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# Location, Location

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## Requirements:

- Internet access
- Web browser (e.g. Internet Explorer, Mozilla Firefox, Google Chrome)\*\*
- An Esri Global Account

\*\*Please ensure that pop ups are not blocked for the [arcgis.com](http://arcgis.com) site.

## Introduction:

This assessment activity requires you to identify the key features of the locations of retail banking outlets and supermarkets in \_\_\_\_\_ to solve a client's geographic problem.

You have been contracted by a local retail company to analyse the locations of retail banking outlets and supermarkets in \_\_\_\_\_. They are considering establishing another bank for a new client and building a new supermarket in \_\_\_\_\_. They want an analysis of the key features the current locations of each service have in common so they know what they should look for.

You will work individually to locate the banks and supermarkets in \_\_\_\_\_, analyse the data and produce a layout containing images/maps, and a written report.

You will be assessed on how well you are able to apply spatial analysis to solve this geographic problem.

You will share your map with your teacher and hand in your written report.

Your final work is due on:

## What is so important about location?

Different functions and services often have different needs. Therefore they are found in different locations.

For example, large-format stores such as The Warehouse are often found on the outskirts of a town and in conjunction with similar outlets (a retail park). These outlets or retail parks rely on attracting customers who drive to this destination, and therefore they have large parking areas.

In contrast, retail banks are often located in the centre of an urban area where foot traffic is high. It is not unusual for two banks to be close to each other.

Think about the reasons for these different locations.

Deciding where to locate a service or function such as a retail banking outlet and a supermarket needs careful thought so the location best meets the needs of the people who use each service and the needs of its owners.

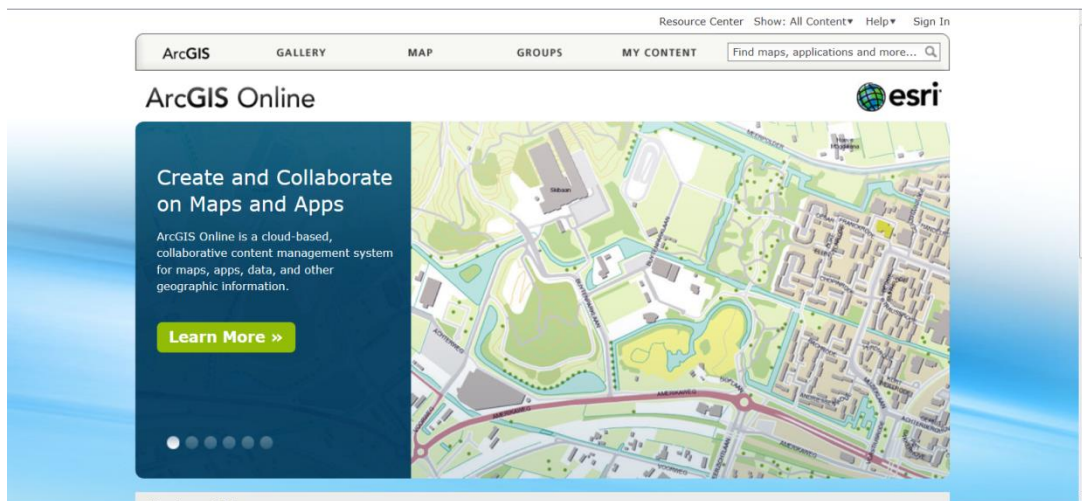
## Instructions

*The questions are to help you analyse your maps. For merit and excellence you should consider other questions and gain other information from your spatial analysis. You should also consider other ways of collecting and presenting the information in your WebMap by developing the basic skills included here. You may discuss your ideas with your teacher.*

*You may also consider other information you could add to your map and other spatial tools you could use to analyse the data in greater depth.*

