

**Introduction
to
Orienteering**

Agenda

Introduction to Orienteering
 An Orienteering Course
 Orienteering Maps
 Basic Techniques
 How to get started
 Questions

What is Orienteering all about?

Navigate to a series of points (controls) shown on a specialized topo map, choosing routes - on or off trail - that will help you find all the controls and get to the finish.

How did Orienteering develop?

Began in Scandinavia around 1900

- Exercises in land navigation for the military

Gradually spread throughout the world

- Kjellstrom brothers (founders of Silva) exported Orienteering to UK and USA
- Silva Holds the Trademark for Orienteering

Now practiced on six continents

- World championships held every year
- Millions of competitors each year

Who goes Orienteering

Kids

- Learning to read maps
- Through Scouts, building team work and earning merit badge
- Through School and through the Cadet Corps

- Families exploring a new (or familiar) park
- Outdoors lovers looking for a change
- Hikers looking to improve their navigational skills
- Adventure Racers wanting to get a leg up on the competition
- Seniors looking to stay healthy
- Businesses looking for team building activities
- Competitive Orienteers addicted to the challenge

Where are Orienteering events held?

- Forests
- State and Regional Parks
- City Parks
- Suburban neighborhoods
- School / University campuses

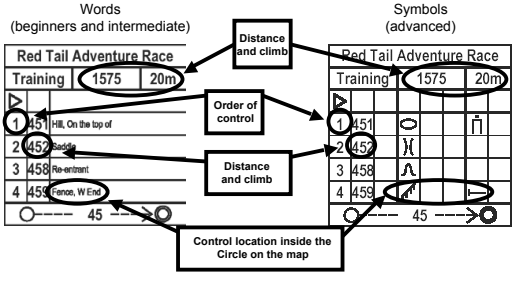
What am I looking for?

- Orange and white "Control"
- Clue-sheet (words or symbols) tells you exactly where the control is and the control number
- Number on the control confirms you are at the right one
- Use the punch on the punch card to prove you visited the site



What is a clue-sheet for?

- Tells you exactly where inside the circle the control is
- Two versions with the same information:

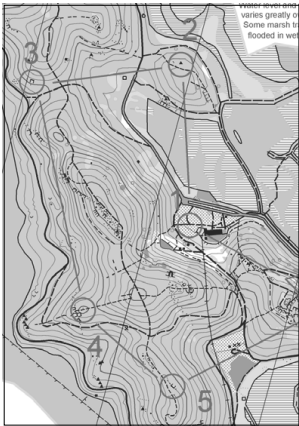


What does the punch card look like?

Name: _____ Finish: _____
 Course: _____ Start: _____
 Class: _____ License: _____
 Time: _____

Name: _____
 Course: _____
 Class: _____
 License: _____
 Finish: _____
 Start: _____
 Time: _____

21	22	23	24	25	26
11	12	13	14	15	16
1 (451)	2 (452)	3 (458)	4 (459)	5	6



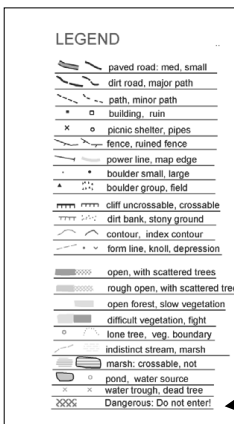
Example Course

Start is at the center of the triangle
 Controls located at the center of the circle
 Complete controls in order
 Finish is at the center of the double circle

How do Orienteering maps differ from USGS maps?

