

ArcGIS provides users with a variety of ways to display their data. Students should remember that choices made in the data presentation stage should represent decisions that enhance the understanding of the geography, rather than ones made to make the data presentation more attractive.

Once numerical data has been uploaded to ArcGIS (see [the island geographer guide 25](#)) it will usually automatically be displayed as a series of location markers (i.e. with no data visible - Figure 1).

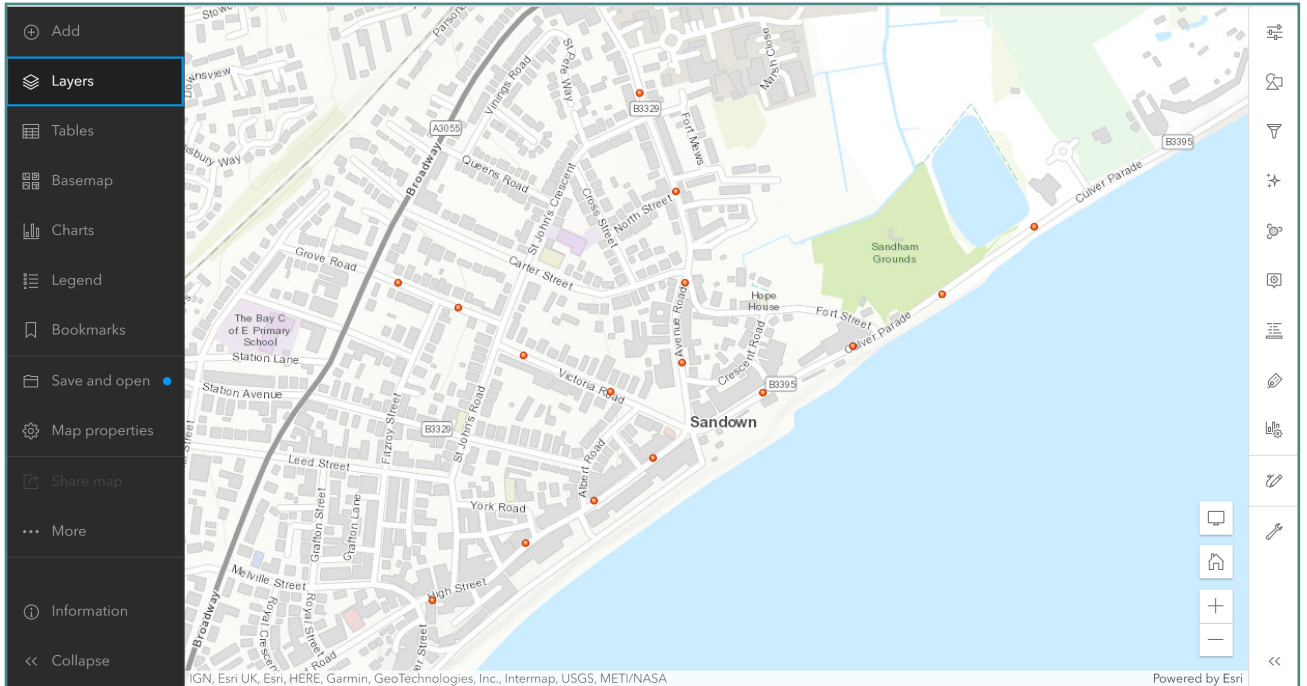


Figure 1

The first stage is to select which layer of data you would like to work with. In the menu on the right hand side of the screen is the **Styles Menu** (Figures 2). The Styles Menu helps you to change the look of the data and to produce analyses.

