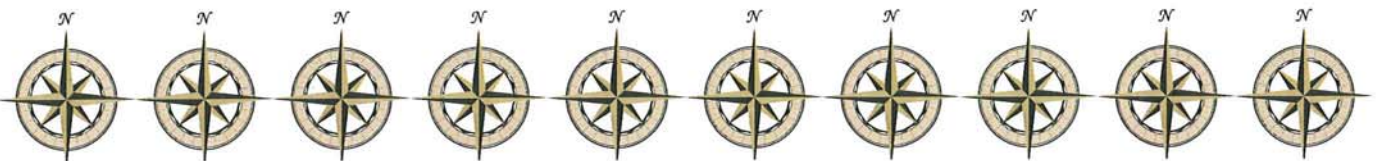


Unit 6: Mapping/ Orienteering



Modified Orienteering

Overview:

- Students will use a compass.
- Students will use geography, environmental studies, mathematics, and cooperation skills.

Grade Level: 3-12

Learning Station: This activity needs to be done in an open area. The area around the shelter works well, or the open area on the north side of Hwy. J is also good. The north side of Hwy. J has an orienteering course set up that can be used for the third and fourth course trials described below.

Materials:

- 1 compass for each group of 2 or 3 students
- 3" x 5" index cards, pencils and clip board for each group
- General map of the areas to be covered
- Cone markers

Activity:

Note: Students must learn the basics of using a compass prior to going on a field experience.

I. **Using the Compass:**

1. Arrange students in groups of two or three; give each group a compass, a 3" x 5" card, and a pencil.
2. Begin by having the students find north.
3. Once it is found, place a cone at a point approximately 25 yards from the students.
4. Number an additional set of eight cones and place them in different locations approximately 25 yards from the center of the playing area.
5. Explain to the class that north will always remain a constant, and the other compass readings can be taken based on their relationship to north.
6. Ask students to write down the compass headings from the center of the playing area to each of the other cones.
7. Have the students discuss how the readings were taken and compare answers.

II. **First Course Trial:**

1. On an open playing field, mark and number (use large numbers that can be seen from a distance) 12 different locations at varying distances from the center.
2. On 3" x 5" cards, write the numbers 1-12, in a different sequence on each card.
3. Give one card and pencil to each group of two or three students.
4. Beginning in the center of the area, students locate the first numbered cone on their cards, record the compass heading, and run to it.
5. From that cone they locate the next numbered cone, record the compass heading, and run to it.
6. This sequence continues until they have recorded the compass heading to each cone in their sequence.
7. The final listing should be from the last cone back to the center.

III. **Second Course Trial:**

1. This field experience is similar to the first, with one major exception.
2. Rather than writing the numbers of the cones down, write the compass heading from each group's sequence.
3. The object is for the group to read the compass heading on the card, locate the cone, run to it, and write the cone number down on the card next to the heading.
320 degrees from center mark – cone number ____ (6) ____
60 degrees from cone number ____ (6) ____ to cone number ____ (4) ____
128 degrees from cone number ____ (4) ____ to cone number ____ (8) ____

IV. **Third Course Trial:**

1. During this trial, students must locate marks that are not directly visible from any point.

2. Using the 3" x 5" card format as in the second trial, locate marks behind trees or bushes, around the corner of a building, under a bench, and so on.

3. As the students run to that area, they must also be looking for the mark.

4. When it is found, they must write the number and describe the location of the mark.

320 degrees from center mark – cone number ___(6, by pine tree)___

60 degrees from cone number ___(6)___ to cone number ___(4, under bench)___

128 degrees from cone number ___(4)___ to cone number ___(8, on oak tree)___

V. **Fourth Course Trial:**

1. This is the most challenging trial.

2. Students are provided maps of the area noting objects and general terrain.

3. On the 3" x 5" card, list the compass headings to the marks.

4. Get a little "fancy" this time; put marks on opposite sides of buildings or objects that students must go around and relocate their compass heading.

5. Students mark their cards as in Trial 3.

Note: Remember to make the mark sequence listed on each card different. This keeps groups from simply following one another. For more advanced students, give each group a stopwatch, and have them record their running time between marks; add the times to determine the total running time for each group to complete the course.

Excerpted from *P.E. Teacher's Complete Fitness & Skills Development Activities Program*.

SpellO':

An Orienteering Lesson

Laura Grant (Shelburne Community School)

Overview: This lesson provides a hands-on experience of the "thinking sport" of orienteering with a map. Students use their compass and maps to locate labeled trees scattered throughout the area on the north side of Hwy. J.

Grade Level- 4-12

Learning Station — On the North side of Hwy. J, you will find an orienteering course set up. Various trees are marked and correspond to markings on the maps.

Materials:

* A special purpose map (such as a classroom map, fire escape plan, campus map, or orienteering map) with the chosen course indicated, one for each student;

* control card for each student (see sample below);

* some type of markers to indicate the chosen features, such as small yellow self-adhesive papers (i.e., "Post-its") or orienteering tree markers.

Activity: Follow the directions on the attached "SpellO" activity sheets.

Extension/Alternative: For older students, use the GPS units instead of the compasses. GPS units are stored at the high school. Contact Mike Werdeo if you would like to use them.

SpellO':

An Orienteering Lesson

Laura Grant (Shelburne Community School)

Objectives: The students will: (1) practice orienting maps, and (2) accurately navigate an orienteering course.

Geographic Theme: Location.

National Geography Standard: Number 1 (use maps and other geographical representations, tools, and technologies to acquire, process, and report information from a spatial perspective).

State Geography Standard: State standard number 6.7.c (use maps, globes, and other geographical images for a variety of purposes, such as acquiring knowledge, making decisions, interpreting information, and analyzing perspectives).

Time: One class period.

Directions:

- (1) In advance, plan a course on the map, and mark it with 18 locations for students to find along the course. (If using an outside course, have students work in pairs, and use fewer locations. Seven or eight stops is about right for beginners.) Make enough copies of the map for each student to have their own (even if they work in pairs).
- (2) In advance, place a yellow self-adhesive marker at each location using the number from the map and the appropriate letter from the phrase for the control card. Placing markers under desks and tables works well, but never completely hide a marker; this activity is about accurate map reading, not archaeological or forensic skills.
- (3) Introduce the activity to the class as a map reading adventure in the classroom or school similar to the sport of orienteering where people called orienteers read special topographic maps and run swiftly through the woods along a timed course.
- (4) Hand out the maps and control cards to students. Have students turn their map until it lines up with the way the room is, make sure everyone knows where they are, and explain that they should turn their bodies when they travel rather than the map.
- (5) Shows students a sample of the markers used. Have the students travel the course in the direction indicated on the map and locate the 18 stations (or have half the class go forward through the stops and the other half go backwards). Tell students to quickly copy the letter

from the marker and keep moving. The letters will spell a message when the course is completed. Give them 15 minutes to complete as much of the course as they can, and suggest that they not waste time trying to solve the message during the timed part of the event.

(6) After 15 minutes, reconvene the class to see who discovered the message. Hold a discussion about their experience.

Variations and Extensions:

(1) Instead of having the letters on the control card spell a message, have the letters be in a secret code that the students crack when the 15 minutes is up. This makes it harder for students to guess the letters and message.

(2) Design a course that awards higher point values to distant features and lower values to close or easy features.

(3) If you have studied tree identification, have the students name the marked trees or have them use a key to determine the kind of tree each marker is attached to.