Getting Started with ArcGIS Online Part 2

March 16, 2021

Wilma.Robertson@its.idaho.gov

AGENDA

1. Adding Data From Tables, including Google Sheets

Part 1: Maps

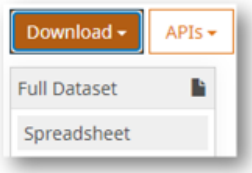
1. Visit https://www.arcgis.com and sign into your ArcGIS Online account

In the first exercise we will map the locations of Idaho Department of Transportation Offices.

2. Open a new Browser tab and visit https://gis-idaho.hub.arcgis.com/datasets/IPLAN::district-office

3. Download the locations as a spreadsheet. Click on Download, and then on Spreadsheet

4. Save the spreadsheet to your computer



https://gis-idaho.hub.arcgis.com/datasets/IPLAN::district-office

1. Adding Data From Tables, including Google Sheets

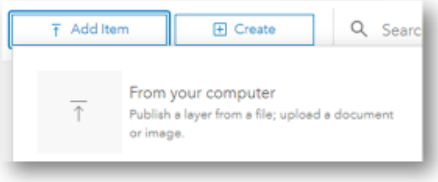
Part 1: Maps

X	Y	DistrictID	AgencyCode	StAddress	StCity	StState	StZipcode
-116.7944	47.7441	1	ITD	600 W. PRAIRIE	COEUR d'ALENE	ID	83815
-116.994	46.4288	2	ITD	2600 FRONTAGE RD	LEWISTON	ID	83501
-116.2838	43.6512	3	ITD	8150 CHINDEN BLVD	BOISE	ID	83714
-114.4125	42.9368	4	ITD	216 S. DATE ST	SHOSHONE	ID	83352
-112.3984	42.8292	5	ITD	5151 S 5TH	POCATELLO	ID	83204
-111.914	43.6574	6	ITD	206 N. YELLOWSTONE HWY	RIGBY	ID	83442
-116.2305	43.635	9	ITD	3311 W STATE ST	BOISE	ID	83703
-114.4407	42.5385	4	ITD	626 EASTLAND DR	TWIN FALLS	ID	83303
-112.0596	43.5048	6	ITD	1540 FOOTE DR	IDAHO FALLS	ID	83402

Which Attributes should we use to assign locations?

5. Go to back to your ArcGIS Online tab in your browser and click on Content

6. Click on Add Item > From your computer

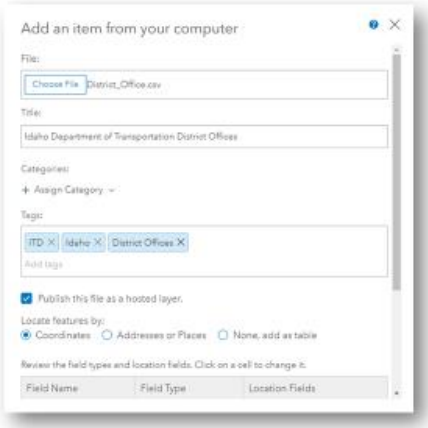


1. Adding Data From Tables, including Google Sheets

Part 1: Maps

7 Choose the spreadsheet you just downloaded, edit the Title and add some Tags.

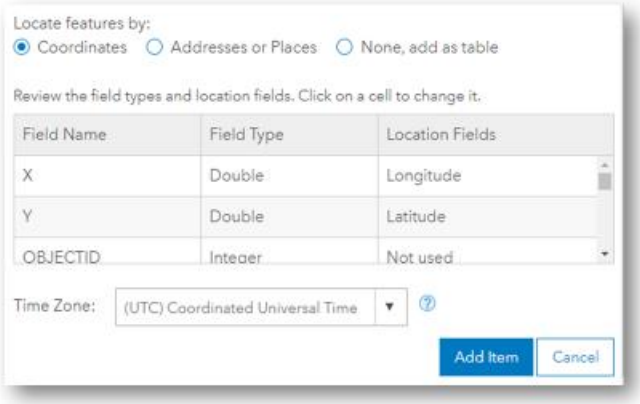
8 Choose to Publish this file as a hosted layer



1. Adding Data From Tables, including Google Sheets

Part 1: Maps

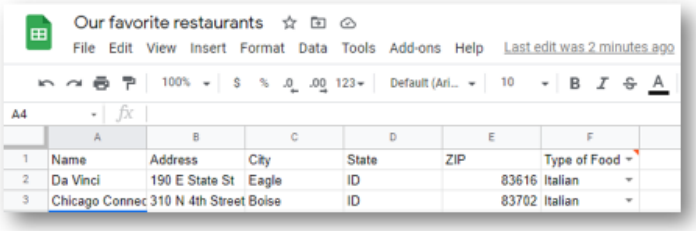
9 Click on Add Item



1. Adding Data From Tables, including Google Sheets

Part 1: Maps

10 Open a new browser tab and go to https://docs.google.com/spreadsheets/d/1UsCu0-gjr8_puwA_OsSULDBuG-N32gYc6SdtWXyGa3k/edit?usp=sharing



11 Add the information for your favorite 1-2 restaurants

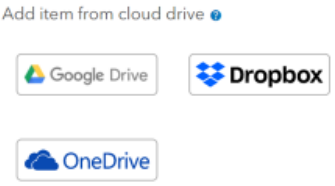
https://docs.google.com/spreadsheets/d/1UsCu0-gjr8_puwA_OsSULDBuG-N32gYc6SdtWXyGa3k/edit?usp=sharing

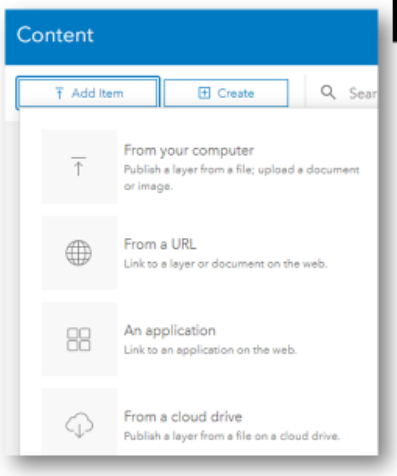
1. Adding Data From Tables, including Google Sheets

Part 1: Maps

demo

12 Inside ArcGIS Online make sure you are on the Content Tab, and the click Add Item > From Cloud Drive



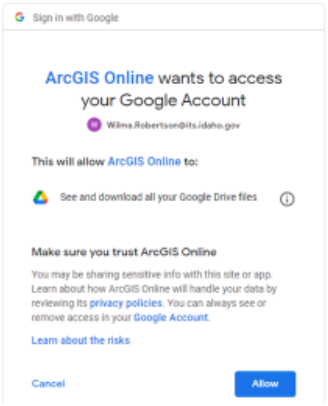


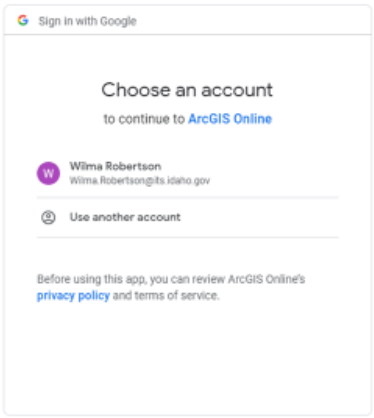
https://support.esri.com/en/technical-article/000022290

1. Adding Data From Tables, including Google Sheets

Part 1: Maps

13 Sign into your Google Account and click Allow

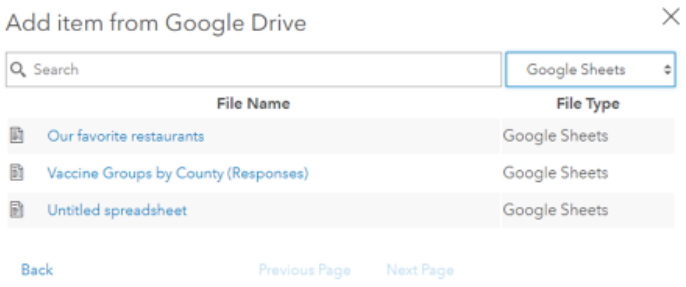




1. Adding Data From Tables, including Google Sheets

Part 1: Maps

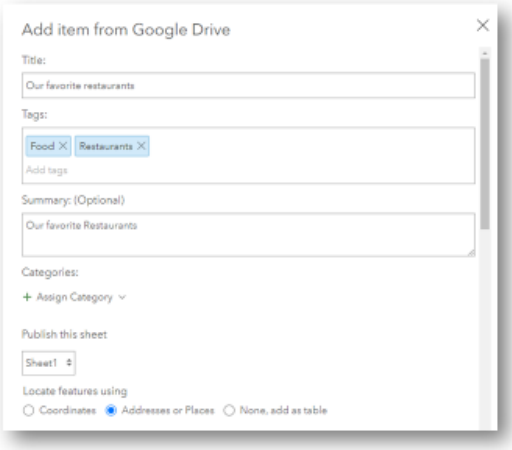
14 Visit https://www.arcgis.com and sign into your ArcGIS Online account