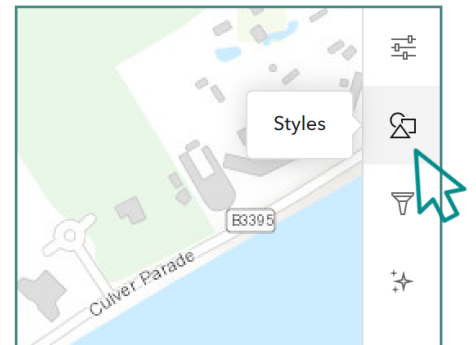


Figure 2

The first part of the menu is where you can choose the attribute you wish to display on the map (in this case an element of the data). Selecting **+ Field** opens a secondary menu (Figure 3) from which you can select which attribute(s) you wish to display before selecting **Add** (Figure 4). These attributes will appear exactly as you have typed them in your original CSV file.

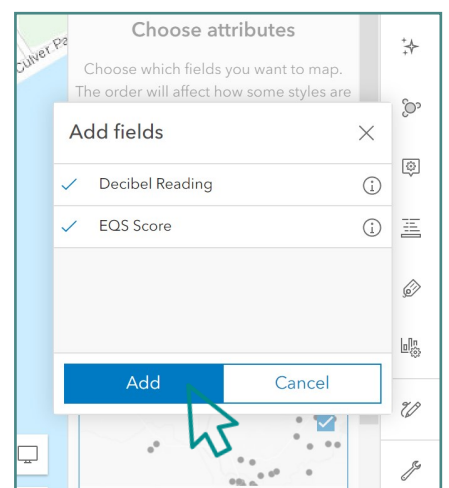
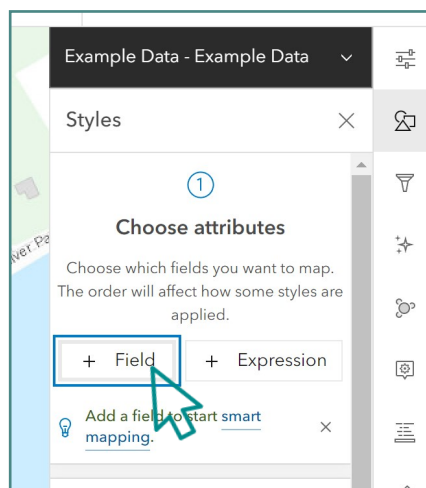


Figure 3 (L) and 4 (R)

Your data and a corresponding key will now display on the map (Figure 5). In the example given here, there are two attributes (Decibel Count and an Environmental Quality Score) so each is displayed in a different way (choropleth shading and proportional circles respectively).

If the data is just a straight forward numerical value, then, by default, it will be displayed as a proportional shape map, with the largest circle showing the highest value and the smallest circle showing the lowest.

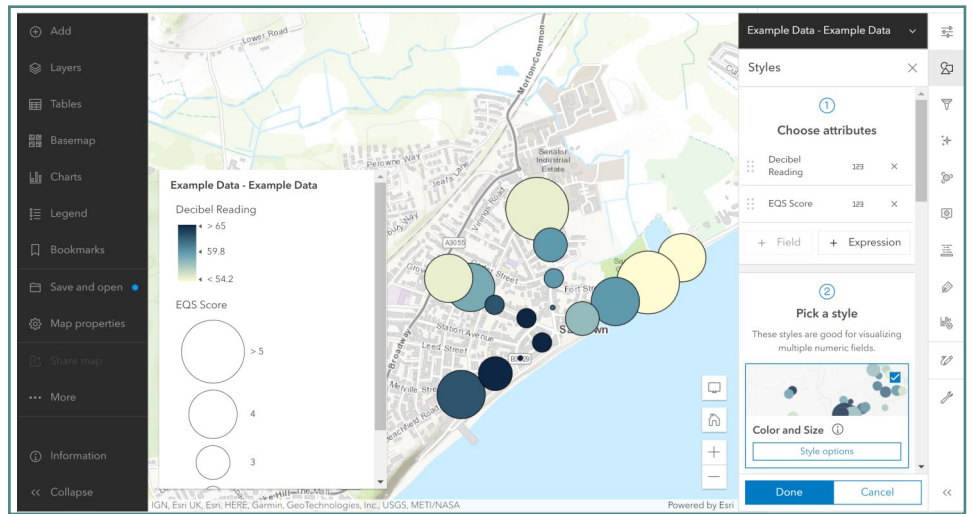


Figure 5

The second part of the **Styles Menu** is where you can choose how the data actually looks on the map. Under **Pick a style** is a button for **Style Options** (Figure 6).

