2.5–6.25 miles)
Blue	Technically advanced with a high degree of physical difficulty appropriate for elite male competitors	Cross-country	8–14 km (5–8.75 miles)



ORIENTEERING VARIATIONS

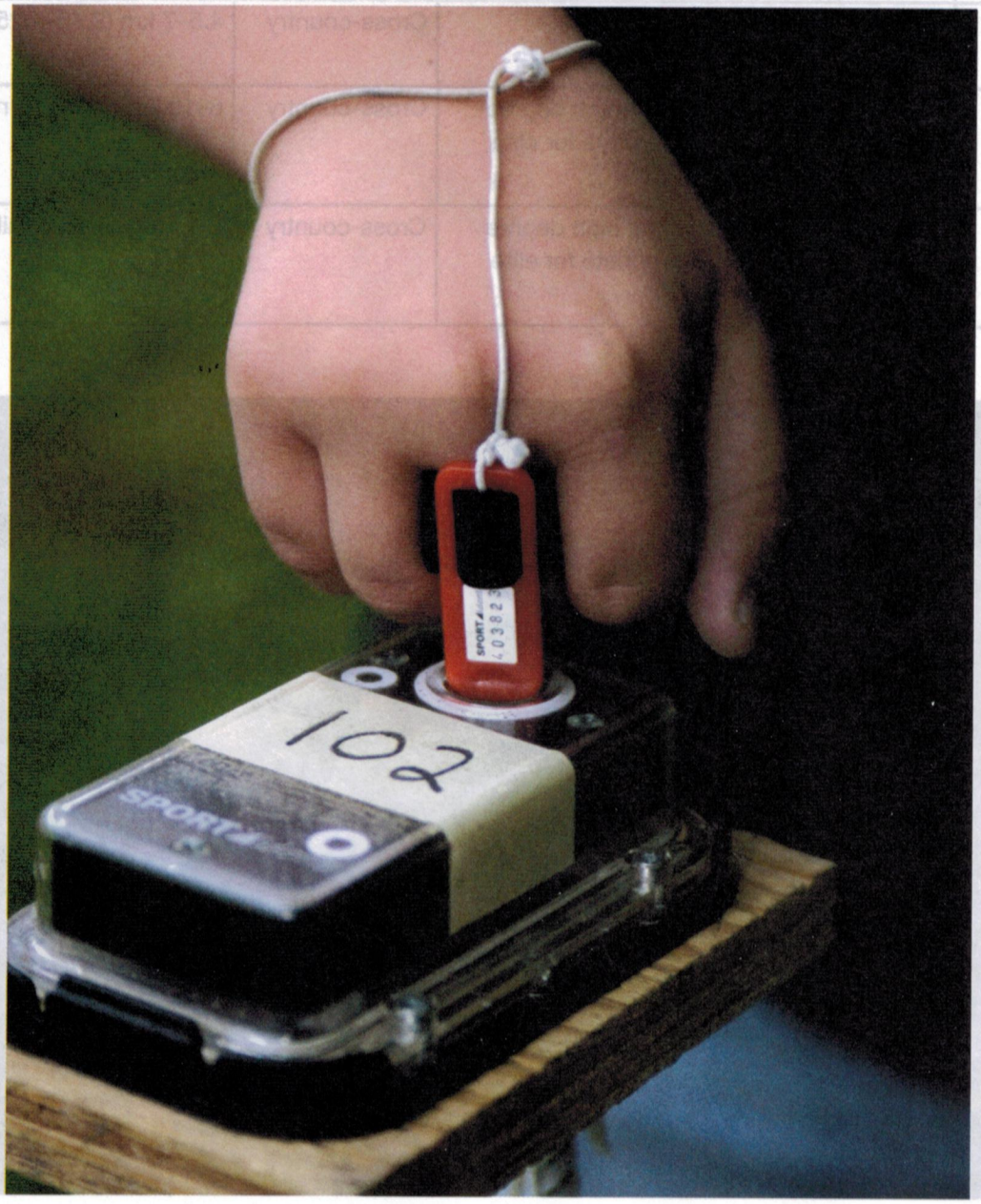
There are several variations to the classic form of orienteering. Here are a few.

Score orienteering: Orienteers visit as many controls as possible in a given time. The controls are assigned different point values depending on difficulty.

Night orienteering: Orienteers run a course in the dark. Reflective markers are attached to the controls so orienteers can find them with a flashlight.

Ski orienteering, canoe or kayak orienteering, horseback orienteering, and mountain bike orienteering: As the names imply, orienteers travel by means other than on foot.