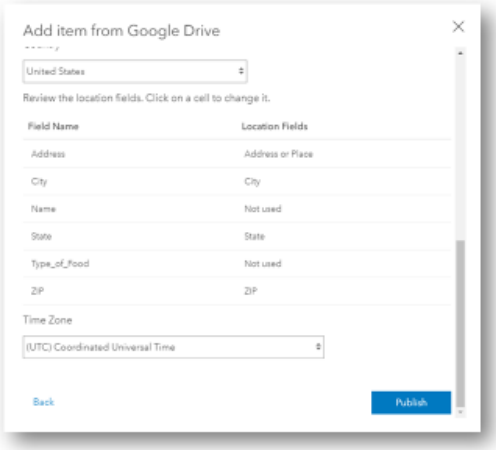


1. Adding Data From Tables, including Google Sheets

Part 1: Maps

15 Title, tags and summary as well as how you would like to geocode this data

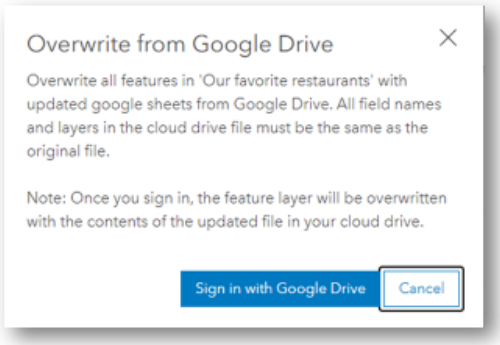


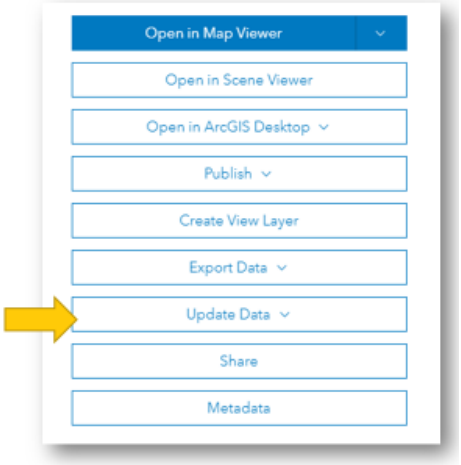


1. Adding Data From Tables, including Google Sheets

Part 1: Maps

16 Go to the Overview page of the new "Our favorite restaurants" layer and click on "Update Data" >





2. Making Pop-Ups Pop

1. Click on Map along the top of the screen
2. Click on Add > Browse Living Atlas Layers

Since this dataset covers the entire US, let's start with setting up a **filter** so that we can only see the schools in Idaho

3. Click on Filter

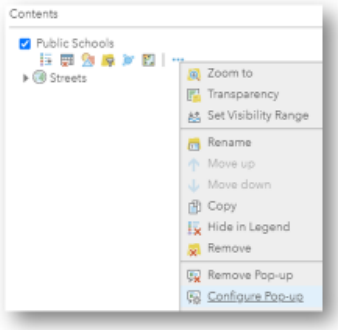
4. Set a filter to only show schools in Idaho

2. Making your Pop-Ups Pop!

Part 1: Maps

5. Open the attribute table to see what attributes are available to add to the pop-up and analyze.

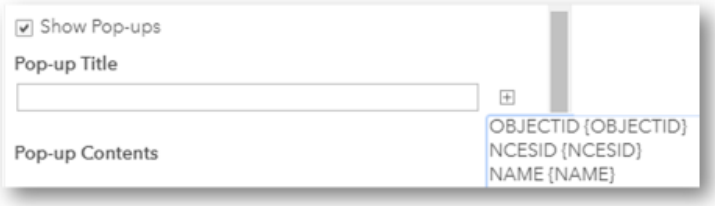
6. Close the table and click on Configure Pop-Up



2. Making your Pop-Ups Pop!

Part 1: Maps

7 Delete the content of the Pop-Up title, then click on the + to add the NAME of the school

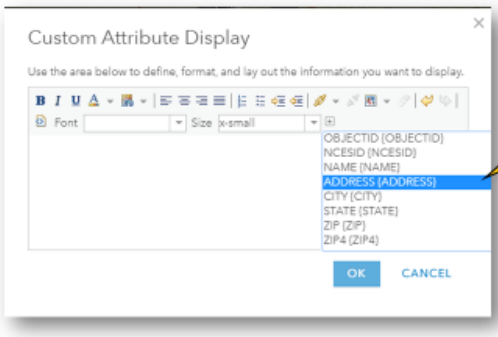


8 Click on Custom Attribute Display

9 Click on CONFIGURE

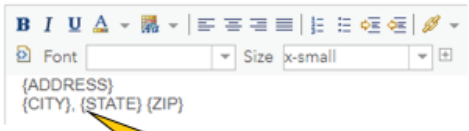
2. Making your Pop-Ups Pop!

Part 1: Maps



Click on the + and then on ADDRESS {ADDRESS}

10 Keep using the + to add the CITY, STATE and ZIP on the next line:



Note the comma between {CITY} and {STATE}

2. Making your Pop-Ups Pop!

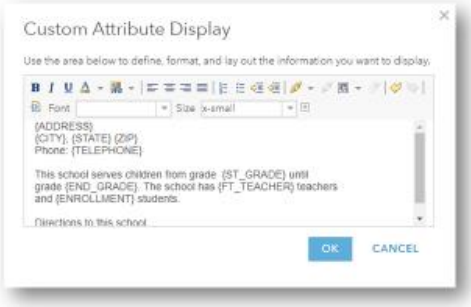
Part 1: Maps

11. Click OK and then OK again
12. Click on a school to see the result to see the new Pop-Up
13. Continue using the same techniques until your Pop-Up looks like this:

2. Making your Pop-Ups Pop!

Part 1: Maps

14. Here is how the Pop-Up is formatted:



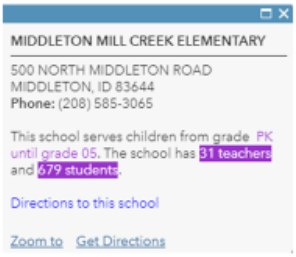
15. Next, let's highlight a couple of items. Select the word "Phone:" and make it a bold font.
16. Select "{ST_GRADE} until grade {END_GRADE}. Click on  to format font and background colors

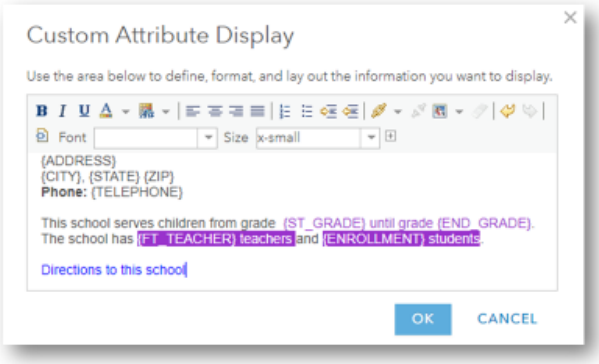
2. Making your Pop-Ups Pop!

Part 1: Maps

17 Change the "Directions to this school into a blue font"

18 Click OK twice and then click on a school to see the new Pop-Up



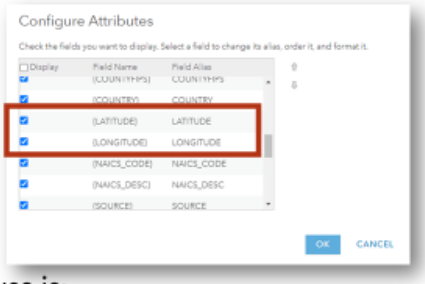


2. Making your Pop-Ups Pop!

Part 1: Maps

19 Next, let's add in directions to the schools. We will use Google Maps for that, something that most people can access via their browser or on their mobile phone.

