

# GEOCACHING

Sixth Grade Camp- Rahr Memorial School Forest

## ENDURING UNDERSTANDING

Human survival requires interdependence and cooperation. Being able and willing to cooperate, communicate, trust, and problem solve with a group of people is a life skill and needs to be practiced.

## ASSESSMENT

Students will demonstrate the skills needed to work together and learn a new skill (using a GPS unit).

## STATE STANDARDS:

### Science

G.8.3 Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.

## LESSON PLAN OUTLINE

- I. Set-up
- II. Introduction
- III. GPS
- IV. Geocaching
- V. Conclusion

Safety

Clean-up

Rainy Day Activities

Resources

## MATERIALS

- GPS units
- GPS carrying case
- Extra batteries
- Plastic baggies
- Laptop
- Projector
- Projection screen
- PowerPoint slideshow
- Public geocache coordinates
- Coordinate cards (for camp geocaches)
- Map of boundaries
- Whistle
- Copies of the PowerPoint slides

Please let the School Forest Coordinator know if any supplies need to be replaced.

## DETAILED LESSON PLAN

### I. Set-up

Let the School Forest Coordinator know that you plan to teach this class at least two weeks beforehand. On the day of the class, get the materials from the Greene cabin. Set-up the laptop, projector, and screen. Make sure all of the GPS units are “cleared out”... check that the waypoints and tracks have been deleted.

## II. Introduction

Turn on the power point show. Talk with the students about where GPS units can be found and what they are used for.

Where: cars, military, aircraft, ships, delivery trucks, emergency vehicles, handheld units, tractors

Used for: navigation, recreation, hunting, fishing, hiking, mapping construction, surveying, archeology, environmental monitoring, wildlife research, farming

## III. GPS

Follow the power point slides. Go through how a GPS works. See the power point notes pages at the back of this lesson plan.

Pass out the GPS units and go through the different buttons with the class.

Power - on the right side, lower button

If you press the power button a second time, quickly, a backlight will illuminate the screen

Page button is on the right side, top

Up/down key on left side

- Yellow – enter button on the left side
- Gray – thumb stick which allows moves the cursor up and down, push the thumb stick straight down=enter

\*Note: the students may not get satellite reception for the units in the building, but that is okay for this section when we are just learning the basics

Turn off the GPS units to save battery life while you go through the Geocaching information.

## IV. Geocaching

Ask if anyone has been Geocaching before. Use the power point show to go through the basics of geocaching. Geocaches are all over the world. They are in public places. In Manitowoc, there are over 80.

Once you get to the directions page, have the class turn the GPS units back on.

Input the coordinates for Turkey Trail geocache. This is a public geocache.

During this class, we will not be taking anything from the caches. If you ever go on your own, bring a few small things to leave in the cache if you desire.

Talk about safety measures:

- Boundaries – roads and North Star Trail (draw a map on the board)
- Stay with someone
- When you hear the whistle, stop what you are doing and come to the whistle
- End time (there is a clock on the menu page of the GPS)

After the group finds the first one together, look through what is inside the cache.

You may go into “extra stuff” about Geocaching.

Other topics to discuss: muggles, hitchhiker (travel bugs), swag, geocoins,

Then, head back to the buildings. Review the boundaries and get the kids into small groups. Each group can then go look for a geocache. Hand out the cards.

Tell them to meet you by the Ehlert Lodge if they finish. If there is extra time, give the groups extra ones to look for as they come back.

When there is 10 minutes left, blow whistle. Gather group.

Clear out the waypoints and tracks on the GPS units.

#### V. Conclusion

Review what the class learned. Why is it useful to know how to use a GPS? What professions use this type of technology? What are your thoughts about geocaching? Would you go geocaching again?

#### SAFETY

**Safety is the number one priority.** Make sure all students know the ground rules:

1. You must stay with someone
2. Boundaries (do not cross any roads or North Star Trail)
3. When you hear the whistle, stop what you are doing and go to the whistle

#### CLEAN-UP

Clear out the GPS units. Return supplies to the Greene Cabin office.

#### RAINY DAY ACTIVITIES

If it is only raining, this lesson can be done, but the GPS unit should each be placed in a Ziploc baggie for protection (the buttons can still be pushed from the outside). If there is thunder and lightning, you may want to do the inside portion of this class or skip the activity and do a different lesson.

#### RESOURCES

<http://www.geocaching.com/>

**To change batteries:** Twist the metal ring on the back of the unit. Battery door will open. To close, twist metal ring back into locked position

## **Yellow GPS Unit Instructions for geocaching**

### **General**

- **Hold down** the POWER button to turn on, right side of unit. Wait for unit to track satellites. Will indicate when ready to navigate.
- The PAGE button, right side of unit, will move you to different pages on the GPS.
- The ARROW buttons, left side of unit, are used to move around within pages.
- The ENTER button, left side of unit, is used when selecting different options within the pages.

### **To enter waypoints/coordinates of a geocache. . . . .**

- **Hold down** the ENTER button, until the “Mark Waypoints” page appears.
- Use the ARROW button to scroll down to the coordinates at the bottom of the screen. Hit ENTER to select coordinates.
- Use the ARROW buttons to move within coordinates, hitting ENTER when the number you need to change is highlighted.
- When finished changing all coordinates, use ARROW buttons to move to “okay” at the bottom of the screen. Hit ENTER.
- To change the name of the waypoint, use the ARROWS to move to the numbers on the flag. Hit ENTER to select name and ENTER again to change the name. When finished select “okay.” If you do not change the name the waypoint you just entered will be stored under the name that is on the flag. For example 001.
- When finished entering coordinates and changing name scroll to “okay?” hit ENTER.
- You can enter multiple waypoints and store them in the unit under different names, or enter one at a time.

### **To find the coordinates/geocache you entered. . . . .**

- Use PAGE to get to the Menu page. Page will say MENU on the top.
- Scroll down to select “waypoints” hit ENTER.
- Use ARROWS to find the waypoint you entered and select it by hitting ENTER. (Your waypoint will be stored under its name, if your name is a number it will be under 0-9, if the name starts with A-D it will be under the A-D group. Use ARROWS to move around to different waypoints.
- Double check your coordinates.
- Select “GOTO” and the “pointer page” will appear.

### **To navigate. . . . .**

- Start walking in the direction the arrow is pointing. Start slow if the arrow is jumping around.
- Eventually the arrow will point straight up, you are on the correct path.
- Start looking for the geocache when you get within 10-20 feet of the geocache. They are all placed on the ground. Some are in camouflage containers, army boxes. . . .

**When finished geocaching please clear out all the coordinates and tracks in the unit. . . . .**

- Use the PAGE button to navigate to the “Menu” screen, select waypoints.
- Use ARROWS to scroll down to “delete all” hit ENTER to select.
- Hit PAGE button to get back to “Menu” screen.
- Use ARROW to scroll down to “tracks” hit ENTER to select tracks and ENTER to “clear.”
- Hold down POWER button to turn unit off.