ROGAINE orienteering: A form of score orienteering (stands for Rugged Outdoor Group Activity Involving Navigation and Endurance) where teams of two to five members compete for 24 hours (the length of a championship ROGAINE) or longer. Shorter variations sometimes occur concurrently with a longer event.



ORIENTEERING GAMES

Compass Triangle Game

Equipment: For each player, a compass and an index card with his or her name on it

Method: Players start at various spots on a parking lot or other open area, marking their spots with index cards. They determine a bearing (say 30°) and walk 50 steps in that direction. They add 120° to the first bearing and walk another 50 steps. Finally, they add 120° to the second bearing and walk another 50 steps. (If a calculated bearing is more than 360°, subtract 360° to get the correct bearing.) Players should end up back where they started.

Scoring: The winner is the player who gets closest to the starting point.

Variation: Have players wear bags over their heads so they can read their compasses but not look ahead. (Assign each a guide for safety.) This challenge will test their ability to walk in a straight line and will prevent them from cheating as they approach the starting point on the final leg.

Map Symbol Relay

Equipment: For each team, a set of flash cards with numbered map symbols, including contour lines

Method: The teams line up in relay formation facing a wall on which the flash cards have been posted. On signal, the first Scout from each team runs up, names the first symbol, runs back, and tags the next Scout who runs up and names the second symbol. Continue the relay until all symbols have been named.

Scoring: Score 2 points for each symbol correctly named, and deduct 1 point for each symbol incorrectly named. The team that finishes first scores 10 points.

Crash Landing

Equipment: Identical topographic maps for each team

Method: Announce that an airplane has crashed at a certain point on the map, some distance from a road. Have teams do the following: 1) Locate the scene of the crash on the map; 2) Determine the route to be taken by car to a point nearest the crash scene; 3) Determine the route to be taken on foot from the car to the crash scene; 4) Determine potential hazards along the route; 5) List first-aid materials to be taken to the crash site by a rescue squad; 6) List other equipment to be taken.

Scoring: The team that does the best job on the total project wins.

Orienteering Scavenger Hunt

Equipment: A compass, a punch card, and a topographic map of the area around your meeting place for each team, 10 or more orienteering controls and punches (can be homemade)

Preparation: Hide the controls and punches in the area around your meeting place and mark them on the maps. Assign each team five controls to visit, each in a different order (so they can't follow each other and don't get bunched up).

Method: On a signal, teams look for their assigned controls, punch their cards, and return to the starting point.

Scoring: The team that returns first with the correct punches wins.

For other good games and contests, see the following in the "Games" section of *Troop Program Resources:*

- Blind-Flying Relay
- Blindfold Compass Walk
- Compass Facing
- Map Symbol Kim's Game
- Octagon Compass Course



E.D.G.E. Ideas

***E**xplain* how it is done—Tell them.
***D**emonstrate* the steps—Show them.
***G**uide* learners as they practice—Watch them do it.
***E**nable* them to succeed on their own—Have them practice/teach it.

EXPLAIN

- Define orienteering.
- Teach basic map symbols.
- Discuss the parts of a compass.
- Explain declination and how to compensate for it.
- Review the steps in completing an orienteering course.
- Discuss how to follow Leave No Trace principles while orienteering.

DEMONSTRATE

- Show videos of actual orienteering meets.
- Demonstrate how to set a compass heading.
- Demonstrate how to orient a map.
- Show orienteering controls and how punches work.

GUIDE

- Work one-on-one with Scouts as they practice using compasses.
- Have Scouts identify features on a topographic map of a familiar location.
- Have Scouts sketch topographic maps of the area around your meeting place.
- Challenge Scouts to maintain their known pace over varying terrains.
- Ask Scouts what techniques they would use to navigate to given points on a topographic map (e.g., handrails, catching features, aiming off).

ENABLE

- Give Scouts a simple compass course to follow and evaluate their performance.
- Encourage Scouts to make flash cards so they can practice map symbols.
- Have Scouts use the EDGE method to teach younger Scouts how to read a compass.
- Challenge Scouts to create compass or orienteering courses for Webelos Scouts.
- Have Scouts research orienteering clubs and meets in your area or in the area where you want to do your main event.

MAIN EVENT SUMMARIES

ESSENTIAL	CHALLENGING	ADVANCED
Day Activity	Day Activity	Overnight Activity
Orienteering meet—Participate in a public orienteering meet in a local park. Rub shoulders with orienteering club members and learn more about the sport.	Webelos Scout orienteering field day—Plan an orienteering field day for Webelos Scouts from your district. Teach them basic orienteering skills in the morning, then let them compete in an orienteering meet in the afternoon.	Orienteering extravaganza—Travel to a ROGAINE at a distant location. Camp overnight before and after the meet.