20 When you go to Configure Pop-Up > Configure Attributes you will see that the data comes with a Longitude and Latitude:



For information about how to format URLs for Google Maps see https://developers.google.com/maps/documentation/urls/get-started

21 The URL we will use is:
https://www.google.com/maps/dir/?api=1&destination={LATITUDE},{LONGITUDE}

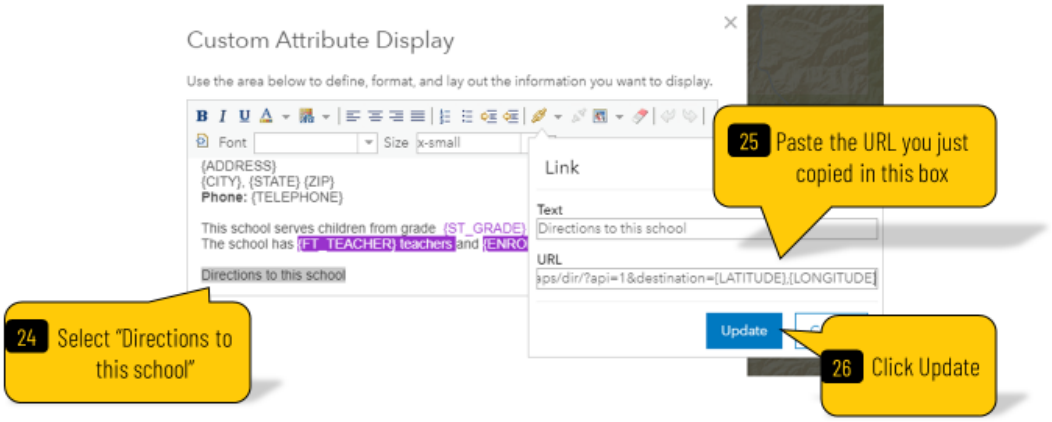
The URL we will use is: https://www.google.com/maps/dir/?api=1&destination={LATITUDE},{LONGITUDE}

2. Making your Pop-Ups Pop!

Part 1: Maps

22 Copy the URL from the previous slide

23 On your map open up the Pop-Up again

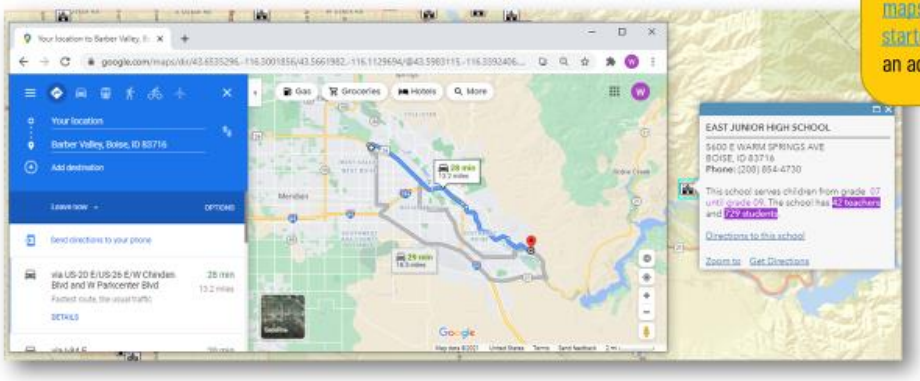


2. Making your Pop-Ups Pop!

Part 1: Maps

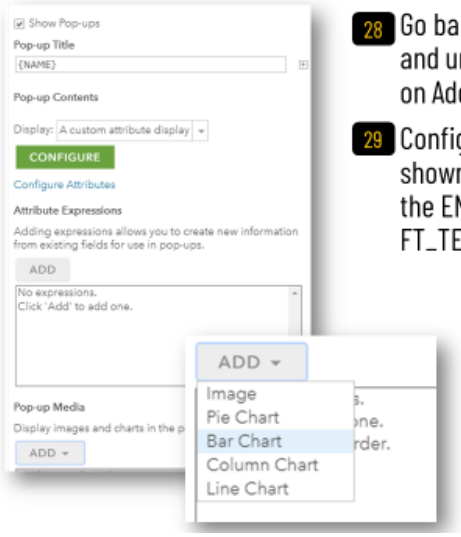
27 Click OK twice, and then try out the new "Directions to this school" link.

Consult https://developers.google.com/maps/documentation/urls/get-started to learn how to route to an address rather than lat/long



2. Making your Pop-Ups Pop!

Part 1: Maps



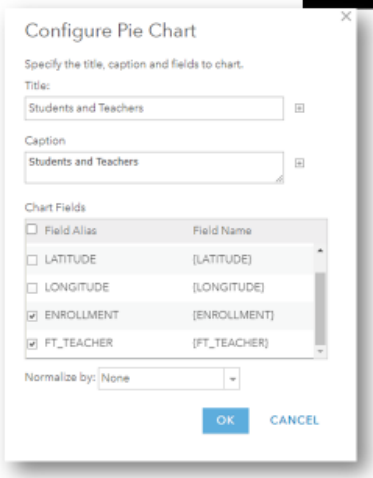
28 Go back to Configure Pop-Up and under Pop-Up Media click on Add > Pie Chart

29 Configure the Pie chart as shown on the right, showing the ENROLLMENT and FT_TEACHER

30 Click OK twice

31 Try out the new Pop-Up

32 Save your map and leave it open



3. Using Arcade Expressions

Part 1: Maps

- In the first part of this exercise, we will add the number of students to teacher ratio. Note that the table includes columns for the enrollment and full-time teachers
- The equation ENROLLMENT/FT_TEACHER should give us this ratio

ENROLLMENT	ST_GRADE	END_GRADE	DISTRICTID	FT_TEACHER
603	KG	05	1603240	27
513	09	12	1601050	30
729	07	09	1600360	42
361	07	12	1600007	19

