Orienteering Merit Badge - Four Day Lesson Plan

ScoutOrienteering.com

Introduction

The following the lessons have been designed to give the Scout an understanding of the sport of Orienteering and of the mental and physical benefits he can obtain through participation in the sport. The Scout who participates in this program and does all the assigned work should obtain both a thorough understanding of Orienteering and earn the Orienteering Merit Badge.

The plan is based on a four day camp activity schedule with a morning class of one hour duration. In addition, each Scout should have at least one hour of time every afternoon to devote to running courses and doing required written assignments. Some Scouts will require extra help or time for these requirements, thus a fifth day may become necessary. The instructor will set courses each day which should be available for at least a 2.5 hour period in the afternoon. Each day will offer a new course and new challenges so that every boy will have ample opportunity to run his three required courses.

This plan can also be adapted to a troop meeting + Saturday event format and used as a "theme of the month" presentation.

In a summer camp situation, two or three sets of courses must be developed to avoid overuse of specific areas in the camp. Rotate through the sets of courses week by week.

Ed Scott, Scouting Development Chairman
United States Orienteering Federation
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For additional information on Orienteering and Orienteering Clubs in your area contact:
Ed Scott, 1608 Cocalico Road, Birdsboro, PA 19508
or
USOF, PO Box 1444, Forest Park, GA 30298

Lesson 1

Materials

Scout: Merit badge booklet, notebook, pencil, paper

Instructor: USGS Topographical maps, Orienteering maps, Orienteering control, control punch, control punch card, and a copy of the IOF control descriptions that can be given to each Scout.

Objectives

…to make the scout aware of the first aid skills and safety considerations necessary for participation in outdoor activities such as Orienteering.

...to introduce the sport of Orienteering and explain how it differs from other map and compass games

...to show how symbols are used to show features on maps and how the symbols on Orienteering maps differ from those on USGS maps.

Activities and Methods

1. List the Scouts in the class and record their names on a master list of all requirements. (5 min)

2. Discuss the various first aid skills that could come into play during an Orienteering event. Make your presentation pertinent to the area that is being used for the courses. Consider temperature, local plants and animals and any other inherent dangers that the local area may hold. (10 minutes intro Requirement 1)
3. Explain to the class how an orienteering event is held. Show an Orienteering map with a course printed on it. Explain how each runner will go from the first control point through to the last, in order, by the fastest route possible. Make it very clear to all that the straight line route is not always the best or the fastest, and that map reading skills can be more important than compass skills. Show an orienteering control, punch, and control card and how they are used. Explain IOF control descriptions ("descriptive clues") and control codes and how they are used during the competition. (25 min Intro Requirements 2, 6a, & 6b)
4. Give each scout a USGS map and an Orienteering map for study. Both maps should include the camp or instructional area being utilized. Allow the boys to study these maps and determine their current location. Discuss the differences and similarities in the types of features shown on these maps. Note which symbols are similar and those that are different. The boys should make note of the symbols used on both types of maps. (15 min Intro Requirement 4b)
5. Explain about the afternoon course, how it relates to Requirement 7, and where and when to meet. Remind the boys to study the symbols for Requirement 2b and assign homework (5 min)

Homework

The boys will write a short paper describing the types of injuries and potential dangers for which they should be prepared while orienteering, as well as how they can become prepared for such situations.

Lesson 1a
Afternoon Course

A short (0.7 -1.3 Km) White level course should be offered. The first control, or feature upon which it is hung, should be visible from the start area. Use a master map and have pre-printed control descriptions. Early finishers can help with finish times and results tabulation for Requirement 9. Returning runners should be able to point out terrain features they saw in the field on their map for completion of Requirement 4a. Scouts that return without completing the course should be helped and then sent out again to finish the course from the point where they lost map contact. Each returning Scout should now be able to describe Orienteering. (Requirement 2 complete, Requirement 4a complete)

Lesson 2
Materials

Scout: Merit badge book, notebook, paper, pencil, compass, maps from lesson 1a and Homework.
Instructor: maps, compass

Objectives
...to evaluate progress on lesson 1
...to evaluate lesson 1A run
...to learn about the types of compasses and how they work
...to learn to take a bearing
...to understand the concept of pace.

