

General Instructor Notes

40 minute teaching script. Key details for each course available separately.

Introduction

(2 minutes)

Near the initial gathering location:

- **Introduce** yourself and welcome newcomers
- **Define** orienteering
- **Explain** what they are going to do today (complete a mapped course)
- **Show** control marker and punch (there will be one close by)

Compass Use

(3 minutes)

Briefly:

- **Red needle** points north: hold compass level
- Review **cardinal directions**
- **360° in a compass circle**: allows hiker to travel on a dialed-in bearing
- **Ruler** helps determine travel distance: can calibrate with pace counting
- O-map uses **magnetic north**: no declination calculations needed

Map Reading

(10 minutes)

Distribute maps with clue sheets.

- Describe **orienteering map**: symbols mostly, not much text, mag N at top
- Discuss **colors and map symbols**: legend (IOF Orienteering Map Symbols)
Linear features: roads, trails, streams, fences
Point features: buildings, lone trees, manmade objects
- Explain **scale and contour interval**: 1 cm on map = 5000 cm (50 meters) in the real world for a 1:5000 map. Map contour interval is 5 meters.
- Discuss **course markings**: triangle Δ , double circle \odot , order of controls
- Discuss **clues and international symbols** (IOF Control Descriptions)

Orienting the Map

(3 min.)

Cover at the beginning of hike and again at each control point:

- Find **where they are** on map
- Use compass (needle only) to **orient map** with magnetic north lines
- Note **nearby features** and show that map symbols match surroundings
- **Locate the next point** on the map and its approx. location in the real world
- Demonstrate how to **keep map oriented** while hiking

Orienteering at each point

(20 min.)

Get moving. At each point:

- **Check code, punch** in correct box on punch ticket.
- **Locate the next point** on the map and its approx. real world location
- **Describe route choices** and how they will dictate speed vs. ease of navigation
- Point out any **handrails, collecting features, catching/backstop features**
- **Make a plan and move** to the next point

Refer to notes for specific courses.

Safety

(1 min.)

Reminders:

- **Be prepared**: snack, water, whistle, first aid, etc,
- Don't take **unnecessary risks** (stay out of ponds, avoid cliffs, etc.)
- Always check in at **finish**
- Report **injured hikers** to the officials

Close

(1 min.)

Wrap it up:

- Remind them about the **other practice courses** currently at park (white=easiest, yellow=a little harder, orange=a little longer)
- Wish them good luck and **invite them** to find you at the end to tell you how they did
- If they had fun, invite them to **join the club and/or come back next year**

A Few Tips

- Keep your audience engaged -- get moving on the trail as soon as possible. Try to limit the pre-hike talk and use on-trail time to go more in depth.
- Don't speak too fast. You have a limited amount of time to complete the hike, but your audience needs to be able to understand you.
- Explain to beginners that practice courses start at □, and end at ⊙. Points to be visited sequentially.

Review of Terms

Orienteering: the skill or sport of finding your way in the field with a map and compass.

Handrail: a longish feature shown on a map which runs more or less parallel to the direction of travel.

Collecting feature: an obvious feature between you and the control that helps guide you.

Catching feature/backstop: a feature beyond the control that can be used to alert you that you have gone too far.

Attack point: an easy-to-find feature shown on the map from which the final approach -- "attack" -- to the control can be made.

Declination: the angular difference between true north (usually depicted on maps) and magnetic north (which moves from year to year). Currently (year 2024) declination at Highland Forest is $-12^{\circ} 1'$ (west of true north). It is between the Canadian Arctic and Siberia.

Course color codes (easiest/shortest to hardest/longest): White, Yellow, Orange, Brown, Green, Red, Blue.

Pace Counting

You can calibrate your real world travel distance with distance on the map. Find two points on the map that are 1 cm apart and have participants count their paces (every other step) between the two points in the real world. They can then use their personal pace count to keep track of progress on the map (1 cm = pace count). Uphill, downhill, and travel through rough areas will affect perceived progress.

Transfer Bearings from Map to Field (for more experienced groups)

Step 1: On the map, line up your compass with your route. Place the compass on the map with the side edge of its base plate touching both your starting point and your destination. The direction-of-travel arrow on the base plate should point in the direction you want to go. Disregard the compass needle.

Step 2: On the compass, set the housing to match the N-S lines on the map. Hold the base plate firmly against the map with one hand and turn the compass housing until the lines on the housing are parallel to the nearest N-S line on the map. Make sure that north arrow on the housing points to the top of the map. Disregard the compass needle.

Step 3: In the field, follow the direction set on the compass. Hold the compass level in front of you with the direction of travel arrow pointing straight ahead. Turn yourself around until the red end of the compass needle ("Fred") aligns with the arrow on the bottom of the housing ("Shed"). Once "Red Fred is in the Shed" the direction-of-travel arrow points to your destination.

