

Name: _____



Introduction to GIS, GPS, and Mapping

Introduction: In this activity, we will use **ArcGIS Online** to map data collected from your **Letchworth State Park** field trip a few weeks ago. On the trip you collected coordinates for several different locations using a handheld GPS unit. Signals sent to and from satellites orbiting the Earth allow these devices to determine the exact coordinates of almost any location. We will import these data points into a simple web-based mapping program (**ArcGIS Online**) to visually represent them.

Directions: Part 1 - Entering Data From Field Trip

1.) Open **Excel**: Go to **START**  → **All Programs** → **Microsoft Office** → **Microsoft Excel**

2.) Create a table of your field trip data placing headings in the first row as shown in the example below. Make sure:

- Each column has the proper heading
- You do **NOT** include units, labels, or any extra spaces
- All **Longitude** values are **negative**
- The Notes column should briefly describe the location
- You have typed in the data correctly (triple check for any typos)
- You have 4 columns with no extra info (like a title or your name)

	A	B	C	D	E
1	Point	Latitude	Longitude	Notes	
2	1	43.10064	-77.609871	top left corner	
3	2	43.10071	-77.609571	top right corner	

3.) Go to **File** → **Save As** and save the file as *data.csv* to your computer desktop. You will have to choose **CSV (Comma delimited)** from the drop down box:

Save as type: **CSV (Comma delimited) (*.csv)**

Directions: Part 2 - Mapping Data From Field Trip

4.) Open a web browser and go to www.Arcgis.com → **Sign In** → **Username: EOPSummer** and **Password: student1**. Once you are signed in, go to the top of the page and click **Map**.

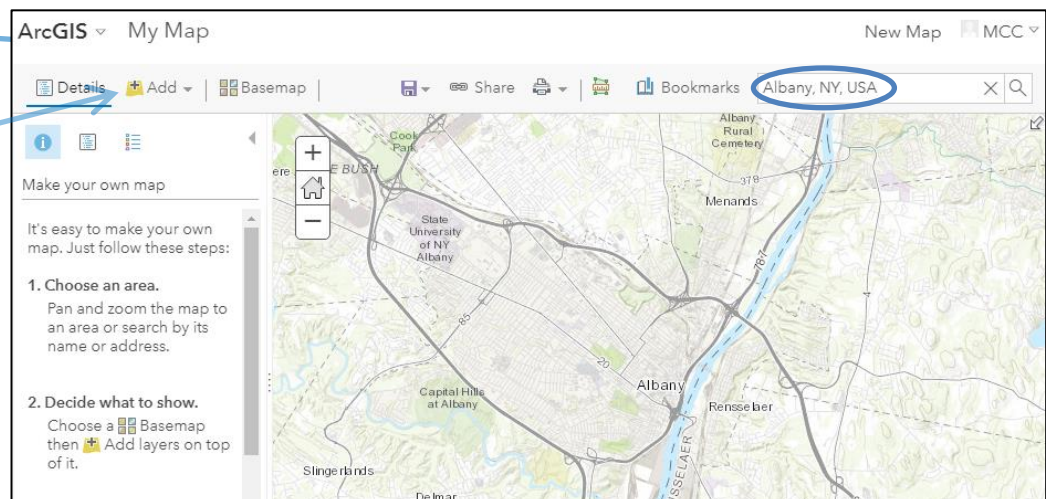
5.) Enter **Letchworth State Park** in the search box.

6.) Click on the **Add** button

7.) Pick **Add Layer from File** → **Choose File** → find and import your *data.csv* file

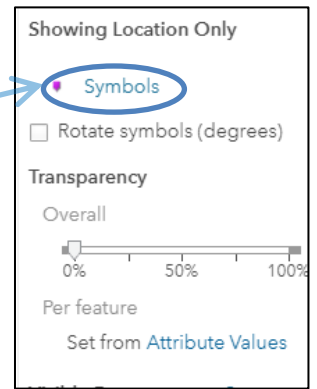
8.) Your data points should appear on the map!

[*NOTE: If your points did NOT show up correctly, check your .csv file for errors (missing negative signs, extra units/labels, typos, etc). Fix any errors then repeat steps #3 and #7].



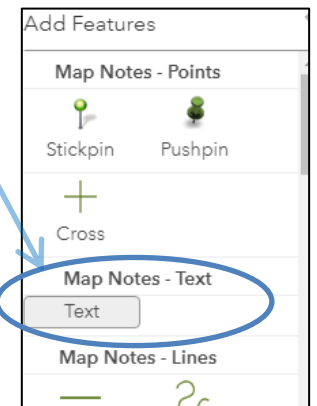
9.) A **Change Style** menu bar will appear on the left side of the screen:

- Under **1 Choose an attribute to show**, select **Show location only**
- Under **2 Select a drawing style**, click on **Options → Symbols** to change the shape, color and size of the points. Try out different options and then pick what you think looks best to make your points clear and visible. Click **OK → OK → DONE** when finished.



10.) To change the background of your map, click on **Basemap**. You will have many options to choose from. As you did with your points, try out different options and select the one you think looks best.

11.) Click on the **Add** button → **Add Map Notes** → **CREATE**. A new menu bar will appear on the left to let you Add Features. Click **Map Notes - Text** → **Text** (make sure the Text button is highlighted as shown)



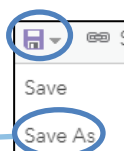
- Now click on your map where you want to add text (like a title)
- A blue rectangle will appear. Type in an appropriate **title** that states what is shown on the map
- **To change the size or color of your text:** click on it ONCE on the map and a Change Symbol menu will appear with options for you to choose. Select colors and sizes that make the text easy to read
- **To move text:** click on it ONCE on the map then click and drag it to a location

12.) Repeat step #11 to add a **caption** to your map. Your caption should be 1-2 sentences summarizing your map (where and when data was collected, as well as anything of interest shown)

13.) Before saving your map, make sure all of the following are completed:

- Basemap** - a chosen basemap is added
- Data** - points from the field trip are added correctly
- Data point symbols** - are a size and color that makes them easily visible on the basemap
- Title** - is an appropriate size, color, and placement so it is easy to read
- Title** - states what is shown on your map
- Caption** - is an appropriate size, color, and placement so it is easy to read
- Caption** - describes the map and data in detail

14.) Go to **Save** → **Save As**



15.) Type in your initials as the map title

16.) Type in *GPS* as a tag and ignore the other options.

17.) Click Save Map

Save Map

Title: Type in your initials here

Tags: GPS x Add tag(s)

Summary: leave this alone

Save in folder: UpwardBound

SAVE MAP CANCEL