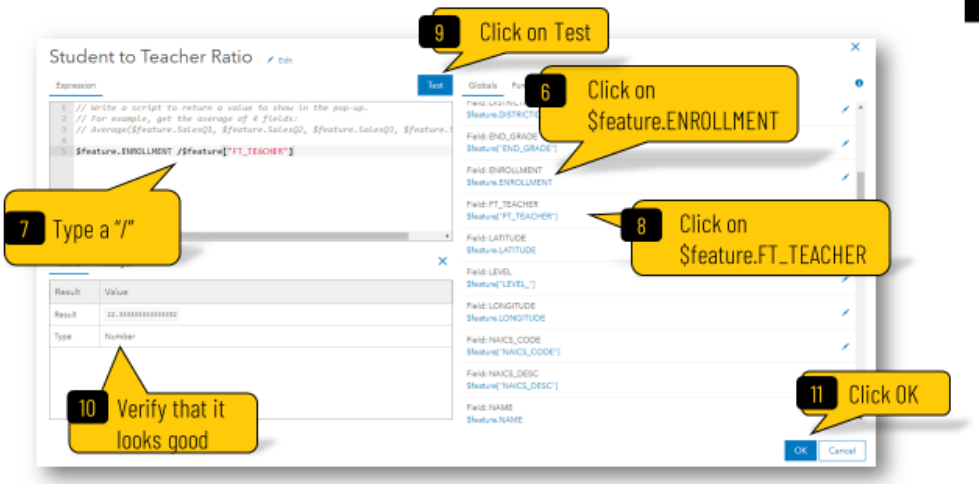
3. Using Arcade Expressions

Part 1: Maps

1. In your - still open - web map click on the … > Configure Pop-Up
2. Click on ADD under Attribute Expressions.

3. Using Arcade Expressions

Part 1: Maps

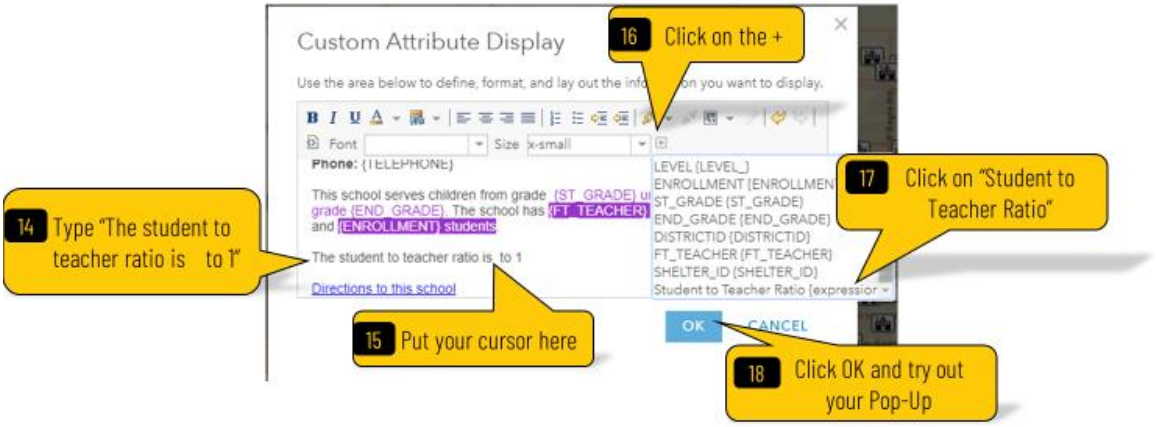


3. Using Arcade Expressions

Part 1: Maps

12 Click on CONFIGURE

13 Add the following line to the Pop-Up



3. Using Arcade Expressions

Part 1: Maps

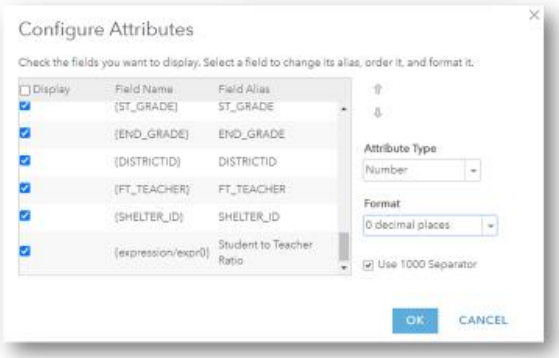
19 Note how the ratio is given with two decimal points. Let's change that that to a whole number. Click again on "Configure Pop-Up"

20 Click on Configure Attributes

21 Scroll down to Student to Teach Ratio

22 Change the number of decimal places

23 Click OK



3. Using Arcade Expressions

Part 1: Maps

24 Finally, we will add the school website. Open the attribute table and look at the WEBSITE attribute.

25 Note that many schools are lacking the web address information

26 Sort the WEBSITE in ascending order, click on the first row to select it

27 In the drop-down in the right choose "Center on Selection"

28 We will use Arcade to only display website information where a website is actually listed

3. Using Arcade Expressions

Part 1: Maps

This is what we want to do:

- If the Website is "NOT AVAILABLE" then don't even mention it in the Pop-Up
- If there is a website, then add "Website: ...."

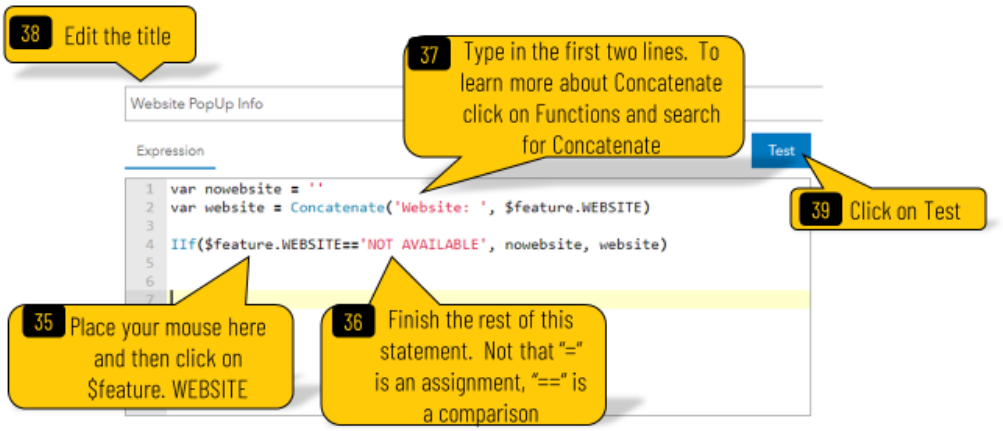
29 Click on Configure Pop-Up and click on Add, to add a new expression

Part 1: Maps

3. Using Arcade Expressions

Part 1: Maps

3. Using Arcade Expressions

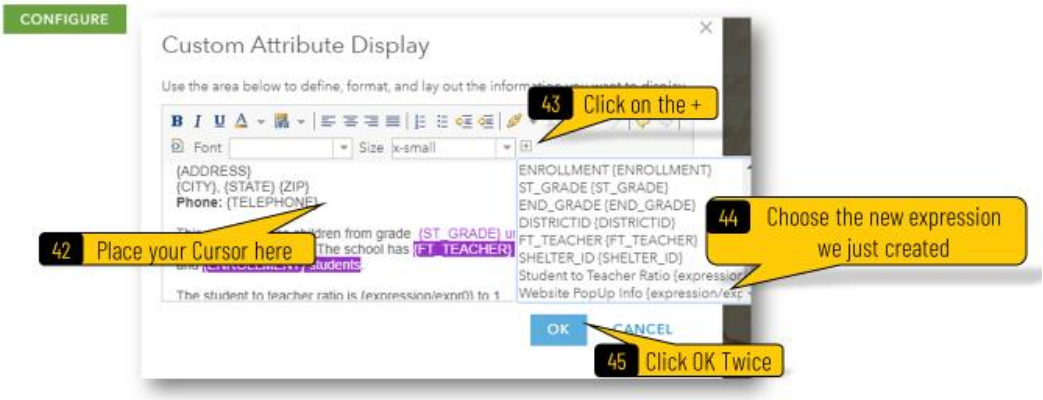


40 Click OK.

Part 1: Maps

3. Using Arcade Expressions

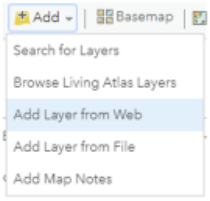
41 Next, we need to add this website information to the Pop-Up. Click on



46 Try out the new Pop-Up. Try a school with, and a school without a website. Leave the map open for the next exercise

Part 1: Maps

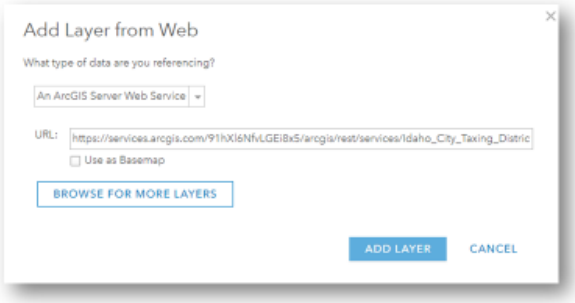
4. Symbolizing Quantitative Data



1 On the web map left open from the previous exercise click on Add > from Web. Add the following URL: https://services1.arcgis.com/CNPdEkvnGI65jCX8/arcgis/rest/services/Counties_for_AGOL2_Class/FeatureServer

2 Click Add Layer

3 Change the base layer if you want and save your map



https://services1.arcgis.com/CNPdEkvnGI65jCX8/arcgis/rest/services/Counties_for_AGOL2_Class/FeatureServer

4. Symbolizing Quantitative Data

Part 1: Maps

4 While waiting for the analysis turn the Public School layer off

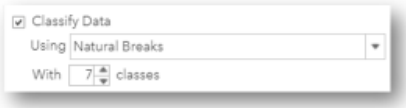
5 Click on  for the Counties layer you just added

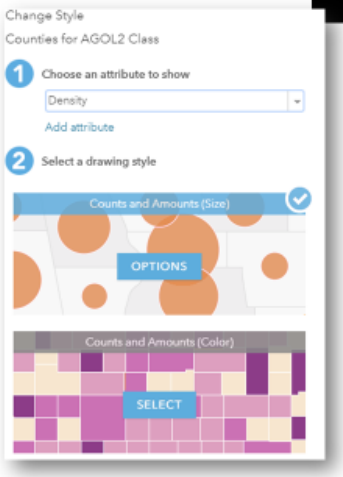
6 Choose to show Density, and then click Select on the option to display Counts and Amounts (Color)

7 Click on 

and choose a light to dark green color ramp

8 Click on Classify Data. Pick 7 classes.

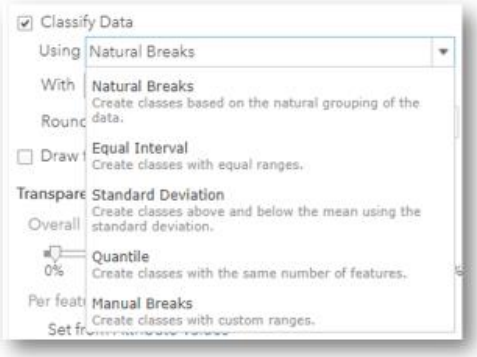




4. Symbolizing Quantitative Data

Part 1: Maps

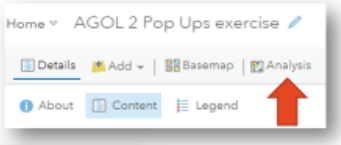
9 Compare the Different Classification Methods