ORIENTEERING

Meeting Plan: Compasses

Week 1 Date_____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	Set up a 100-foot course near your meeting place. As participants arrive, have them walk the course and calculate their pace (how far they travel every two steps).		6:45 p.m.
Opening Ceremony 10 minutes	Flag presentation Oath and Law Uniform inspection		7 p.m.
Group Instruction 10 minutes	• Explain what orienteering is. • Outline the next four weeks' meetings. • Give details of the main event.		7:10 p.m.
Skills Instruction 40 minutes	• Learn how to use a compass. • Practice following given bearings outside your meeting place. • Practice following those bearings without going off course.		7:20 p.m.
	• Review the skills above. • Practice determining the bearings to specific landmarks outside your meeting place.		
	• Review the skills above. • Practice calculating and following back bearings (which take you from a destination back to the starting point); add or subtract 180° to get a back bearing.		
Breakout Groups 15 minutes	• Discuss plans for the main event. • Review what personal and group equipment will be needed.		8 p.m.
Game 10 minutes	Play Compass Triangle Game (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.

ORIENTEERING
Meeting Plan: Maps

Week 2 Date_____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	Draw a large chalk circle on the parking lot. Place an index card marked "North" at the northernmost point. As participants arrive, give them index cards marked with other compass points. Have them place their cards in the correct spots on the circle.		6:45 p.m.
Opening Ceremony 10 minutes	Flag presentation Oath and Law Uniform inspection		7 p.m.
Group Instruction 15 minutes	• Obtain topographic maps of your meeting place, a favorite campsite, and/or other familiar locations. • Point out landmarks on the maps and explain the symbols that represent those landmarks. • If possible, compare the maps with satellite photos from a website like Google Maps.		7:10 p.m.
Skills Instruction 35 minutes 	• Study the map symbols found on a sample topographic map. • Discuss how these symbols differ from those found on a road map. • Discuss what contour lines indicate and why they are important in orienteering.		7:25 p.m.
	• Review the skills above. • Discuss what the colors used for map symbols mean and why knowing the colors can be useful. • Learn the difference between contour lines, index contour lines, and depression contour lines. • Review how contour lines depict cliffs, hilltops, and the direction of streams. (The V formed by contour lines point upstream.)		
	• Review the skills above. • Study the legend on a contour map. Discuss why the information there can be important in orienteering. • Learn how to order topographic maps for a given location.		
Breakout Groups 15 minutes	• Begin meal planning and create a duty roster for the main event. • Practice for the game.		8 p.m.
Game 10 minutes	Play Map Symbol Relay (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.

ORIENTEERING

Meeting Plan: Map and Compass Together

Week 3 Date_____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	As participants arrive, challenge them to sketch topographic maps of their neighborhoods or the area around your meeting place.		6:45 p.m.
Opening Ceremony 10 minutes	Flag presentation Oath and Law Uniform inspection		7 p.m.
Group Instruction 5 minutes	• Explain declination and how it affects orienteering. • Tell the declination for your area.		7:10 p.m.
Skills Instruction 35 minutes	• Learn how to orient a topographic map. • Learn how to adjust your compass for declination. • Determine the directions between various landmarks on a topographic map.		7:15 p.m.
	• Review the skills above. • Discuss different ways to adjust for declination, such as drawing magnetic north-south lines on the map or using a compass with declination adjustment built in. (See the *Boy Scout Handbook* chapter on navigation.)		
	• Review the skills above. • After determining directions between landmarks on a topographic map, determine the easiest ways to travel between those landmarks using techniques like aiming off, handrails, and catching features.		
Breakout Groups 15 minutes	• Finalize meal planning for the main event. • Review what advancement requirements members have completed related to orienteering.		7:50 p.m.
Game 20 minutes	Play Crash Landing (described earlier).		8:05 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.

ORIENTEERING

Meeting Plan: Orienteering Basics

Week 4 Date_____

ACTIVITY	DESCRIPTION	RUN BY	TIME*
Preopening 15 minutes before meeting	Set up a display of items related to orienteering courses, including controls, punches, control cards, maps, bibs, etc.		6:45 p.m.
Opening Ceremony 10 minutes	Flag presentation Oath and Law Uniform inspection		7 p.m.
Group Instruction 20 minutes	Have a guest speaker from an orienteering club discuss the sport, or show an Internet video (perhaps from Orienteering USA's YouTube channel) to give participants a sense of what the sport is like.		7:10 p.m.
Skills Instruction 30 minutes	Learn the basics of participating in an orienteering meet, including using an orienteering map, finding control points, and punching control cards or using e-punches.		7:30 p.m.
	• Review the skills above. • Learn about different formats for orienteering meets.		
	• Review the skills above. • Research orienteering meets in your area that are open to the public.		
Breakout Groups 15 minutes	• Review plans for the main event. • Review what advancement requirements members have completed related to orienteering.		8 p.m.
Game 10 minutes	Play Orienteering Scavenger Hunt (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.