Follow a Bearing (for more experienced groups)

Choose a landmark such as a tree or large rock in the direction of travel indicated by your compass. Walk to that landmark without looking at your compass or map. When you have reached it, again check the direction with your compass, on which you have been careful not to change the setting. Ahead is another landmark leading you closer to your destination.

Key Concepts on Novice Guided Course (for beginners)

Grab some punch tickets to hand out at the end of the hike. Start at Community shelter (below Pines).

At Start Triangle

Line up finger from “here” to “there”, then orient the map. Finger points the way.

Point out **clue** for point 1 and how to read the clue table.

Walk to point 1, noting how **map features** appear in the real world.

At Point 1

Point out the **control number** and verify it’s the right one in the clue table.

Show a sample punch ticket (to be handed out later). **Show how to punch** (practice on edge of map).

Explain how to fill out punch ticket, safety pin it for easy access. Always return ticket even if you don’t finish to avoid later search for missing hikers.

Orient the map. Handrails -- linear features (roads, streams, paths, edges of a clearings) that make navigating easy. What handrails lead us to point 2?

Pace counting exercise: Find two features on map that are $\sim\frac{1}{2}$ ” apart (current building and the first trail junction east of point 1) then count paces between the features. Everyone’s count will be different. Pace count becomes useful tool for judging distances on map (must redo for new map with different scale).

At Point 2

Discuss **contour lines**. If there are two routes, contour line density could influence the decision.

- Top of hills are closed loops (Pines Camp)

- Steep vs. gradual hills

- Long ridges

- Reentrants (where streams cut through the terrain) - “V”s in contour lines always point uphill

Orient the map. Orienteering is all about **route choice**. How can we get to point 3? Discuss choices.

Vegetation boundaries. Point out veg edges (dotted line) that can be used for navigation and which areas (amber, amber with dots, white, green, blue) are easy/hard to walk.

At Point 3

What **handrails** could lead us to point 4?

Move to the multi-way intersection. **Orient the map.** Discuss how orienting map helps you decide which trail to take.

At Point 4

Discuss **symbols** on the clue sheet. Think through “NE side of S pond”. **Route choice:** discuss the options to point 5.

At Point 5

See if kids can navigate themselves to the finish.

At Finish

Know the park - main park road runs through the middle. If lost, head east or west towards the road. Hand out **punchcards** to groups that will do a second course (on their own).

Pioneer Museum is free and will be open from 8:30 AM -1:30 PM.

Key Concepts on Experienced Guided Course (previous experience)

Grab some punch tickets to hand out at the end of the hike. Start at Saw Mill.

At Start Triangle

Orient the map and review area around Saw Mill, comparing map symbols to the real world.

Know the park. Main park road runs through the middle. If lost, head east or west towards the road.

Clues. Review the clue table and point out clue for point 1.

Pace counting exercise: Find two features on park road that are ~1 cm apart then count paces between the features. Pace count becomes useful tool for judging distances on map.

Continue to point 1, noting how **map features**, especially vegetation boundaries (dotted lines and color changes), appear in the real world.

At Point 1

Point out the **control number** and verify it's the right one in the clue table.

Show a sample punch ticket (to be handed out later). **Review how to punch** (practice on edge of map).

Explain how to fill out punch ticket, safety pin it for easy access. Always return ticket even if you don't finish to avoid later search for missing hikers.

Map symbols: Slash on the map is the site of an old blowdown. Discuss challenges in walking the area.

Handrails: Linear features (roads, streams, paths, veg edges) that make navigating easier.

Vegetation colors on map: white, light green, dark green, hatched green. Discuss the pros and cons of traversing them.

Route Choice: What handrails lead us to point 2?

Approaching Point 2: Marsh is a **catching feature/backstop**.

Approaching Point 3:

Route choice: On approach, observe the vegetation on each side of stream.

Discuss a convenient **attack point**.

Approaching Point 4

Discuss **contour lines**. Top of hills are closed loops, steep vs. gradual hills, long ridges, reentrants. If there are two routes, contour line density could influence the decision.

Reentrant: Where streams cut through the terrain, or similar cut in a slope. Review this feature on the map and in the real world. "V"s in contour lines always point uphill.

Route Choice: Follow a **bearing** through the woods or walk the trail? Demonstrate how to take and follow a bearing to point 4. Consider splitting the group and comparing the routes after meeting at point.

Approaching Point 5

What **handrails** lead to point 5? What **catching features** are useful? Discuss **route choices**.

At Finish

Do not loiter in the Saw Mill area, especially scrap piles to the west of the buildings.

Hand out **punchcards** to groups that will do a second course (on their own). Safety pins at start.

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