## Setup ArcGIS Online

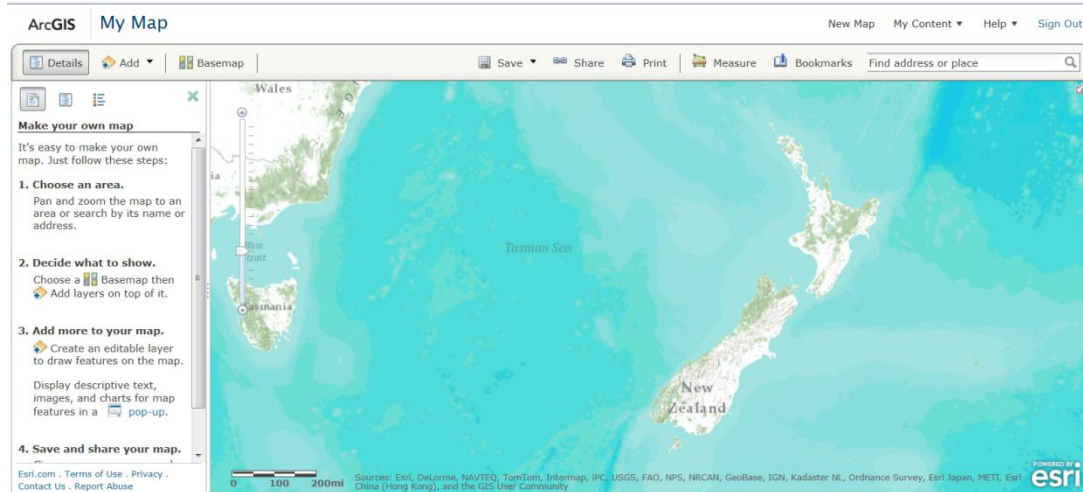
1. Open ArcGIS Online (<http://www.arcgis.com/home/>).



2. Click Sign In to ArcGIS Online.
  - a. If necessary create an Esri Global Account, you will only need to do this once, don't forget your password.

A screenshot of the ArcGIS Online Sign In form. The form is titled 'Sign In' and features the Esri logo. It contains fields for 'Username' and 'Password'. Below these fields is a checkbox labeled 'Keep me signed in'. An orange 'SIGN IN' button is positioned below the checkbox. At the bottom of the form, there are links for 'Forgot password?', 'Forgot username?', and 'Sign in with your enterprise login'.

- Click on map to open a new map.



- Change the Basemap to World Imagery.

Saving your map.

- Click the Save button.
- Fill in the Save Map dialog that appears with the appropriate information. You should prefix your title with your name; tags are words that are used to search for a WebMap.

- Click Save Map.

*Click Save to save your map updates before you sign out of ArcGIS Online.*

## Collecting Information

### Task A: Locate Retail Banks and Supermarkets

You will be adding retail bank and supermarket locations on a map of New Zealand. Your teacher has already captured this information in a spatial format.

- Ask your teacher where they have stored the retail bank and supermarket information in spatial format for this exercise.
  - Ask specifically for the network location and the zip file name
- Locate the retail\_banks zip and supermarket.zip files on your school network drive.
- Copy and paste the retail\_banks zip and supermarket.zip files to your student folder.

**Q1** What spatial format has the retail banks and supermarkets been captured in? (you can choose more than one answer)

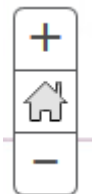
- |              |            |
|--------------|------------|
| a. Shapefile | d. Line    |
| b. Zip file  | e. Polygon |
| c. Point     |            |

## Manipulating the data

**Hint:** You should take screen captures to include in your written report as you complete each task

**Task A:** Create points in your map to represent New Zealand retail banks and supermarkets

1. Reopen your map if you have closed ArcGIS online
2. Add a layer from file to the map, this layer will be one of the zip files you transferred to your student folder in Task A of the collecting information section.
  - a. Click add
  - b. Click add layer from file
  - c. Browse to your workspace where you saved the file you down transferred to your student folder
  - d. Choose to keep the original features
  - e. Click import layer
3. Change the appearance of the so that all the points in the map have the same symbol.
  - a. Click on 'Choose an attribute to show' – change it to *Show location only*.
  - b. Click 'Location (Single Symbol)' / *Options*.
  - c. Choose an appropriate symbol (change the size and colour of the symbol as you desire)
  - d. Click OK
  - e. Click Done
4. Repeat this process for the other zip file you transferred to your student folder in Task A of the collecting information section.
5. Zoom to your study area using the navigation tools



*Don't forget to save your map regularly.*

- Q2** Can you describe any features about the pattern of retail banks and supermarkets in your study area?