ORIENTEERING

Main Event: Orienteering Meet

Date_____



Logistics

Location: _____

_____

Departure time: _____

Return time: _____

Duration of activity: 4 hours

Budget: Completed _____ Approved _____

Camping: Duty roster_____ Menu _____

Transportation: Group _____ Self_____

Tour and activity plan: Completed_____ Submitted _____

Essential (Tier I)

Participate in a public orienteering meet in a local park. Rub shoulders with orienteering club members and learn more about the sport.

Equipment List	• Compasses • Appropriate clothing • Whistles • Lunch (decide on individual or group) • Water • Scout Basic Essentials (Review the list and take what you need.)
Activity	• Contact a local orienteering club and find out when it holds public meets. • Make arrangements to participate in one of those meets. • If multiple courses are available, decide which one is appropriate for your group. • Preregister for the meet as required. • After the event, hold a debriefing session. Make plans to work on needed skills. • Use spare time at the location to work on other Scout skills or to complete Orienteering merit badge requirements.
Safety	• Use the buddy system. • Have a first-aid kit. • Cell phones are a good idea.

Notes

ORIENTEERING

Main Event: Webelos Scout Orienteering Field Day

Date_____

Logistics

Location: _____

_____

Departure time: _____

Return time: _____

Duration of activity: Day or overnight

Budget: Completed _____ Approved _____

Camping: Duty roster_____ Menu _____

Transportation: Group _____ Self_____

Tour and activity plan: Completed_____ Submitted _____

Challenging (Tier II)

Plan an orienteering field day for Webelos Scouts from your district. Teach them basic orienteering skills in the morning, then let them compete in an orienteering meet in the afternoon.

Equipment List	• Compasses • Maps • Whistles • Controls, punches, and control cards (or the equivalent) • Camping gear as needed • Meal plan • Water • Scout Basic Essentials (Review the list and take what you need.)
Activity	• Find and reserve a location where you can set up a simple orienteering course for Webelos Scouts. • During the morning, half the group teaches basic orienteering skills to the Webelos Scouts while the other half sets up a cross-country orienteering course. • In the afternoon, the Webelos Scouts complete the course in buddy pairs. • Have one Scout go with each pair as an observer.
Safety	• Use the buddy system. • Have a first-aid kit available. • Cell phones are a good idea.

Notes

ORIENTEERING

Main Event: Orienteering Extravaganza

Date _____

Logistics

Location: _____

_____

Departure time: _____

Return time: _____

Duration of activity: Weekend

Budget: Completed _____ Approved _____

Camping: Duty roster _____ Menu _____

Transportation: Group _____ Self _____

Tour and activity plan: Completed _____ Submitted _____

Advanced (Tier III)

Travel to a ROGAINE at a distant location. Camp overnight before and after the meet.

Equipment List	• Compasses • Maps • Whistles • Camping gear as needed • Meal plan • Water • Scout Basic Essentials (Review the list and take what you need.)
Activity	• Through a local orienteering club or the Orienteering USA website, find a ROGAINE your group can participate in that offers a three- or four-hour option. • Make arrangements to participate in the event. • If multiple courses are available, decide which one is appropriate for your group. • Preregister for the event as required. • Participate in several local cross-country meets to ensure that you're ready for the ROGAINE. • After the event, hold a debriefing session. Make plans to practice skills. • Use spare time at the location to work on other Scout skills or to complete Orienteering merit badge and other advancement-related requirements.
Safety	• Use the buddy system. • Have a first-aid kit available. • Cell phones are a good idea.

Notes

REFERENCES

Books

Backpacking, Geocaching, Hiking, and *Orienteering* merit badge pamphlets

Boy Scout Handbook

Troop Program Resources

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McNeill, Carol, Tom Renfrew, and Jean Cory-Wright. *Teaching Orienteering,* 2nd ed. Human Kinetics, 1998.

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Renfrew, Tom. *Orienteering*. Human Kinetics, 1996.

Websites

Orienteering USA
Website: http://www.us.orienteering.org

Orienteering.net
Website: http://www.4orienteering.com

Related Program Features

Backpacking, Geocaching, and Hiking

Photo and Illustration Credits

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