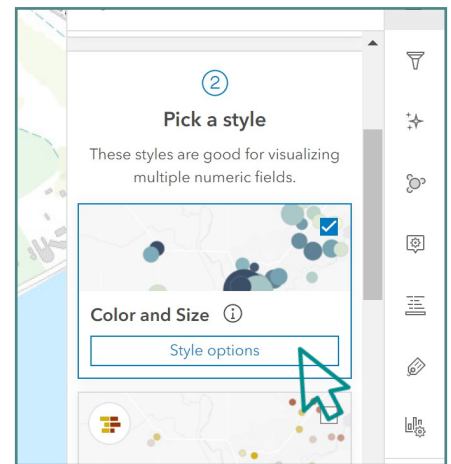


Figure 6

In the example used here we then have the option of choosing whether to restyle the Decibel Count data or the Environmental Quality Data (Figure 7) - if you have only chosen one attribute to be displayed on the map, then only that attribute will be able to be restyled.

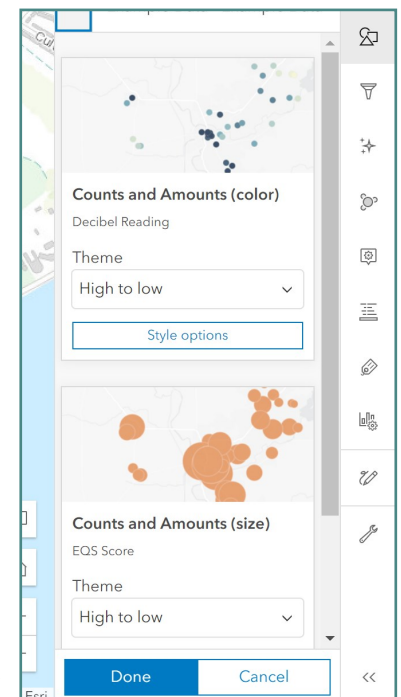


Figure 7

Counts and Amounts (color)

There are a number of style options available.

- **Theme** (Figure 8): here you can choose whether the colour scale runs from darkest/highest value to lightest/lowest value or an alternative form of scaling (such as above or below an average value).
- **Symbol Style** (Figure 9): here you can choose the colour scale used (Figure 10), how transparent the colour will appear on the map (which can be useful if you need to see features of the basemap, such as street names), and the characteristics of the outline used for the symbol. You can also choose the symbol itself from the **Change Symbol** menu (Figure 11).
- **Data range** (Figure 12): here you can change the gradient of the colour scale you have used. The **Flip ramp** button, reverses the colour scale. There are sliders on the scale to allow you to choose the top and bottom values being displayed on the map (which is useful if you have an anomaly that you wish to leave out). You can also rescale the values by creating your own minimum and maximum values (Figure 13).

