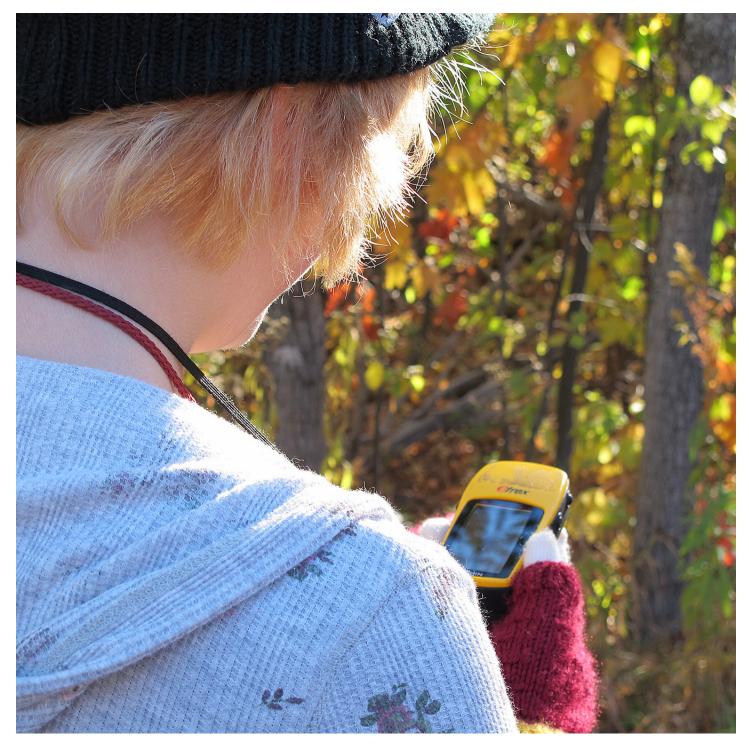
# GPS & GEOCACHING LESSON PLAN







# **GPS & GEOCACHING**



#### **CLASS DESCRIPTION: An Outdoor Skills Class**

Students will get a look of how far navigational technology has come. They will learn the basic concepts behind GPS technology and how it works. Each pair of students will be given a Garmin eTrex Touch 35 GPS to practice entering and finding waypoints. Once the basics are mastered, the fun will begin. Students will practice a few basic points before taking on the full GPS course and exploring the woods of Wolf Ridge for hidden clues.

**Total time:** 3 hours (two hours outdoors)

Audience: 6-20 students, 4th grade through adult

**Activity level:** Easy to Moderate

Travel: 1 mile

Total uphill travel: 25 feet (gradual uphill)

#### **GUIDING PURPOSE**

To go geocaching, combining navigational technology with exploring in nature.

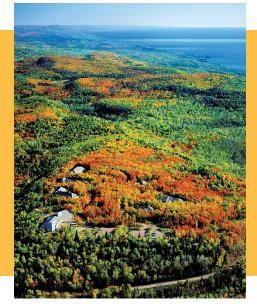
#### **CONCEPTS**

- 1. Technology can help us explore, discover, and communicate about our environment.
- 2. Global Positioning Systems (GPS) depend on sending and receiving satellite signals and on the people who use them.
- 3. Challenges provide opportunities for learning and growth.
- 4. Observation, communication and teamwork are valuable skills that improve with practice and patience.

#### **OUTCOMES**

Upon completion of GPS and Geocaching class students will be able to:

- Work cooperatively with a partner to navigate with a GPS to locate waypoints.
- Understand how the advancement of technology has contributed to society.
- Understand how a Garmin eTrex Touch 35 GPS receiver functions to navigate its screens in order to mark and find waypoints.





**Our mission** is to develop a citizenry that has the knowledge, skills, motivation and commitment to act together for a quality environment.

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# **GPS & GEOCACHING**

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#### **Equipment**

- props
- pencils
- posters
- computer & power point presentation
- GPS Receivers
- fully charged batteries
- crossword puzzle sheets
- optional activity sheets
- prizes

#### **Appendices**

- Glossary
- Optional Activities
- References
- Sources
- Spiral Learning Sheet
- Planning Outline

#### **Set-up** (15 min.)

- Classroom/class prep description
- Safety Management

# I. Finding Our Way (10 min.)

- A. Discovery and Navigation Tools
  - 1. Landmarks for Navigating
  - 2. Navigation Technology
- B. GPS as a Navigation Tool

#### II. GPS Practice (20 min.)

- A. Parts of the GPS
- B. GPS Unit Basics
- C. Practice Point

# III. GPS Technology (10 min.)

- A. How GPS Works
- B. GPS History
- C. Mapping Coordinates
- D. Using a GPS Garmin eTrex Touch 35
  - 1. Start-UP
  - 2. Basic Operations

### IV. Geocaching (90 min.)

- A. Tools, Groups, Rules
- B. Geocache
- C. Observations & Stories Upon Return
- D. Marking Waypoints
  - 1. Marking Waypoints
  - 2. Hiding and Finding Caches

## V. Next Steps (20 min.)

- A. Technology & Nature
- B. Geocaching Communities

## Clean-up (15 min.)