

# Can Students Use GPS to Find Specific Plants?

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Floyd Dryden Middle School, 7<sup>th</sup> Grade, EDGE Program 2006



## Introduction



Using GPS to locate plants.

The purpose of this project is for middle school students to use GPS/GIS to identify and map plants around Floyd Dryden Middle School.

### Steps for plant knowledge:

Students will first learn about the plants of Southeast Alaska. Students will draw, collect or photograph plants. With collected plants (photo, drawings, or collection) students will make a book. Book will have the following information:

- Photo
- Common name
- Tringl name
- Scientific name
- Plant family
- Habitat
- Food use and medical use

### And any cautions

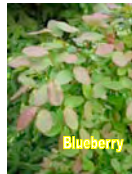
### Steps for GPS/GIS Knowledge:

GPS: 3 Days  
 Students will be given a GPS. (They will work in pairs.)  
 Students will be taught how to work through each function on the GPS.  
 Students will be given a list of waypoints and they will have to find each. Students will have to mark at least 4 or 5 waypoints.  
 GIS: 3 Days  
 Students will work in lab with Promethean boards. (This will allow teacher to help guide students through the setup of their first arc download and map.) (1 day in lab)  
 Students will learn how to download an Arc map after being guided with teachers assistance. (Same Day)  
 Students will play with the tools to become more familiar with this technology. (at least 2 days in lab.) This will give teacher time to assist students that need more training.  
 Steps for using GPS to find plants around students school  
 Student will be given GPS w/ waypoints.  
 Students must find each waypoint and identify the plant before moving to the next waypoint.  
 Before student moves on they must mark point calling it the plant that was at that waypoint.  
**Final step: Downloading:**  
 Students will return to lab and download their points.  
 Students will use ArcMap to download points with names of plants onto diagram of their school.  
 Students will then attach a picture to each waypoint using hyperlink.

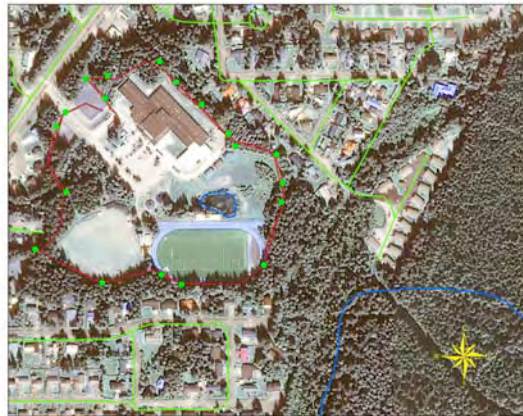
## Can Students Use GPS to Locate Specific Plants



Fiddlehead Fern



Blueberry



Strawberry



Sitka Spruce

**Legend**  
 ● Dryden Flowers  
 — Dryden trails



### Objective:

Student will be able to:

1. Identify Plants
2. Use GPS/GIS to:
  - A. Mark, follow, & download waypoints
  - B. Plot points on ArcMap.

### Standards:

[6] SA 1.1, [7] SA1.1 asking questions, observing, describing, classifying, and communicating  
 [6] SA 1.2, [7] SA1.2 collaborating to design an conduct simple repeatable investigations.  
 [6] 3.1, [7] SA3.1 conducting simple investigation about the local environment.  
 [6] SA 2.1 using a dichotomous key to classify plants into groups using external features  
 [7]JSC.2.1 describing the basic of plant cells

### Results:

After completion of this project, our students will be able to identify, locate and make a book with at least 15 plants found at Floyd Dryden.

Students will use a GPS to mark, follow, and download waypoints. Then they will plot their points on a map with ArcMap.

**A Special Thanks to Dr. Cathy Conner, Ed Knuth, Dr. Anupma Prakash  
 Dr. Rosemary Walling, Kelly Lawrence, and Ileta Galau.**

**Resources for Students to Use**  
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