	USGS	Orienteering
Purpose	• 3D representation of terrain for general purposes	• 3D representation of terrain for fine land navigation
Scale	• 1:24,000+	• 1:5,000-1:15,000
Contour interval	• 25 feet or greater	• Typically 5m
Orientation	• True North	• Magnetic North (no declination required!)
Grid/references	Coordinates, altitude shown	• None
Survey method	• Primarily aerial photography	Aerial base map, extensive land survey
Update period	• 10-50 years	• 1-5 years
Accuracy	• Often very inaccurate	• Highly accurate

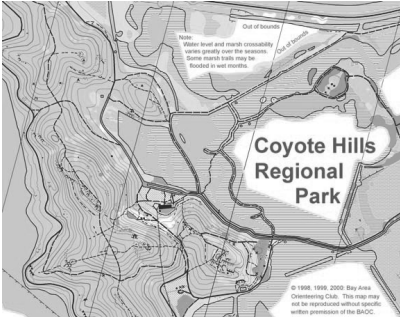
LEGEND



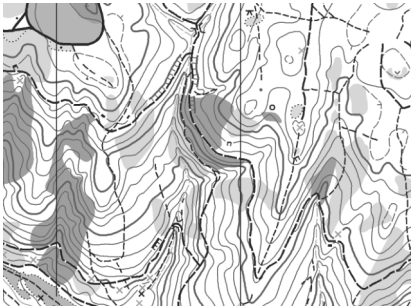
Orienteering Map Legend

- Man-made features primarily black
- Rock features black
- Contour features brown
- Open areas yellow
- Forest white, thicker vegetation green
- Water blue
- Courses and restricted areas purple

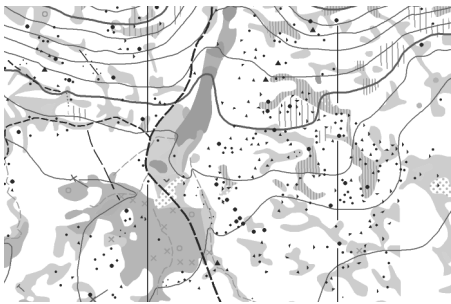
Coyote Hills, Fremont



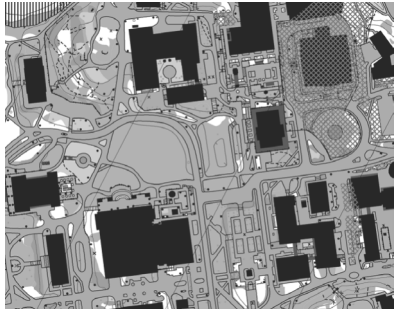
Joaquin Miller Park, Oakland



Burton Creek State Park, Lake Tahoe



UC Berkeley Campus



Navigational Techniques

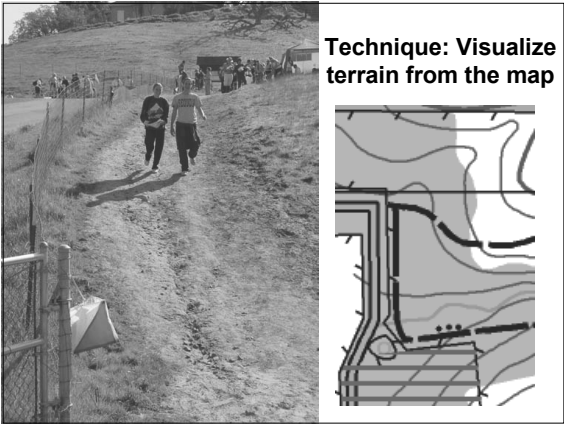
- Orient the map using a compass
- Visualize the terrain from the map
- Recognize where you are on the map from the terrain
- Plan your route and check off features
- Taking a bearing (more advanced)
- Aiming off (more advanced)
- Attack point (more advanced)
- Traffic lights (more advanced)
- Pace counting (more advanced)

Techniques: Orienting the map

1. Place the compass on the map
2. Turn the map so the RED (North) compass needle points in the same direction as the North lines on the map

THE MAP IS NOW ORIENTED – Features on the ground will be aligned with the map

- Tip: Try to keep the map oriented all the time (need to turn the map as you change direction)
- Tip: Fold the map over so only the portion of the map you are interested in is visible







