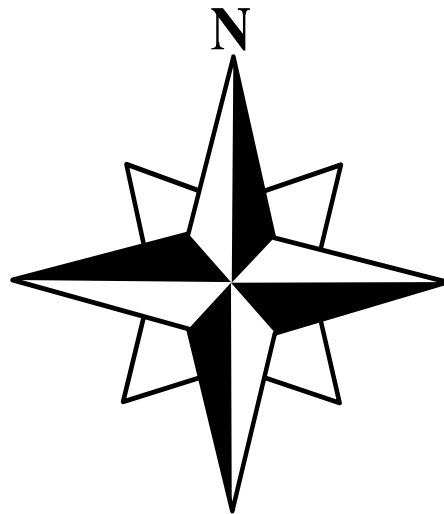


SKILL DEMONSTRATION LESSON:

ORIENTEERING

MAP READING & ROUTE CHOICE



By: Phillip Wolfling

Orienteering - Map Reading & Route Choice

Title of Lesson

1

Lesson No.

Lesson Objective:

- (C) Upon completion of this lesson
- (L) The student will be able to recognize the features of an orienteering map, use a compass and select a proper route choice according to their abilities.
- (P) This knowledge will be evaluated by correctly
- (B) Demonstrating proper use of a compass, identifying various features on a orienteering map, and showing a route choice between selected points on an orienteering map.

Tools / Equipment / Supplies: Overhead Projector, Screen, Markers, Handouts (B/W copies of map, Clue and schedule sheet), Tape, and Red Pens

Visual Aids / References: Street Maps, U.S.G.S. Maps, Color Maps, Contoured Map Section, Compass, Control Marker and Punch, Map Hike Control Marker, Punch Card, Overheads (B/W copy of map, compass)

Introduction:

Teaching Points	Methods
Introduce myself and share objective with the class - Display visual aids	Lecture
Start with street maps - Driving from one place to another you use street names to find out where you are. For U.S.G.S. and Orienteering maps you use land features. These features are displayed on maps through lines, symbols and colors.	A / S Demonstration

Presentation:

Teaching Points	Methods
Distribute the handout, compass, red pen and colored map	
Divide class into groups of two	A / P - Coop. Learn
Lecture on maps; show how to use compass	Lecture and O/H
Work with group partner on compass bearing (Allow 5 minutes for compass use)	A / P
Lecture on map features, route choice, orienteering meets and clue sheet	Lecture and O/H
Work with group partner on route choice (Allow 5 minutes for selection of routes)	A / P
Discuss route choice selection, ask for questions Give information about local meets	Closure

Job or Class Assignment: Students are divided into groups of two and given a colored map with features identified. By using the compass and B/W map, the student will determine the bearing between two points. By using the clue sheet as a guide, the students will trace out on the B/W map their selected route choice as required.

Checking Points: Check for the correct bearing determination, route choice and identification of features used along the way.

Skill Demonstration Outline

- 1.0 **Title of Demonstration:** Orienteering - Map Reading & Route Choice
- 2.0 **Time Allotted For Demonstration:** 30 minutes
- 3.0 **Objectives:** Upon completion of this lesson the student will be able to recognize the features of an orienteering map, use a compass and select a proper route choice according to their abilities.
- 4.0 **Instructional Aides Required:** Street Maps, U.S.G.S. Maps, Color Maps, Contoured Map Section, Compass, Control Marker and Punch, Map Hike Control Marker, Punch Card, Overheads (B/W copy of map, compass), Overhead Projector, Screen, Markers, Handouts (B/W copies of map, Clue and schedule sheet), Tape, Red Pens
- 5.0 **Introduction:** Introduce myself and share objective with the class - Display visual aids. Start with street maps - Driving from one place to another you use street names to find out where you are. For U.S.G.S. and Orienteering maps, you use land features. These features are displayed on maps through lines, symbols and colors.
- 6.0 **Identification Of Primary Elements:**
 - A. Maps
 - B. Compass use
 - C. Map features
 - D. Route choice
 - E. Orienteering meets
- 7.0 **Presentation:**
 - A. Map
 1. Types - Street Maps, U.S.G.S. Maps, Orienteering Maps
 2. How maps are made - Arial Photography to field checking
 3. Map scales and legends
 - B. Compass use
 1. Parts of the compass - base, bezel, needle, direction arrows, N-S arrows
 2. Declination - Magnetic north, True north (north pole - Polaris)
 3. Orienting map
 4. Bearings and compass walk
 - C. Map features
 1. Black features - man-made: roads, trails, buildings, fences ; also cliffs and boulders
 2. Brown features - elevation: contour & form lines, slope lines, erosion lines
 3. Blue features - water: lakes, ponds, streams, marsh and water holes