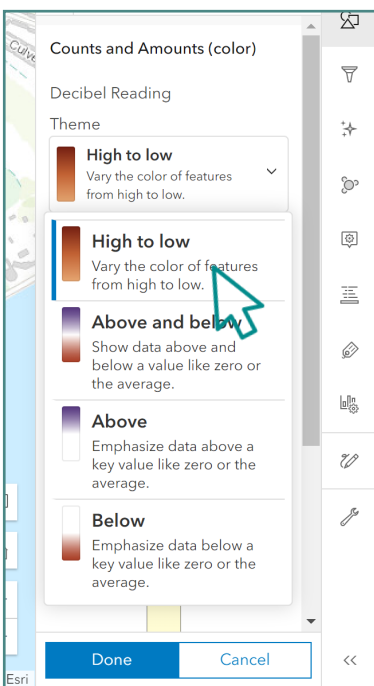


Figure 8

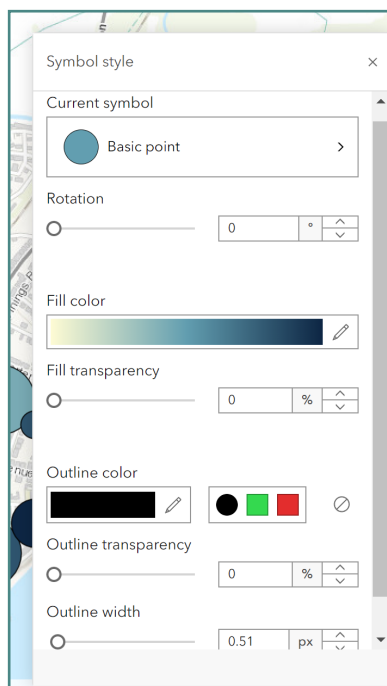


Figure 9

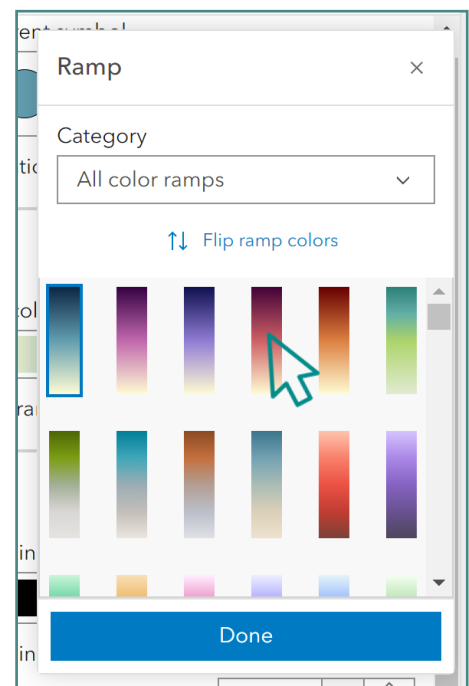


Figure 10

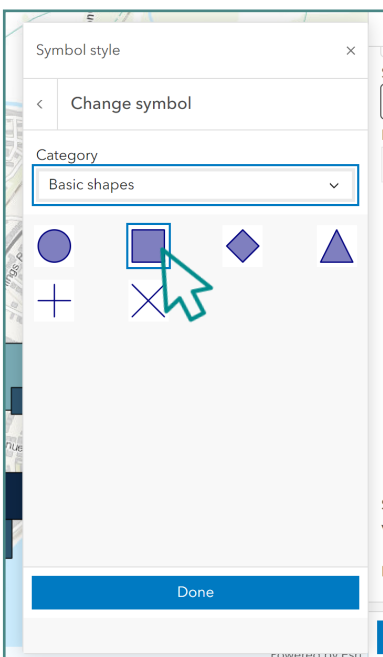


Figure 11

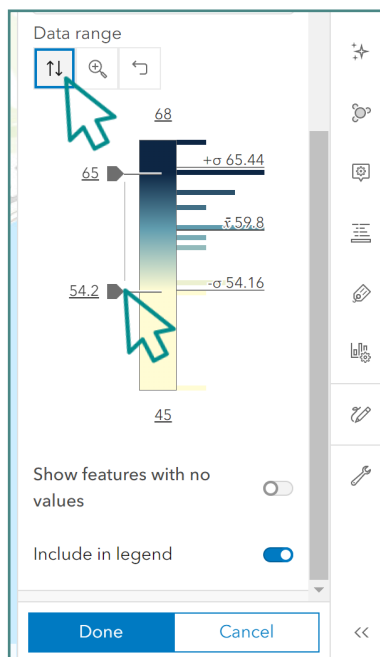


Figure 12

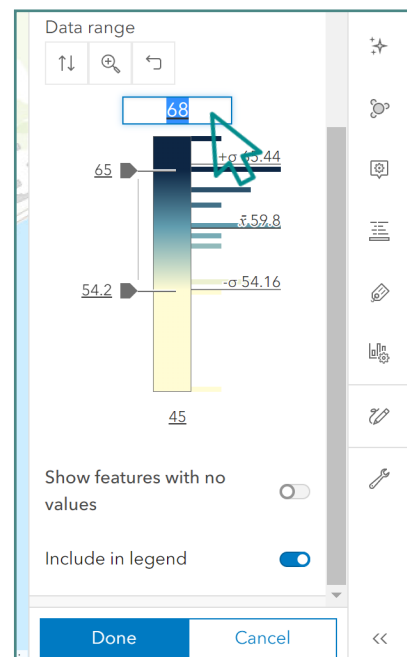


Figure 13

Counts and Amounts (size)

There are a number of style options available.

- **Theme** (Figure 14): here you can choose whether the size scale of your symbol runs from largest size/highest value to smallest size/lowest value or an alternative form of scaling (such as above or below an average value).
- **Symbol Style** (Figure 15): here you can choose the fill colour of the shape used (Figure 16), how transparent the colour will appear on the map (which can be useful if you need to see features of the basemap, such as street names), and the characteristics of the outline used for the symbol. You can also choose the symbol itself from the **Change Symbol** menu (Figure 17).
- **Data range** (Figure 18): here you can change the gradient of the colour scale you have used. The **Invert Size ramp** button, switches the size scale from largest to smallest. There are sliders on the scale to allow you to choose the top and bottom values being displayed on the map (which is useful if you have an anomaly that you wish to leave out). You can also rescale the size of the symbol used by creating your own minimum and maximum values (Figure 19).