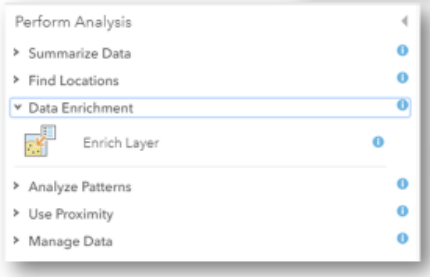


5. Using Enrichment to add Population Data

Part 1: Maps

1 Click on Analysis

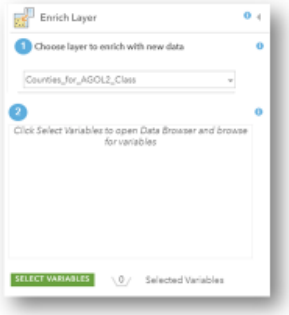




2 Expand the Data Enrichment tab and then click on Enrich Layer

3 Use the Counties_for_AGOL2_Class Layer

4 Click on Select Variables

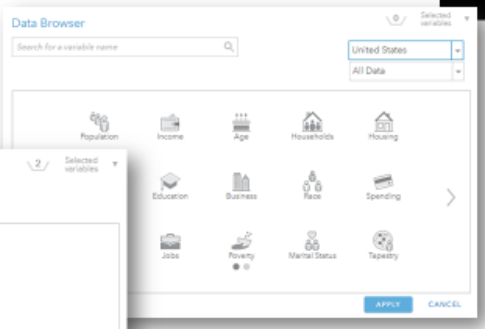


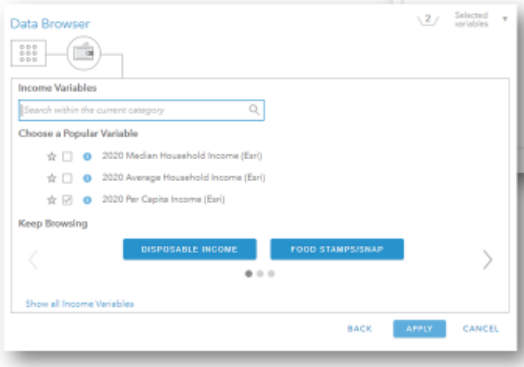
5. Using Enrichment to add Population Data

Part 1: Maps

5 Note the huge collection of data you can choose from. Click on Income and the pick the 2020 Per Capita Income (Esri).

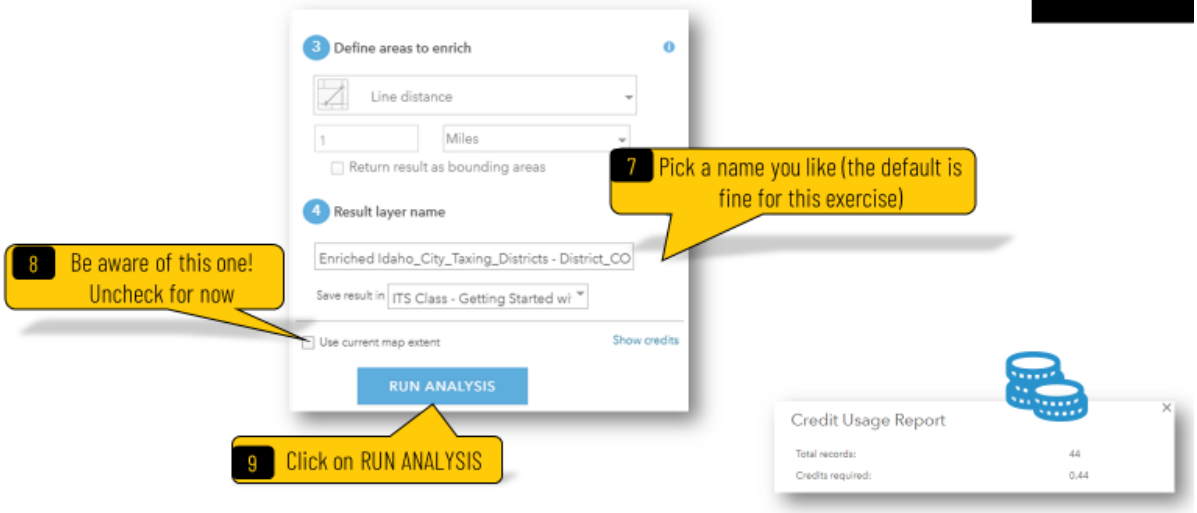
6 Click Apply





5. Using Enrichment to add Population Data

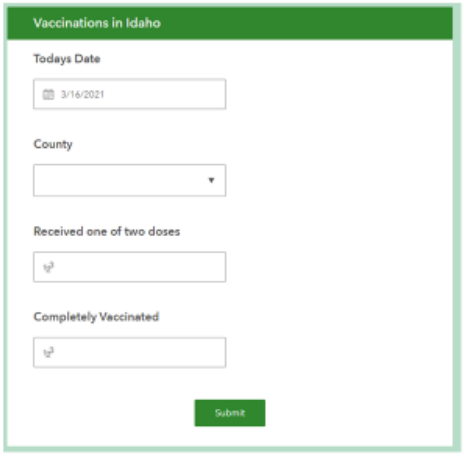
Part 1: Maps



6. Hosted Joins

Part 1: Maps

1. Keep your web map open
2. Open a new browser tab and visit https://survey123.arcgis.com/share/2bcd0ad589f0420d9b1eb1f8f8949025
3. This simple demo surveys allows you to keep track of the number of vaccinations for each County in Idaho (don't submit any surveys yet)
4. Keep the tab in your browser open



6. Hosted Joins

Part 1: Maps

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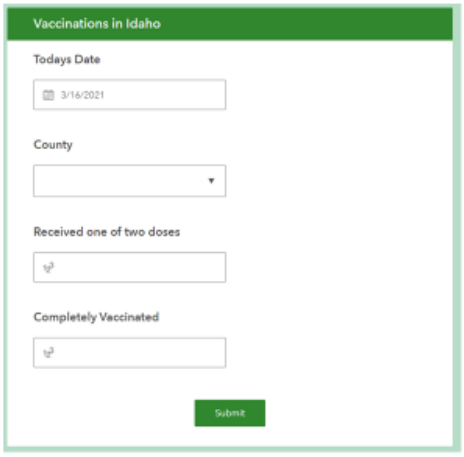


https://survey123.arcgis.com/share/2bcd0ad589f0420d9b1eb1f8f8949025

6. Hosted Joins

Part 1: Maps

5. Continue working with the same map
6. Click on Add > Layer from Web and add the following layer: https://services1.arcgis.com/CNPdEkvnGI65jCX8/arcgis/rest/services/service_8a0b5292c17342edb422ffb4d9f388a5/FeatureServer
7. Symbolize the vaccinations in this layer based on the "Completely Vaccinated" attribute
8. Use the Counts and Amounts, and pick a color symbol you like

https://services1.arcgis.com/CNPdEkvnGI65jCX8/arcgis/rest/services/service_8a0b5292c17342edb422ffb4d9f388a5/FeatureServer

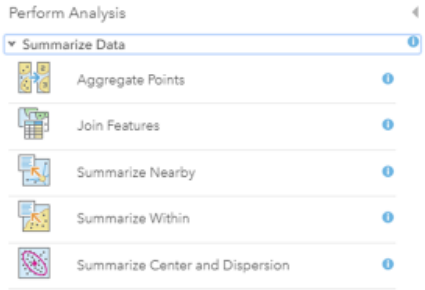
6. Hosted Joins

Part 1: Maps

9 Instead of showing the number of vaccinations as points, we will join this data to the county polygon layer, and then symbolize that based on %of population vaccinated

