



ORIENTEERING and GPS WORKSHOP

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corporate settings, and
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www.UltimateTreasureHunts.com www.can-you-find-it.com and www.O4Schools.com

- I. Orienteering teaches decision making, communication skills, self confidence, increased memory ability and focus-among other things- in any subject material and for students of any age. It is beneficial to reserve the compass skills until the student understands or inquires about how the compass can aid his(or her) comprehension of position and route choice on the map. Using observation and landmark features builds self confidence in understanding a map whether it is a map of the library or the sports field. The compass, in the early lessons, truly only has the purpose of showing where magnetic north is in relation to where you are standing. Remember that the electromagnetic fields inside of buildings, nails in picnic tables, rebars in concrete and batteries in watches will affect the compass accuracy. The proper use of the compass is outside, held at the waist, and directly in front of the holder. Go to www.us.orienteering.org and look for the education link. (that's my hand holding the compass and map!!)

** Important aspects of using a map as a teaching tool are:

- The map must be accurate.
- The map is of the location of the school grounds or classroom.
- Every feature in the mapped space is represented on the map.

- II. Make an accurate map using the school's architectural drawings, aerial photography, and then field checking. Remember that USGS maps can be a confusing and inaccurate way to present orienteering as many map features are missing and it is not current. Often, towns have converted the state GIS data already and you might find a resource at the town hall for an enhanced contour map with updated roads and buildings. An inside map of the gym, the hallways, and/or classroom (for all ages) is a fantastic way to teach map skills, route choice selection, and detailed map features. If your school does not have a high quality floor plan, make the map by walking, counting your own steps and drawing with a tenth inch ruler. You will be surprised what you or the students will learn by doing that exercise. Each step (or double step) is one mark on the ruler and voila, you have a scale on the map! For older or experienced students, put the scale and magnetic north lines (outside only) on the map and the compass will complement the map.

- III. A first lesson is truly about turning the map so that it is real no matter what the age or ability of the student. Have you ever turned a road map 'upside down' to make it match the landscape and thought that you had it wrong? Turning a map so that it is 'real' is the correct way to use a map. Circles with controls located within them are drawn on the easiest version of the map that you have made. The controls (letters or numbers) must be in the exact center of the circles. A start triangle can be added by the student so that he/she thinks about where they are starting from. Place ten circles on the map and put a one inch square 'control' at each location. Orienteering is a silent sport especially for this lesson. Each participant must focus on his/her contact with the map and should not interrupt others' thoughts with "Here it is" or 'Over here'. Have 'first' finishers draw their routes of travel on the map with a pencil line that shows exactly where they walked. You do not need to wait until all are finished to call them into discuss their experience. Tell them they can get their last controls afterwards if they want. It is not meant to feel like a race but an exercise in map orientation. Everyone needs to feel they are successful.

Questions to ask:

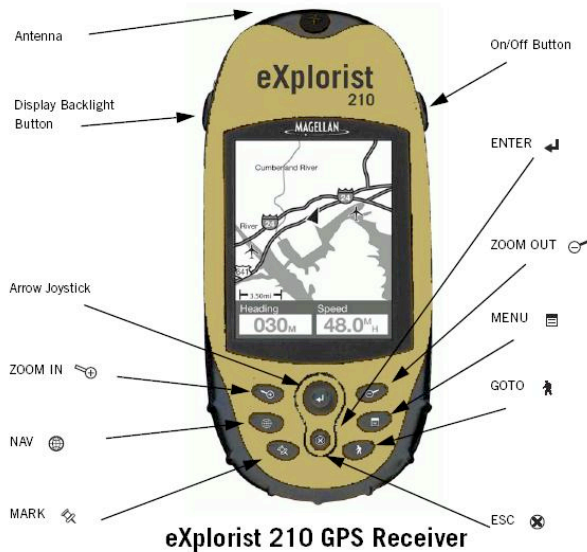
- How many of you had the experience of going the wrong way which forced you to orient (turn the map so that it is real) the map?
- What feature on the map did you use to reorient the map? Everyone relates to different parts of maps to resolve where they are. Think about what you looked at on the map that made the most sense to you. It can be different for everyone.
- Now that you have finished the exercise, can you see how you could have been more efficient with your route?
- What is the feeling that you get when the control is exactly where you anticipated you would see it?



Turning the map so that it is 'real'

- IV. The GPS is a fun, high tech addition to map skills. Teachers would want students to have a solid grasp on map use before they jump to using satellites to navigate. GPS can give you a direction to travel and a distance to get to a predetermined location. It may have map software loaded on, but scale and detail will be vague. The GPS will show how accurate the radio signal from space is (interference lowers the accuracy), latitude and longitude, and other spatial data. Students can use this information to determine where on the map the point is located so that they can find the most efficient route to get to the cache, the clue or the control. Below are the directions for using a Magellan Xplorer unit. After almost fifteen years of using GPS for teaching and mapping, I find these the most user friendly pieces of equipment. Units should be preprogrammed by connecting to a computer. Entering data manually is very tedious and riddled with potential for human error and can detract from the lesson.

TO GO TO A POI



1. Press ON/OFF button to wake your unit up. When the screen tells you to press the bent Arrow Joystick (from now on referred to as ENTER or TOGGLE), do so to keep the unit from automatically turning off. You will need a good location so that the unit can locate the satellites and patience until it is ready.

(you may press the NAV button to see all of the screens while you wait for the unit to find the satellites)

2. When your unit is ready to navigate, press MENU. Toggle down to POINTS OF INTEREST. Press ENTER. Select MY POINTS OF INTEREST. Press ENTER (If the cities/location box pops up, just press enter, again). Select UP ONE LEVEL. Press ENTER. TOGGLE to VAHPERD and press ENTER.

3. TOGGLE through this list and notice that each location has text associated with it. This is your clue location. Make a note of it as it will help guide you to answer your list of questions. GPS units are not perfectly accurate and you may need this clue to recognize the exact spot to answer the question or find the cache. TOGGLE to the POI that you would like to go to and press GO TO.

4. The COMPASS screen will appear. If not, press the NAV button to move through all of the screens until you see the round compass. *Look at the top of that screen. It should tell you the POI that you selected and how far away it is. Make note of this. If it isn't there, you will need to repeat the process.*

The BLACK end of the arrow is the direction to travel to locate the cache. Move your body around in space so that the unit can give you an accurate direction to travel. Look around you. Be aware of travel and obstacles as this only tells you a straight line and distance to the destination. Most of the information in this challenge can be gathered from your car.

5. Press the NAV button to see the other screens. The COMPASS will maintain its direction and you can return to it. What the distance get smaller as you approach the location to confirm that you are going in the right direction.

6. ** To view all of the points on the GPS map, using the menu button and going to the list of Points Of Interest, TOGGLE to the POI that you would like to go to and press MENU and then VIEW ON MAP. You can Toggle over to the nearest POI and press GO TO.