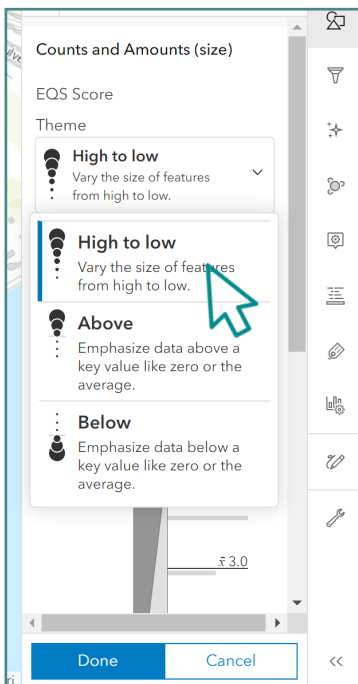


Figure 14

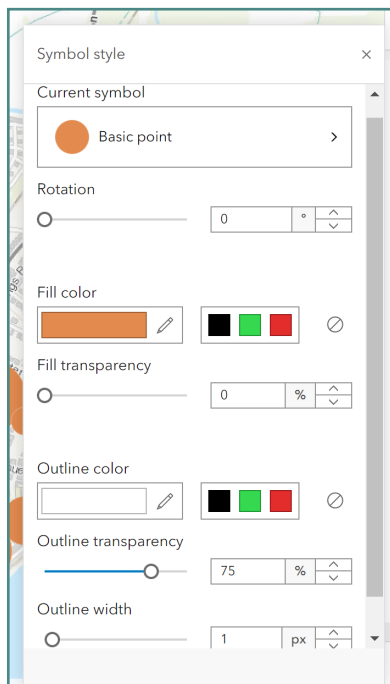


Figure 15

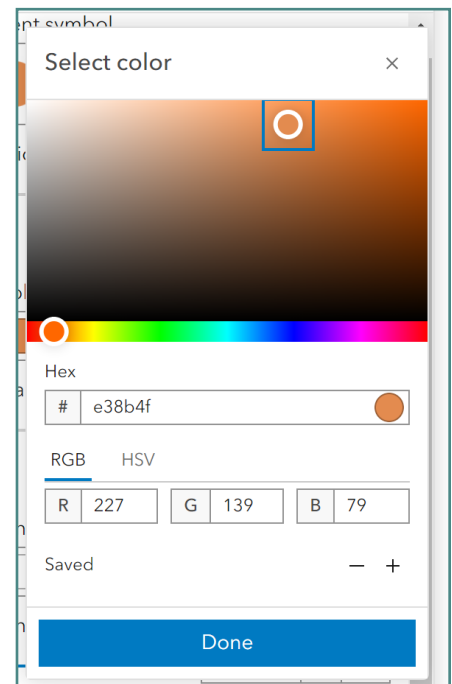


Figure 16

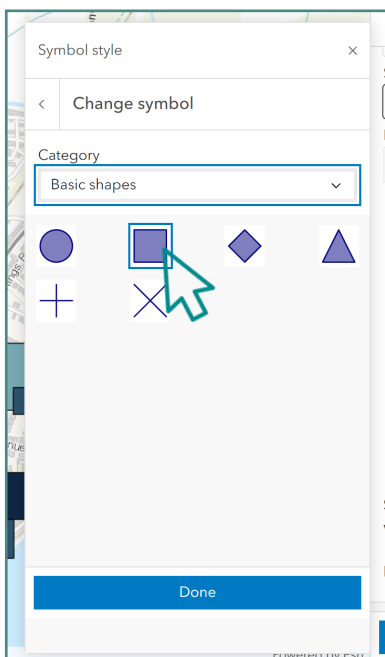


Figure 17

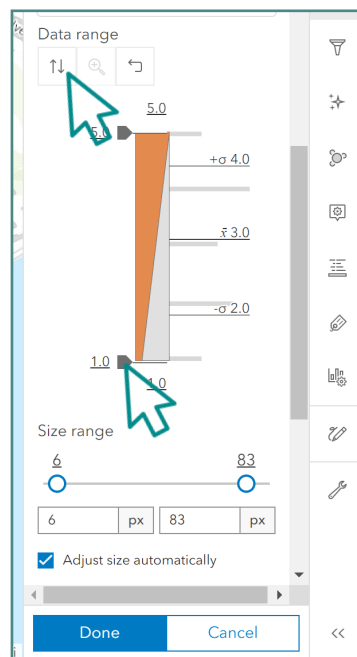


Figure 18

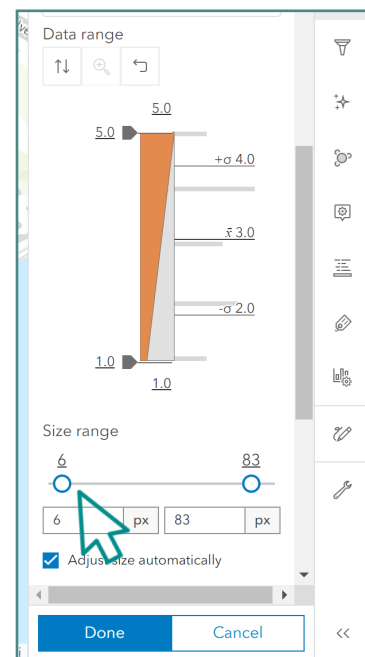


Figure 19

In the example used here, there are two attributes displayed on the map: Decibel count and Environmental Quality Survey Score. The ArcGIS program has chosen to display the decibel reading as a choropleth shade and the EQS score as a proportional shape. If you are displaying two attributes and would prefer them to appear the opposite way to how the program chooses, return to the **Choose Attributes** menu and using the six dots symbol drag the attributes so that they are in a different order (Figure 20). This will mean your first listed attribute will appear as a proportional shape and your second listed will appear through choropleth shading.