Activities and methods

1. Collect Homework from lesson 1 (Requirement 1 complete)
2. The instructor will return the maps collected from the Lesson 1A run. Discuss route choices used by the Scouts. Show in detail how this map is to be used to fulfill Requirements in 7b. Explain to the Scouts that they need to be working on Requirement 7b during their free time over the next 3 days. (15 min)
3. Using an orienteering compass such as a Silva Starter, Polaris, Explorer, Suunto, or similar compass, demonstrate how a compass works. If some of the boys have compasses without base plates, explain the difficulties they may encounter using them for Orienteering. Discuss the wrist cord, scale, magnifier lens, liquid filled dials, and templates. Show a thumb compass if available. (10 min Intro to Requirement 3a)
4. Take a bearing on a distant, but visible object. Show the group the steps involved. Ask them to each take their own bearing on the same object. Poll the group to find what range of bearings has been calculated. Anyone missing by more than 5 degrees needs more instruction, anyone off by 2 degrees needs more practice. Caution the Scouts about standing near any metal objects when taking a bearing. Check the progress of each Scout. Move to the object and continue the line to the next visible object. Explain how this technique will provide a way to keep a line when no mapped features are available to help. (20 min Requirement 3b done)
5. Explain pace and how to set up a 100 meter pace course. Each Scout will need to set up a pace course and know his pace. This requirement can be completed before or after any of the afternoon runs. (10 min)
6. Field any questions and announce the starting place for the afternoon courses. (5 min)

Homework

The boys will draw, label and identify by color, 10 standard topographical map symbols of their choice, and draw 20 IOF control description symbols and describe the meaning of each.

Lesson 2a

Afternoon Course

A White or possibly an easy Yellow course is appropriate. Plan your course based on the results of yesterday. If some were unable to complete the first course, make today's course about the same difficulty. If all were successful with course 1, you may try the easy Yellow version today. If the class shows a wide range of skill level, offering two courses would be an appropriate alternative. Try to use a new part of the map. Some route choices should be presented as well as some off trail options, however all controls should be near trails or other linear features. Encourage all to stay and work on Requirements 9.

Scouts should be ready to demonstrate their knowledge of compasses to finish requirement 3a. Remind the Scouts to utilize these maps in continuing Requirement 7b. Some Scouts will be ready to complete Requirement 5. At this point all Scouts should have completed all of the following Requirements: 1, 2, 3a, and 4a.

Lesson 3

Materials
Scout: Merit badge book, notebook, pencil, paper, compass and homework.
Instructor: Have a control hung 100 to 200 meters away, out of sight, but in a spot accessible via a straight line from the instruction site. The control must be hung on a mapped object.
Objectives
...to learn how to follow a bearing taken from a map and transferred to the terrain, through multiple points, to the destination.
...to understand why and when declination must be considered.
...to understand the concept of scale.
...to determine what Orienteering concepts the Scout will be able to teach to members of his troop.

Activities and methods
1. Collect the homework from Lesson 2. (Requirements 4b & 6a complete)
2. Explain how to take a bearing between two mapped points using a map with magnetic North lines. Transfer these bearings to the terrain. After a suitable amount of practice, each Scout should take a bearing from the instruction point, to the mapped point upon which the control is hung. Explain how to take multiple sightings on a long bearing and have the Scout pick his first intermediate check point. Each Scout should then walk his line to the control feature. (20 min Requirement 3b done)
3. Describe declination and the reason for its existence. Explain why Orienteering maps are oriented to magnetic North instead of true North. Show how to orient a map using a compass as well as by using features in the terrain. Show how to calculate magnetic North lines and how to put them on a USGS map to make it more usable for Orienteering or hiking. (20 min intro to Requirement 4c)
4. Describe scale and why it is necessary to be aware of the scale of a map. The boys should be able to determine the distance between two points on two different scale maps to show their understanding. One of the maps should be a 1:5000, or a 1:10000, so they can use the millimeter scale on their compass, the other should be a 1:24000 USGS map. This activity completes Requirement 4e. (15 min)
5. Explain Requirement 10. Requirement 10 can be done at the Scout's campsite and can include the teaching of a variety of skills to Scouts not taking the Merit Badge. The Scoutmaster or SPL should sign a note when this requirement has been completed. (5 min)
6. Announce the start location for this afternoon.

