

GPS Lesson Preparation

Planning and Preparing Geocaching Lessons with Students

A successful experience geocaching with students requires plenty of time for planning the lesson and preparing everything far in advance of the actual lesson. Following the procedure outlined below will help you and your students to experience the excitement of geocaching in any content! You can, for example, plan a student "treasure hunt" for Virginia history clues or, for another, prizes that focus on forestry products. Whatever you are studying in class can be taken outdoors and incorporated into a geocache activity with students.

A Few Months in Advance

1. Plan a lesson for using the GPS with students. For assistance, contact Lynne Pike and refer to her Portaportal (guest: itrt-rcps).
2. Determine the area where you will be using the GPS lab with students.
3. Calendar use of the GPS Lab from Central Office with an ITRT and arrange for pick-up of the lab.

Two Weeks in Advance

1. Confirm pick-up of the GPS lab.
2. Plan your geocaches and put each one together. For each cache you will need:
 - a. Container with a lid,
 - b. Prizes or activities, and
 - c. Label to identify it.
3. Find a location for each cache, making sure that all of them are at least 200' apart from one another.

A Week in Advance

1. Pick up the GPS lab.
2. Become familiar with the Garmin Legend GPS handheld so you know how to use it and can help your students to use it.
3. Review your lesson and organize your materials.
4. Divide students into groups (one group per cache) for the day of the geocache activity.
5. Return to your cache locations and set a waypoint for each cache on every Garmin Legend GPS handheld. Each handheld should contain a waypoint for each cache.
6. Explain the objectives of the lesson to students and provide background information. You may wish to use Lynne Pike's PowerPoint for this purpose to explain how GPS works, show the handheld options,

and explain the commercial and emergency as well as recreational uses for GPS.

The Day of the Lesson

1. An hour or two in advance of the lesson, set out each cache in the precise location where you marked that specific waypoint on the handhelds. For example, Geocache #1 is located at Waypoint #1. Make sure the caches are secure and will not be moved prior to the lesson.
2. Teach the lesson as planned, making sure to thoroughly review how the handhelds function and what students need to do with them.

After the Lesson

1. Conduct extension activities for your lesson. For example, you may wish to have students upload the data from the handhelds into a GIS application on the computer.
2. Delete all waypoints from the handhelds.
3. Remove batteries from each handheld and recharge the batteries in the battery charger provided. (Four batteries will take 15 minutes to charge so plan for about two hours to recharge and reinstall all of the batteries.)
4. Return the GPS lab to Central Office. Please let us know immediately if you have any problems with any of the handhelds or if anything is missing from the lab.

Resources

1. Lynne Pike's Portaportal links (guest: itrt-rcps).
2. Lynne Pike's teacher helps (PowerPoint, handouts, and personal assistance as requested).
3. Local GPS groups at JMU, Boy Scouts and Girl Scouts, etc.

For lesson suggestions and project ideas, visit Lynne Pike's Portaportal (guest login: itrt-rcps) and click on the GPS/GIS folder.