**ArcGIS Online Activity**

**Objective:** You will create a map within ArcGIS in order to view and analyze land use around Towne Creek in Henry County.

**Instructions:**

1. Create a public account with ArcGIS.
2. Go to Make a Map.
3. In the search button, type in New Castle, KY.
4. Click on the Basemap button and change it to Imagery.
5. Click the Add button. You will begin to add layers into your map. The following is a list of layers you will add to your map.
	* Ky\_counties
	* World transportation
	* Streams- USGS Hydrography Dataset
	* Landuse- National Landcover Dataset
6. You will want to change the symbology for several of these layers so that they are all visible for your investigation.
* Ky counties – set the “fill” transparency to 100% and the outline color to bright yellow. Set the outline width to 3. This will allow you to see only the outlines of the counties.
* Landuse – set the overall layer transparency to 50% so that you can still see all of the layers and imagery underneath.
1. Mover around your layers so that the streams are above the landuse. This will allow you to see all of the landuse around Towne Creek.
2. Find the portion of Towne Creek where we tested. You will now create your own layer. Click on Add and Add Map Notes from the drop down menu.
3. Label your Map Notes, Water Testing Results and use the map notes template.
4. Using the stickpin, click on the portion of Towne Creek where we completed the 1st set of Water Tests. Label this Map Note, WWTP Testing Before Outfall.
5. Within your description list your tests and test results.
6. Create another point just downstream where we completed the second set of water testing and label it WWTP Tests after Outfall. List your tests and the results.
7. Investigate Towne Creek on the map. Follow it back to where it begins. List where it begins and all the different types of Landuse that surrounds it. List it here.

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1. Pick several spots where you would like to go and perform another test to see if we get similar results from the last field trip.

**Town Creek Water Analysis**

Analyze your testing results from our first field trip. What do you think the water quality is at Towne Creek and the WWTP? Good, Fair, Poor? Support your answer with evidence from your testing results, the information that you have gathered from class and your mapping activity that includes your landuse analysis. Do you think that Towne Creek is effected by the WWTP discharge? Explain.

Write your analysis in Microsoft Word. Include a data table within your document that has your results from before the outfall and after the outfall, similar to the data table you created on page 28 in your notebooks.