Homework

The scout should put north lines on a standard USGS map to show his understanding of declination and to make the map more suitable for Orienteering.

Lesson 3a
Afternoon course
A more difficult and somewhat longer (2.0 - 3.5 Km) course should be offered. Controls can be off trails, but in well defined areas. More off trail shortcuts will now be encouraged. Be sure catching features exist to keep all Scouts on the map. With the completion of this course, Requirement 7a will be complete. All boys should complete Requirement 9 by the end of this lesson. Some should return with notes completing Requirement 10. They should now have the maps needed to do Requirement 7b. More Scouts will be ready to complete Requirement 5.

Lesson 4
Materials
Scout: Merit badge book, notebook, pencil, paper, compass, reports on completed courses, homework, notes in regard to the completion of requirement 10.
Instructor: Orienteering maps with sample courses and control descriptions
Objectives
…to know and understand selected Orienteering terms.
…to understand the process involved in designing a suitable beginners course with suitable control descriptions.

Activities and methods
1. Turn in lesson 3 homework (Requirement 4c & 4d complete)
2. Explain the Orienteering terms, attack point, offset technique, and collecting feature. Also describe linear features, (handrails), and point features. Explain techniques of aiming off, contouring, relocation, and rough versus fine orienteering. Explain the common types of events such as cross country, score, relay, line, and memory. Discuss the courses found at a competitive Orienteering event, where such events are held, and how to contact the nearest USOF Orienteering club. (20 min intro to Requirement 6c)
3. Explain the features of a well designed course. Avoid doglegs, indistinct features, and dangerous legs. Be sure to plan for catching features, safe route choices, and interesting and challenging legs. The Scouts should be able to start designing their own courses for requirement 8 and selecting appropriate control descriptions. Work with the Scouts during this phase. Be sure the control points selected are appropriate for the level of the competition and the quality of the map. Select the better courses and course setters to set the afternoon courses. The rest of the class will be able to run the course and also catch up on any requirements not yet completed. During the time the Scouts are working on their courses, some may be ready to show their mastery of the terminology, thus completing Requirements 6c. (35 min)

Lesson 4a
Afternoon course

Courses designed by class members should be set and competitors assigned to the course by the instructor based on the course difficulty and achievement level of the Scout. All Scouts that have not completed other requirements should do them before going on their course. All the courses that were designed this morning, should be turned in with master maps and control descriptions for the completion of Requirement 8. Scouts should now be ready to show their knowledge of basic Orienteering terms thus finishing requirements 6a and 6b. All 7b reports are due at this time. Scoutmaster's notes for Requirement 10 must be submitted by this time. Everyone should have completed requirements 5 and 9.

Day 5

In most camps there is a fifth program day. In most groups there are some that do not complete all the requirements in a timely manner. Friday is "Make up" day for any missed work that is needed to complete the badge. It is recommended that those who have already done all the requirements come back to help those that need more time, or perhaps set and administer their own orienteering event for themselves or others from their troop.

Data Sources:
Of course the Orienteering Merit Badge Booklet will provide lots of useful data for completion of the merit badge, but there are many other sources of information a scout can utilize, a couple of which are listed below.

Lowry, Ron & Sidney, Ken, Orienteering Skills and Strategies , Orienteering Ontario, 1220 Sheppard Ave E, Willowdale, Ontario, Canada M2K 2X1. 1985

Wilson, Peter, Orienteering, New Zealand Mountain Safety Council Inc, P.O. Box 6027, Te Aro, Wellington, New Zealand. Fax (04) 857-366. Circa 1992

And possibly the best sources of all, a local orienteering club may be within reach of your troop. Check out the link to the USOF Orienteering and Rogaining Home Page at http://www.us.orienteering.org for the list of North American clubs, or go to the links and follow the IOF link for international clubs. Get a schedule and attend one of their events. It will count as one of the courses in requirement 7 and certainly show what is needed to complete requirements 8 and 9. Most clubs will provide copies of their Orienteering maps for a small fee. These maps are of a higher quality than typical USGS maps and are designed specifically for Orienteering. The USOF web site has loads of data and links to information on teaching orienteering techniques to all ages and ability levels. Taking some time to explore these pages will help prepare the instructor for teaching the new badge requirements that became effective in January of 2004.