Some things to consider as you experiment with data presentation choices:

- Make sure that every colour and size choice you make is appropriate to the data and the geographical relationship you are trying to make clear in the interpretation of the map. Do not make choices based purely on how attractive it is.
- Make sure that the symbols you choose for your map do not obscure other data you need to read. This might mean you have to scale the size of the symbols so that they do not overlap each other or you may need to make the colour of the symbols have a degree of transparency so that they can be viewed through each other.
- Make sure that the scale of the symbols chosen is fair and it is easy to distinguish between different values. Making the size distinction between different values too small can mean that the data appears to be very similar when there might in fact be big differences between the top and bottom values.
- Remember to choose a colour scheme for your symbols that works with the background of the map. It is also important to think about what one might think of as 'positive' and 'negative' aspects of the data. The darker colours should generally be showing against data that has the highest value and the lightest colours should be used to show the least of lower values.
- Think carefully about how colours might have social meanings. Generally people associate red with negative values and green with positive. Equally data to do with water might be viewed as blue while that to do with nature might be green,
- You can also change your basemap to suit your data presentation. On the left hand side of the screen there is a **Basemap** Menu (Figure 21) from which a variety of maps and images can be chosen. Again, it is important to select a map based on what is appropriate to representing geographical meaning.

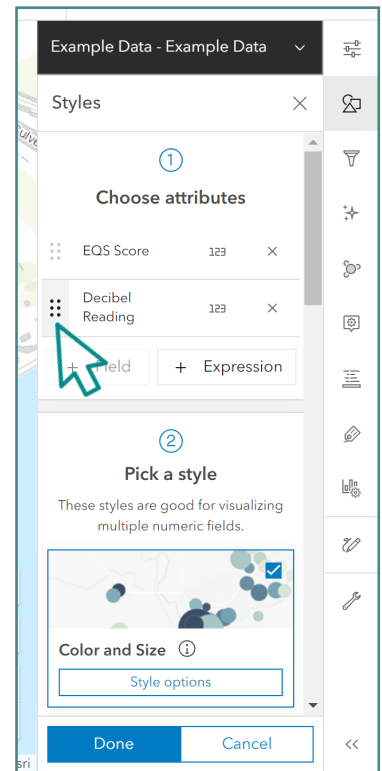


Figure 20

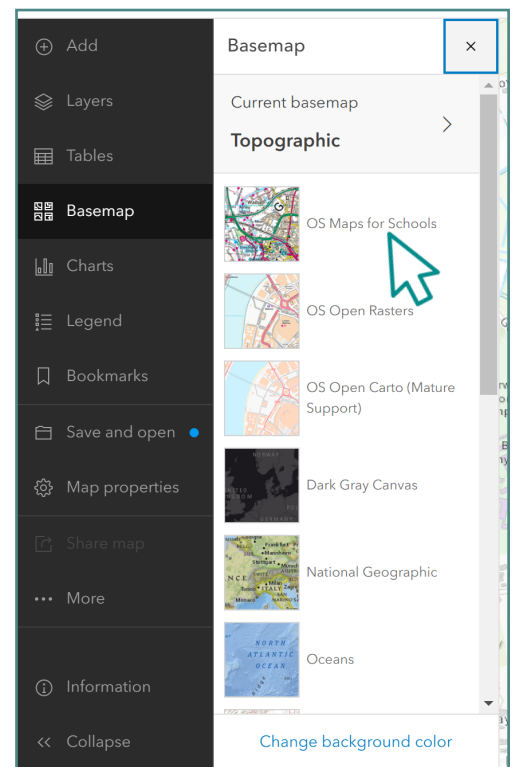


Figure 21

Once you have your map looking as you wish, remember to save it using the **Save and Open** button from the left hand menu. You can also print from this menu with the option to export an A4 PDF of your map.