7.0 **Presentation (Cont.):**

- C.
 - 4. White features - forest: open for running
 - 5. Yellow features - vegetation: clearings and fields - easy navigation
 - 6. Green features - vegetation: brush - thick brush - thorns, slow - walk - fight
 - 7. Control features - cairn; terrace, spur, reentrant, erosion gully, knoll, depression, well, spring

- D. Route choice
 - 1. Orienting the Map
 - 2. Pacing and Thumbing
 - 3. Catching Features - linear, crosses path
 - 4. Handrails - linear, parallels path
 - 5. Attack Points - prominent, in vicinity
 - 6. Aiming Off - to one side, know direction
 - 7. Precision Compass Use

- E. Orienteering meets
 - 1. Types - Regular (point to point), Score, Relay, Canoe, Ski, Rogaine
 - 2. Competitions - courses, controls, punches, punch cards
 - 3. Map Hikes - Chestnut Ridge, Sardinia
 - 4. Local Clubs - Buffalo, Rochester, Hamilton

8.0 **Summary:**

- 8.1 How to divide class into groups of two?

- 8.2 How to determine a compass bearing with your group partner?

- 8.3 How to determine a route choice with your group partner?

9.0 **Identification of Specific Problems:**

- 9.1 PR: Students may want to group with friends across classroom.
SOL: Have the students pair up across aisles.

- 9.2 PR: Student uses wrong edge of compass for line of travel.
SOL: Redirect individually to use proper edge of base.
PR: Student complains that needle does not always point to north.
SOL: Explain that metal objects influence needles' direction, hold away from desk.

- 9.3 PR: Student selects route along contour lines.
SOL: Explain that it is possible to follow contour lines but paths & trails are easier.
PR: Student selects route across ravines.
SOL: Explain difficulty in following that route.

10.0 **References:**

- a. Kjellstrom, Bjorn, Be Expert with Map & Compass, Charles Scribner's Sons, 1975
- b. Orienteering Services Inc. U.S.A., Learn Orienteering, (Brochure), Silva, 1982
- c. U.S. Orienteering Federation, Orienteering for Fun for Fitness, (Brochure), 1994

11.0 Test Questions:

1. Contour lines that are close together require which type of navigation:
a. A steep climb or drop b. Flat level land c. A gradual climb or drop
2. What are the four major points of the compass?
a. _____ b. _____ c. _____ d. _____
3. List four blue colored map features:
a. _____ b. _____ c. _____ d. _____
4. What is a spur land elevation feature?
5. What is a reentrant land elevation feature?
6. A linear feature that generally runs parallel to the desired direction is called a _____.
7. What compass direction signifies the top of an orienteering map?
8. A map scale of 1:15,000 means that 1 _____ on the map equals 15,000 _____ out in the field.
9. The angle between magnetic north (the direction that the compass needle points) and the true north line (points toward the north pole) is called _____.
10. Which of the following IS NOT a brown map feature?
a. small depression c. contour line
b. clearing d. knoll

Class Teaching Outline

A. Map

1. Types - Street Maps, U.S.G.S. Maps, Orienteering Maps
2. How maps are made - Arial Photography to field checking
3. Map scales and legends

B. Compass use

1. Parts of the compass - base, bezel, needle, direction arrows, N-S arrows
2. Declination - Magnetic north, True north (north pole - Polaris)
3. Orienting map
4. Bearings and compass walk

C. Map features

1. Black features - man-made: roads, trails, buildings, fences ; also cliffs and boulders
2. Brown features - elevation: contour & form lines, slope lines, erosion lines
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D. Route choice

1. Orienting the Map
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