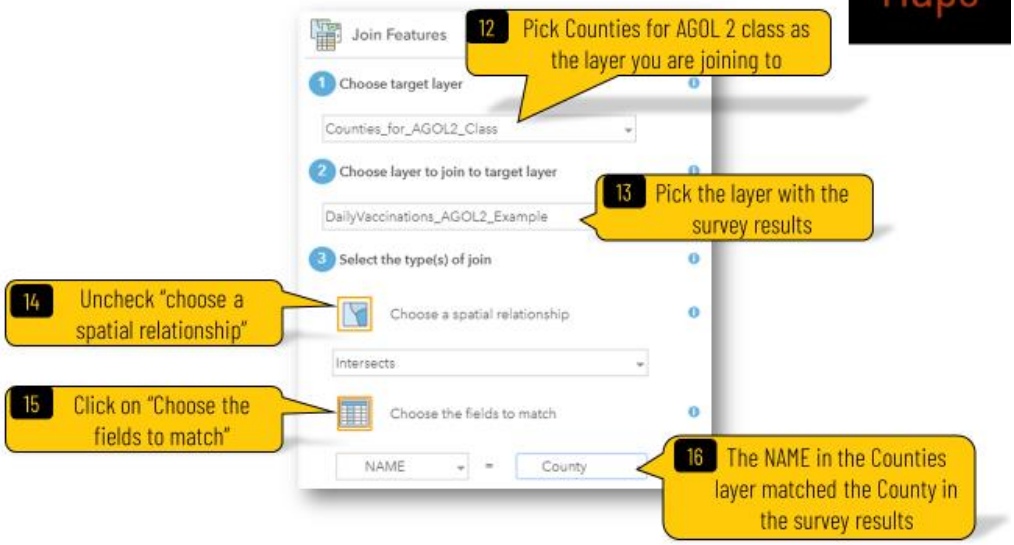
10 Click on Analysis

11 Expand the Summarize Data and choose Join Features



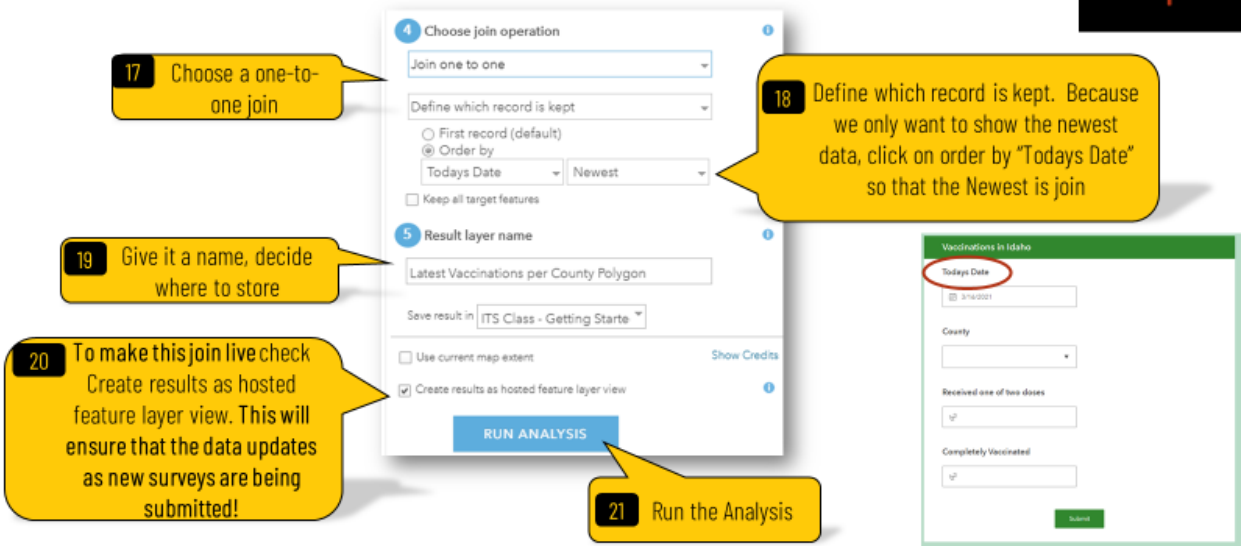
6. Hosted Joins

Part 1: Maps



6. Hosted Joins

Part 1: Maps



6. Hosted Joins

Part 1: Maps

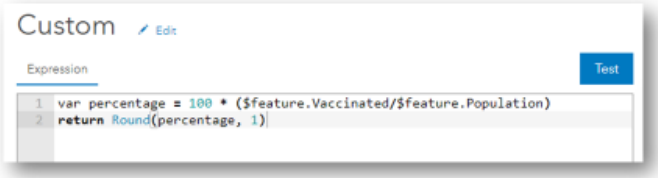
22 Turn off all layers on your map except for the hosted join you just created. Next, we will add a field, and calculate the %of people vaccinated

23 Click on Symbolize

24 Choose New Expression – since we still need to calculate the percentages

25 Construct the following expression:

26 Click OK



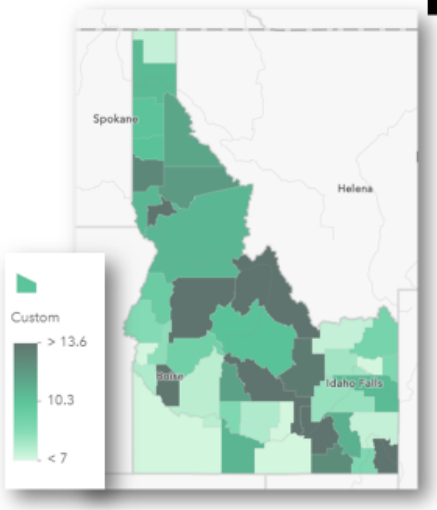
6. Hosted Joins

Part 1: Maps

27 Choose Counts and Amounts, click a color ramp you like and symbolize your map

28 Click OK

29 Since "Custom" in the legend does not see that informative, click on the pencil to edit the custom expression:



6. Hosted Joins

Part 1: Maps

30 Change the title to something more meaningful:

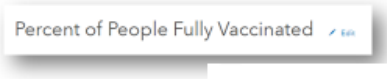
31 Click OK and then Done

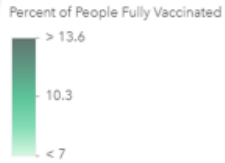
32 Save your map

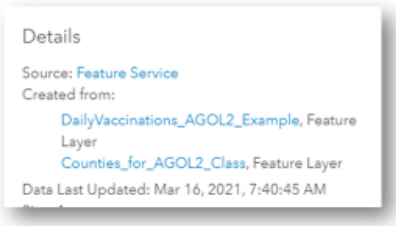
33 Click on the … next to the hosted join you just created and open the Details page

34 Scroll down and notice the following on the right-hand side. It shows you that this Feature Service is created from two different layers

35 Submit a number of surveys and test out the hosted join

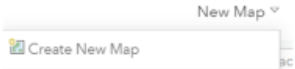


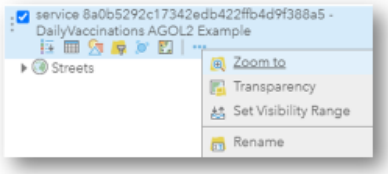




7. Managing Surveys

Part 1: Maps



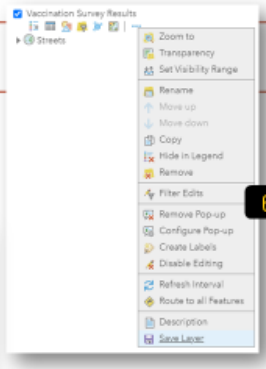


1. Save your current map and then click on new map in the top right-hand corner
2. Click on Add > Add Layer From web and paste in the following URL (those are the survey results) https://services1.arcgis.com/CNPdEkvnGI65jCX8/arcgis/rest/services/service_8a0b5292c17342edb422ffb4d9f388a5/FeatureServer
3. Rename the layer to "Vaccination Survey Results"

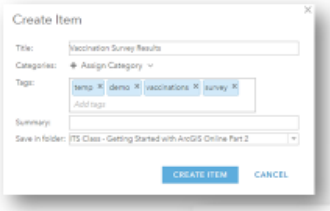
https://services1.arcgis.com/CNPdEkvnGI65jCX8/arcgis/rest/services/service_8a0b5292c17342edb422ffb4d9f388a5/FeatureServer

