NAVIGATION TOOLS: Using GPS Receivers - Finding Waypoints (Activity)

ASK

What fun activities can be designed using GPS receivers and finding waypoints?

In this section, you will create an activity involving GPS receivers and waypoints.

INVESTIGATE

- Brainstorm ideas for activities which include finding waypoints and GPS receivers. Some ideas might include a scavenger hunt or an amazing race (see Related weblinks below for suggestions). For example, you may ask participants to identify a word on a sign, a street lamp, and a specific tree.
- Decide which idea you want to develop and try with a group.
- Think of whom your group will include, for example, friends, family, or 4H club. Teams can be 2 or 3 members.

CREATE

The activity must be planned and organized ahead of time.

- Create a list of scavenger hunt type questions with waypoint coordinates for the activity.
  - Decide what geographic objects, waypoints, and questions will be included in your activity (see Related weblinks for suggestions).
  - Tip: It is very important for waypoint coordinates to be accurate. It is easy to be “off” by one number, causing problems. Double check and average the coordinates. Make sure WAAS is enabled on the receivers (if available) for greater accuracy.
- Make a list of the items you will need in order to accomplish the activity. Tip: It is important to have GPS receivers and extra batteries.
- If more than one team is involved, you will need to assign teams to search for different waypoints so everyone doesn’t seek the same location at once. Spread your waypoints around if possible, so no team sees what other teams find.
- Set a return time! If your coordinates are close by, such as on school grounds or a park, 40 minutes should be plenty of time to find 3 to 5 waypoints. Make it clear that they will regroup when the time is up whether or not they have found all the locations.

To complete the activity:

1. Teams should determine who will record the data and who will enter the waypoint into the GPS receiver.
2. Distribute the list of waypoints; one list per team.
3. Give each team a GPS receiver.
   - Remember you must be moving for the receiver to gather signals
4. While indoors, enter the coordinates from the list and name them so they can be found again.
a. Make sure the coordinate data is entered absolutely accurately.

b. Use simulator mode for indoor entry to save batteries; when outside, be sure to use regular mode.

5. Beware of “building bounce” and other issues that may hinder the performance of the GPS receiver.

6. Set the time limit and allow the teams to GO!

DISCUSS

• Did the teams successfully complete the activity? Explain.

• What challenges were encountered?

• What new things did you learn?

REFLECT

• What would you do differently for this activity?

• In what other ways can finding waypoints be useful?

RELATED WEB LINKS

• www.gis2gps.com/GPS/geocach/geocach.html

• www.geocaching.com