Orienteering

SDH 2017

OVERVIEW:
Being in the wilderness means not only knowing about the animals and plants, but knowing how to find your way around as well. Map and compass skills will be learned as students challenge themselves to complete a designated orienteering course.

OBJECTIVES:
Students will be able to:
- List the major parts of the compass and topographic map.
- Identify the four cardinal directions on a compass.
- Orient a topographic map.
- Demonstrate the proper use of map and compass to navigate camp terrain.

VOCABULARY:

Base Plate	Bearing	Contour Interval	Contour Line
Dial	Direction of Travel Arrow	Elevation	Index Line
Magnetic Needle	Magnetic North	Map Legend	Map Scale
Orienting Arrow	Relief	Topographic Map	True North

MATERIALS:
compasses
road map
topographic map
orienteering course cards
grease pencils or pens, depending on lamination
dry erase marker

PROCEDURES:
1. Introductory Activity: Goin' to Camp (found in activity glossary) / (Orienteering 1)
   A. Debrief: Did you look at a map and get directions to camp before you arrived? Why or why not? If you decide to travel later in life, do you think you will carry maps with you? Why can't you rely solely on GPS or cell phones for directions?
   B. Refer back to the road map. Explain where the **map legend** is and why it is important.
   C. As you point out the legend, point out the **map scale** and explain its importance.
   D. Explain to the students that there are all types of maps and they each serve their own purpose.
2. Topographic Map Discussion
   A. Introduce the **topographic map** of the Barton Flats area, and lay it out for them.
   B. Point out different features on the map. What is depicted in blue? What does the color brown and green depict? How about the color black? How about the color red?
   C. Show students the actual summits of the mountains and the buildings in the Barton Flats area. What do the smaller circles mean?
   D. Explain **relief** to the group and why it is important.
   E. Talk about **contour lines** and **elevation.** Explain how they are related and why we need them.
      i. Demonstration: Knuckle Mountain (found in activity glossary)
      ii. Debrief: Without any numbers marked, would you be able to tell if those were mountains or craters?
   F. Explain **contour intervals**, and how they show trends of increasing or decreasing elevation. Point out the **index lines** and how they are useful with a topographic map.
3. The Compass Discussion
   A. Hand out compasses so all students can locate the parts as you talk about them. Have students put the compass around their neck. Use the large compass to show where each of he compass parts are located. As you point out the parts of the compass, have each students point to it on their own compass and check each individual to make sure he/she is pointing at the right one.

B. Ask students if anyone knows how a compass works. Explain **magnetic north** vs. **true north**.
C. Explain the **base plate** and what it does.
D. Explain the **direction of travel arrow** and how it helps us.
E. Talk about the **dial** and what it does. Why does it have numbers on it? *To show degrees.* Why does it move? *To aim your direction of travel.*
F. Explain the **orienting arrow (shed)** and its importance.
G. Explain the **magnetic needle (fred)** and its relation to the compass.
H. Tell the students how to read a **bearing** on the compass.
I. Demonstrate how to hold the compass. "Plug the compass into your chest with the arrow of direction pointing away from your body. Be careful not to hold the compass near metal, this could alter the reading."
J. Show students how to move the dial. "Move the dial until the bearing you want is lined up with the Index line. When finding bearings, leave the compass against your chest and move your body until 'Red Fred is in the Shed'"
    i. Activity: Reading a Bearing (found in the activity glossary)
    ii. Debrief: What did you notice about 0 and 360 degrees? (same) What helps you use your compass properly? (keep compass fixed to chest, move whole body, follow direction of travel arrow). How many degrees does each line on the compass represent? (index varies by compass)

I. Discuss tips for effective compass use
    - Don't follow the magnetic needle – follow the Direction of Travel Arrow
    - Don't stare at the compass; orient it and pick a landmark to walk at. Take a few steps and recheck your bearing.
    - Don't walk in curvy lines, have others help you get around or over objects and keep track of your steps.
    - Don't turn just the compass, turn your whole body.

J. Collect the Compasses for Orienteering 1 before moving to Orienteering 2.

4. *Experiment: Orienteering Course* (Orienteering 2)
    A. Hand out Compasses for Orienteering 2.
    B. Explain to the students that they will have to take their "Reading a Bearing" skills to complete the course and decode the secret message!
    C. Conduct experiment.
    D. Debrief: Was it difficult to walk and read your bearing at the same time? Is it important that we can do this and why? What happens if you run into an obstacle? Did one particular person read all the bearings? Why? How can we use this in the real world? What would be the first thing you do if you find yourself lost? If you had a map and compass with you, would it be different?
5. Wrap Up
    A. [*What?*] Concisely review the major points of the lesson, all the way back from the introductory activity.
    B. [*So what?*] What was important for you to discover from the lesson? Why was it important for all of us to take this class?
    C. [*Now what?*] What can you now do with this information? What changes can you make in your life? What can you teach to others? Who will you tell? What will you say?
    D. Pass out beads after all students have contributed.

THINGS TO THINK ABOUT:

Special Needs: Keep a close eye on all your students when doing the experiment because they may miss their target and completely wander off….

Time Fillers: See the class binder for more activities.

Weather: Typically this class can be done regardless of the weather. You may need to dig out the starting stump or make sure the signs are still up.