

Geocaching

SUBJECTS

Geography, Technology

OVERVIEW

We will be teaching the students how to use a GPS unit (enter coordinates, how to read the unit as it directs you to your cache), sharing the differences between GPS and GIS, finding caches throughout the site and having discussions based on the site and the 'walk away' topic, and talking about how these skills and topics relate to real-world jobs.

V. SUPERVISOR GUIDE

STUDENT GUIDE

OBJECTIVES	To guide the students around the site as they search for clues to the next cache using a GPS unit. And to facilitate conversations around the 'walk away' topic.	To learn about the Global Positioning System, using a GPS unit, and use this knowledge to move throughout the park and connect to the 'walk away' topic.
BACKGROUND INFORMATION	<p>Geocaching (pronounced 'geo-cash-ing') is basically a real-world treasure hunt using GPS units to get you close to the location or item you're looking for—the cache ('cash'). There are literally millions of caches hidden around the world, encouraging individuals and families to explore areas nearby (or far away) like they've never done before. Six million people are actively participating in geocaching right now! You can learn more about geocaching at http://www.geocaching.com/</p> <p>Geocaching is still sometimes done as orienteering (using a compass and map), though technology has brought us GPS. The Global Positioning System (GPS) works by connecting to three satellites to configure the unit's position on the earth, or your coordinates. Coordinates are made up of latitude and longitude, which are measured lines/distances across the earth. Lines of latitude measure your north/south position (they run east/west on the globe, the equator is one line of latitude). Lines of longitude measure your east/west position (they run north/south on the globe, the prime meridian is one line of longitude). The GPS unit will combine latitude and longitude lines to give a coordinate that determines your current location and can direct you to where you want to go!</p> <p>The Geographic Information System (GIS) is used in mapping and geography, too. GIS is a computer system designed to display parts of the earth's surface (using GPS) and show it and other geographic data in a complex map. Some examples of other geographic related data might include: outbreaks of influenza, income, education levels, population, industrial cover, forest cover, and so much more!</p>	
COMPREHEND	The descriptions and differences of GPS and GIS, how to use GRG's GPS units, and the 'walk away' topic for an individual site.	The definition of GIS and GPS and how each can be used in daily life (for work or play), how to use GRG's GPS units, connect land forms found on site (through geocaching) to the individual event's 'walk away' topic.

EQUIPMENT	RESOURCES	TAKEAWAY
<ul style="list-style-type: none"> - GPS units - caches 	<ul style="list-style-type: none"> - Longitude/Latitude poster - Satellites poster (posters are in development) 	<ul style="list-style-type: none"> - How to use a GPS unit - Real world geography - Using tech in the field - Connection to 'walk away' topic

V. SUPERVISOR GUIDE

STUDENT GUIDE

ACTIVITY		
	<p>Introduce the activity by having a short discussion about GPS and GIS. Then move into the activity of using the GPS units to find caches. Use the directions in the 'GPS Unit Step By Step Guide' to show the group how to enter the coordinates of each next cache into the GPS and then let them find it! Make sure everyone stays in a group together and that the GPS unit is passed throughout the group so as many students as possible get to use it (everyone, ideally!).</p> <p>When they get to the area for the coordinates, then they'll need to begin searching high and low to find the cache. Inside, they will find a note with a question. Go through the discussion points and have the students work together to answer the question.</p> <p>Help prompt them when talking about professional roles involved — think about design, community input, policy and governance, marketing, graphic design, etc. This activity is to think about the people who COULD have been involved, not necessarily to name the jobs/groups who were ACTUALLY involved.</p> <p>At the end of each note will be the coordinates for the next cache. Continue going to each cache on your map/list, rotating the use of the GPS units, and completing each discussion question.</p>	<ol style="list-style-type: none"> 1. Learn about GIS/GPS, discuss what coordinates are and how to put them into the GPS. 2. Follow where the GPS leads you! Make sure to use existing trails. 3. Once the GPS unit says you're near the cache, start looking around for it. Search high and low! 4. After you find the cache open it up and read the note out loud. Go through the discussion question as a group and write down your answers on your datasheet. 5. Once your leader is satisfied with your answers, give the GPS to another person to locate the next set of coordinates. 6. Make sure to ask lots of questions and have group discussions! PARTICIPATION IS KEY!
QUESTIONS TO ASK AT THE END	<p>How might a GPS be useful for ecologists? Could other careers use this tool?</p> <p>Do you find the coordinate system to be useful or confusing?</p> <p>What are some things you learned about the site through your walks?</p>	