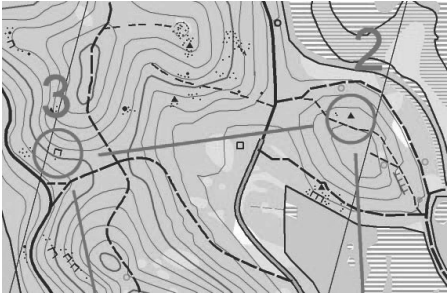
Technique: Plan the route and check off features



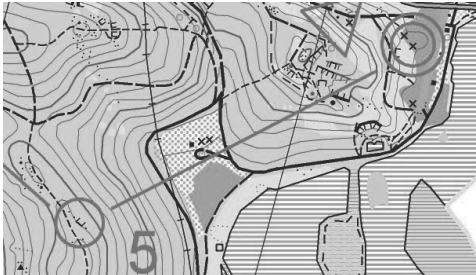
Technique: Plan the route and check off features



Technique: Plan the route and check off features



Technique: Plan the route and check off features



Some advanced techniques

Aiming off – if taking a bearing to a line feature, 'aim off' to one side or the other so once you hit the line feature you know whether to turn left or right to find the point feature

Plan your route in reverse – identify an easily recognizable attack point to hit that you can use to 'attack' the harder to find control feature

- Traffic-light approach
- Go fast (green) when looking for large, easy to identify features (a major trail junction)
 - Go steady (yellow) when looking for smaller, harder to identify features
 - Go slow (red) when looking for small, easily missed features

Pace counting – when the terrain is vague and you want to ensure you don't go too far/stop too early

Advanced techniques: Taking a Bearing

1. Lay compass on the map
2. Line up the base-plate with direction you want to go in
3. Turn the dial so the North marking on the dial is aligned with the North markings on the map
4. Turn the compass so that the North needle is pointing in the same direction as the North marking on the dial. The direction on the base-plate is the direction of travel

• Tip: You only need to take bearings when there are no reliable mapped features to navigate by. Don't overuse!

What are the different colors of courses?

- White – beginners courses, follow trails and other linear features. Good for first timers and kids age ~9-12. 1.5 – 3.0km
- Yellow – controls in less obvious locations, more off-trail. A great next step after successfully trying white course. 2-4km
- Orange – Intermediate controls that require cross-country travel. Can be quite challenging, physically and mentally.
- Brown, Green, Red, Blue – Advanced courses with the most demanding navigational requirements. NOT RECOMMENDED until some success with orange. Different lengths from Brown up to Blue (longest)

What should I wear?

Beginner (white/yellow)

- Sun hat
- Layered top
- Compass
- Long or short pants
- Sturdy shoes



What should I wear?

Intermediate/advanced

- Lightweight nylon top
- Lightweight nylon pants
- Compass
- Gaitors
- Shoes with cleats or short spikes



Does Orienteering damage the land?

- Orienteers go off trail, raising environmental concerns
- We care deeply about the parks we use
- Actual environmental impact is very low and short-lived
 - Not using pristine wilderness areas
 - Work with park rangers to avoid sensitive areas
 - Courses visit different controls – dispersed impact
 - Affected areas recover within weeks at worst
 - Low impact confirmed by scientific studies
- Orienteering builds a tremendous love and respect for our environment

What about safety

- ALWAYS REPORT TO THE FINISH whether you complete your course or not
- ALWAYS RETURN TO THE FINISH BEFORE THE COURSE CLOSING TIME whether you complete your course or not
- Carry a whistle
- Know your limits (physical and navigational) and stay within them
- Take precautions if allergic to poison oak, bee stings, etc.

Are there different 'flavors' of Orienteering?

- Point-to-point (standard)
- Score-O
- Rogaine (Adventure Orienteering)
- Ski-O
- Many other minor variations, but all involve maps and navigation

What's new in Orienteering?

- Computer mapping
 - Continuously updated maps
 - On-demand printing

- Electronic punching
 - Split times for each leg

- Tracking competitors in real-time
 - A few demonstrations so far