7. Managing Surveys

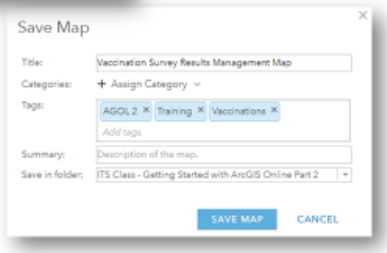
Part 1: Maps



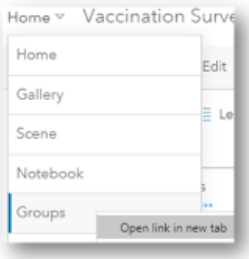
4. Save the layer you just renamed



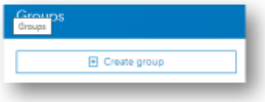
5. Save your map



6. Click on Home in the top left-hand corner and open Groups in a new tab



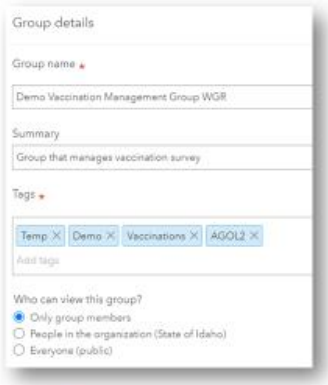
7. Create a new Group



7. Managing Surveys

Part 1: Maps

8 Complete the Group Details, accept the defaults, except for "Who can view this group?"



9 Click Create group

10 Click Add items to group

11 Add both the map and the layer you just saved:

12 Click Add items

7. Managing Surveys

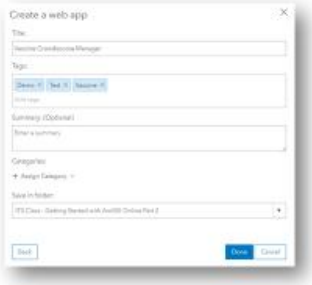
Part 1: Maps

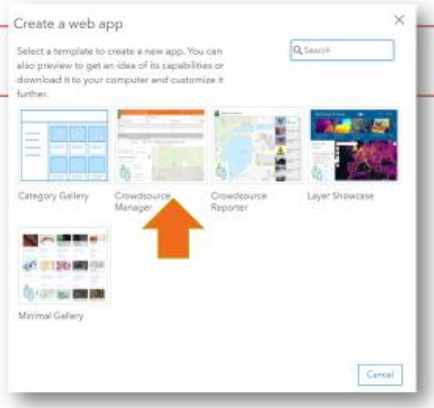
13 Click Create a web app

14 Click on the Crowdsource Manager

15 Click on CREATE WEB APP

16 Complete the metadata and click Done



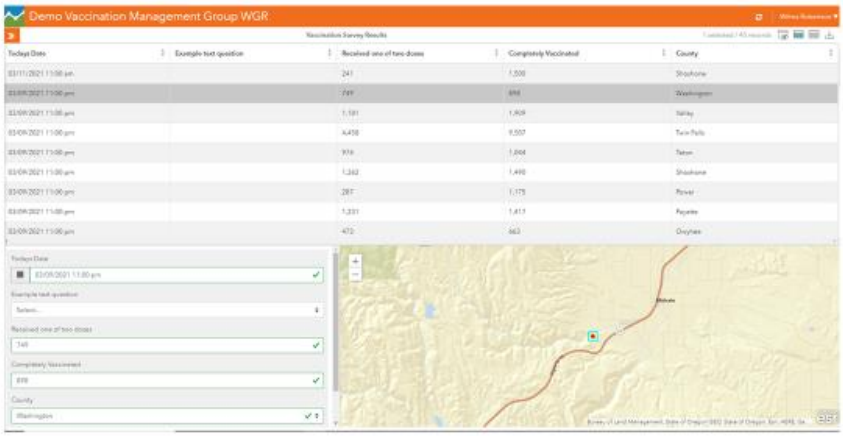


17 Accept all the defaults and click Launch

7. Managing Surveys

Part 1: Maps

18 Test out the new app. Click on any report and then on the pencil in the bottom left panel.



7. Managing Surveys

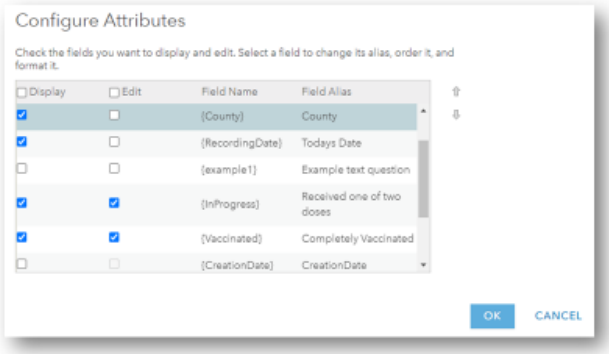
Part 1: Maps

19 To control which attributes are visible, and which ones can be edited go to back your Vaccination Survey Results Management Map (in a different tab)

20 Click on ... > Configure Pop-Up for the Vaccination Survey Results Layer

21 Click on Configure Attributes

22 Configure as shown on the right:



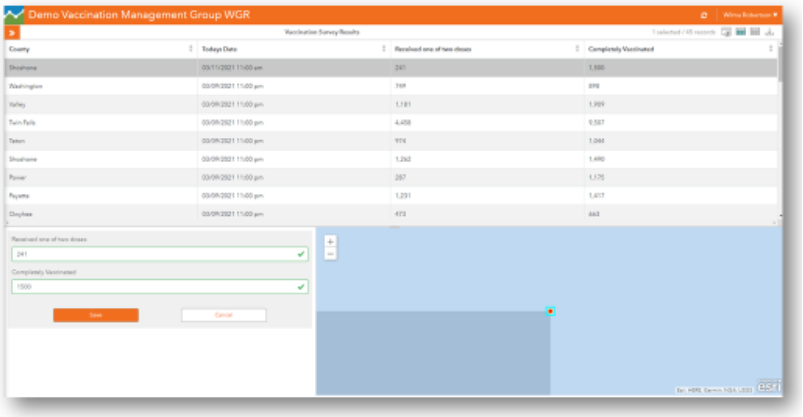
7. Managing Surveys

Part 1: Maps

23 Save your map

24 Go back to the tab with the Vaccine Manager App and refresh the page

25 What changed do you notice?



8. Basic Analyses

Part 1: Maps

1 Return to your AGOL Pop-Up map that we worked on in the beginning of this class

2 We will do some analyses with the Public School and County layer

3 Clean up you map a bit by turning all layers off, except for the schools and the counties.

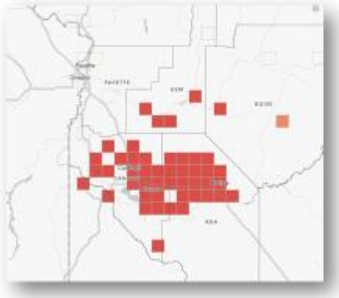
4 Symbolize the counties to show location only, and make set the fill to no color

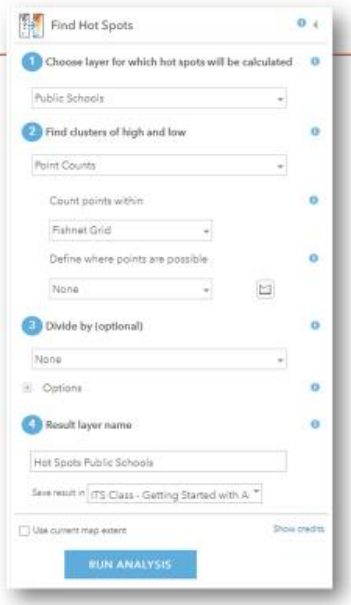
8. Basic Analyses

Part 1: Maps

5 Click on Analysis

6 To create a "hot spot" map showing where the schools are in Idaho expand Analyze Patterns and choose Find Hot Spots





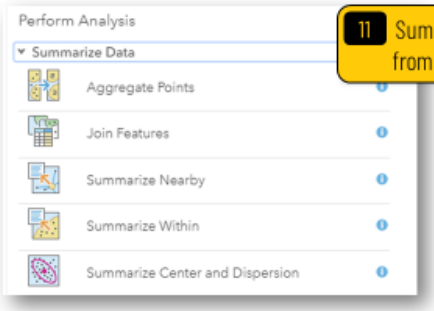
8. Basic Analyses

Part 1: Maps

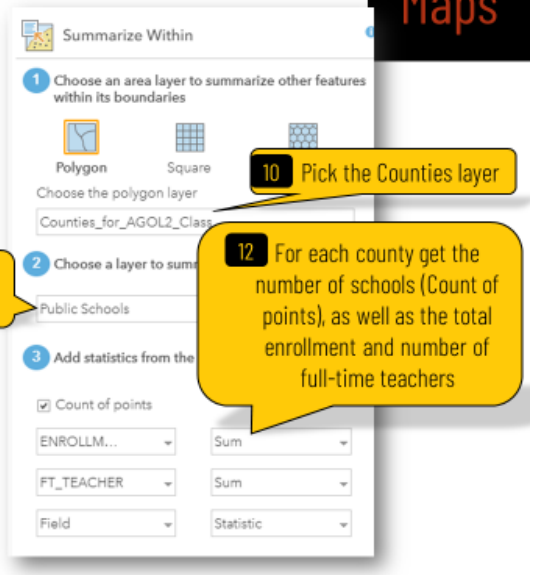
7 Next, we will get some statistics on how many schools you can find in a county

8 Click on Analyze and then expand Summarize Data

9 Click on Summarize Within



11 Summarize information from Public School layer



10 Pick the Counties layer

12 For each county get the number of schools (Count of points), as well as the total enrollment and number of full-time teachers

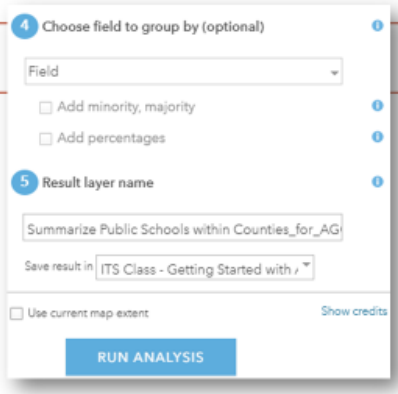
8. Basic Analyses

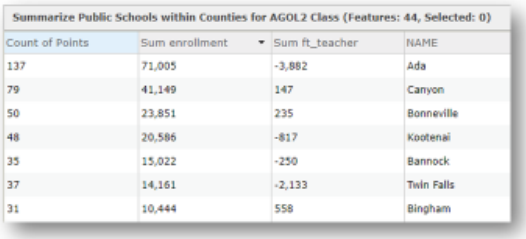
Part 1: Maps

13 Uncheck "Use current map extent" but keep the other defaults.

14 Click RUN ANALYSIS

15 Open the table for the result layer:





Summarize Public Schools within Counties for AGOL2 Class (Features: 44, Selected: 0)

Count of Points	Sum enrollment	Sum ft_teacher	NAME
137	71,005	-3,882	Ada
79	41,149	147	Canyon
50	23,851	235	Bonneville
48	20,586	-817	Kootenai
35	15,022	-250	Bannock
37	14,161	-2,133	Twin Falls
31	10,444	558	Bingham

Note that the statistics have been added. Some numbers are skewed because missing information is listed as -999.

8. Routing

Part 1: Maps

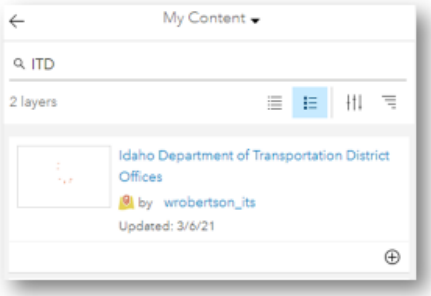
16 Save you map, and click on Add > Search for Layers > My Content

17 Do a search for ITS and add the district office layer you created earlier

18 We will create routes for visiting all ITD offices

19 Click on Analyze

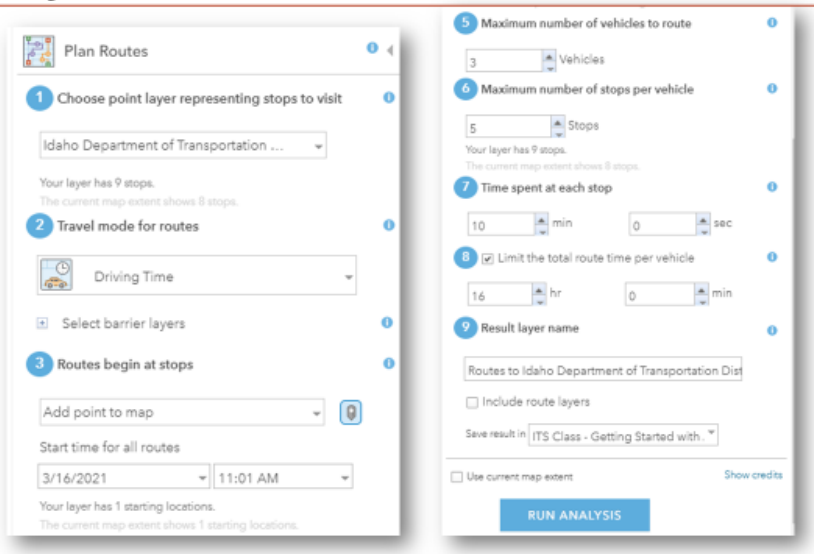
20 Expand



8. Routing

Part 1: Maps

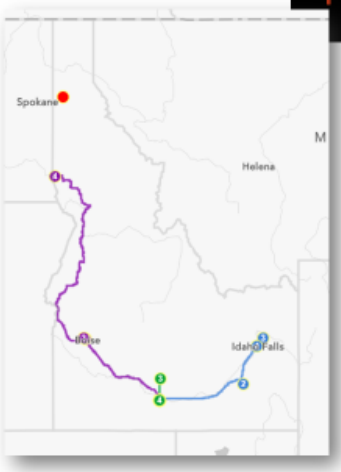
21



8. Routing

Part 1: Maps

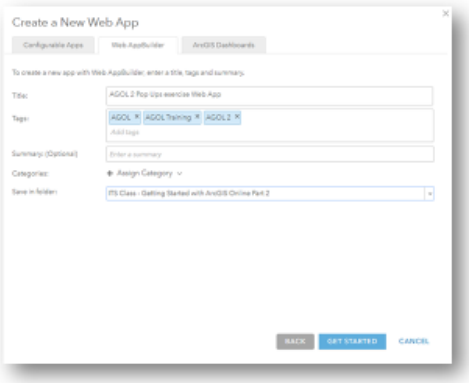
22 Open up the attribute tables and see what type of information is provided for the routes and the stops along the routes



9. App Templates

Part 1: Maps

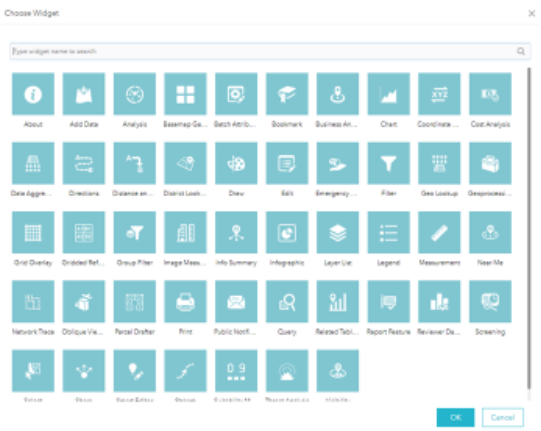
1. Save your map with the Public Schools, Routes and Counties
2. Click on Share
3. Click on CREATE A WEB APP
4. Notice the many different templates available to you
5. Click on Web AppBuilder
6. Complete the Title, Tags, etc. for this App
7. Click GET STARTED



9. App Templates

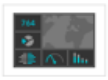
Part 1: Maps

8. Pick the  Dashboard Theme
9. Along the top click on Widget
10. Click on  Widget to pick the first widget
11. Add a couple more widgets



9. App Templates

Part 1: Maps

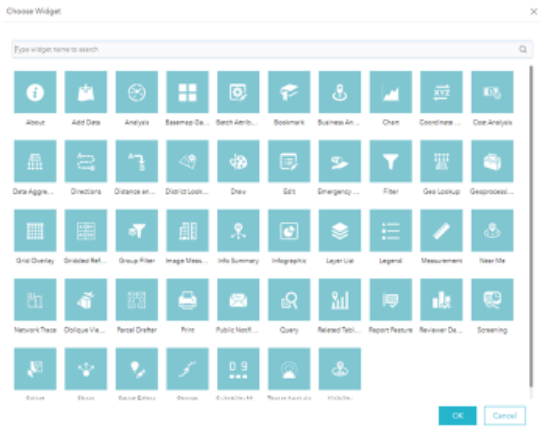
12 Pick the 

13 Along the top click on 

14 Click on 

to pick the first widget

15 Add a couple more widgets



9. App Templates

Part 1: Maps

16 Near the bottom left-hand corner, you see more widgets. Click on the first one

17 Select 

18 It is now added as a widget to your map

19 Click on 

to modify the layout which will allow you to add, move and remove blocks

20 Click on 

and then on