**Task B:** Explain the locations

1. If necessary, change basemaps, zoom in and examine the locations of the banking outlets and supermarkets in more detail.

Make notes about the features of these locations that help explain why the banking outlets and supermarkets are located where they are (for example, space for car parks).

Take at least one screen capture each for the banking outlets and for the supermarkets to show factors that help explain the locations of each service.

**Q3** How many banking outlets and supermarkets are there?

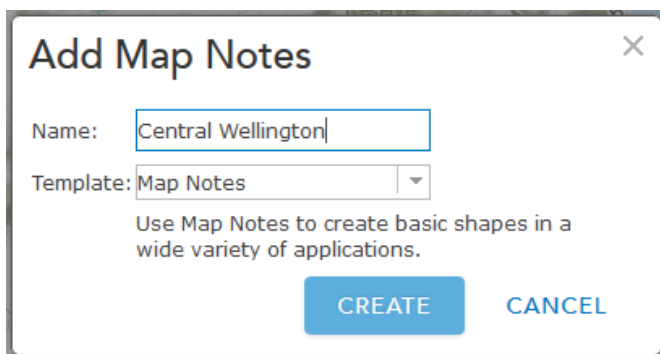
**Q4** Where are the banking outlets and supermarkets located?

**Q5** How far apart are each of the banking outlets and each of the supermarkets?

**Q6** Are the banking outlets and supermarkets located in a pattern? If so, in what type of pattern?

**Task C:** Create an Area on your map that represents the extent of \_\_\_\_\_

1. In ArcGIS Online go to Add
2. Click on Add map notes. Create a layer with the name of your study area.



3. Using the Area edit tool create a polygon around your study area.
4. Give your area a name and short description.

*Don't forget to save your map regularly.*

### **Producing a Layout**

**Task A:** Collate your screen shots into a layout and annotation where appropriate

Prepare an A3 document in a suitable computer application (for example, Microsoft Word, Pages, or InDesign) into which you will paste maps/images.

Remember to save this document in your workspace folder.

Add your screen capture for your layout that show where the banking outlets and the supermarkets are found in your study area.

Add to your screen captures:

- annotations that point out key features that help explain the locations
- the usual mapping conventions.

Organise your layout so it is effective and interesting to look at.

**Fully explain a valid answer solution supported by detailed evidence.**

**Task A:** Analyse your data to provide a solution to the geographic problem

This task requires you to provide a report to your local retail company that analyses the locations of retail banking outlets and supermarkets in \_\_\_\_\_.

Your written report needs to be valid, detailed, and based on information shown on your layout.

You need to:

- check that your descriptions of the locations of the banking outlets and the supermarkets are complete
- write paragraphs to explain why the banking outlets and supermarkets are found where they are, and suggest reasons for any patterns shown.

Make sure that you:

- refer to the images/maps on your layout
- include specific details in your answer, such as specific roads and the location of nearby businesses.

**Submit your work by the due date.**

Ensure that you:

1. Share your map with your teacher.
  - If you are ready to share your map for marking, click the share button and put a tick in the box beside the name of the group for this lesson.
  - Click Close. Your map is now shared with your teacher for marking.

Note: If you get stuck with sharing you map visit Sharing Items at [http://help.arcgis.com/en/arcgisonline/help/index.html#/Sharing\\_items/010q000000100000000/](http://help.arcgis.com/en/arcgisonline/help/index.html#/Sharing_items/010q000000100000000/) for help.
2. Hand a written report to your teacher.
  - Your written report must include a cover sheet with your name and assessment details on it

*How will you know the level of your own work in relation to the requirements of the standard?*

### **Achieved**

You will *apply spatial analysis* which involves:

- Collecting spatial data relevant to the geographic question or problem
  - Retail Banks
  - Supermarkets
- Completing simple manipulations of the spatial data
  - Adding points
  - Drawing polygons – Area drawn with good accuracy
- Creating a layout based on the manipulations.
  - Contains one to three images/maps
  - At least one of the annotated image / map help to explain the locations of the retail banks and supermarkets
  - Images / maps are completed to a good standard
- Writing a report based on the manipulations and layout.
  - Location of banking outlets and supermarkets described
  - Valid comments lacking detail

### **Merit**

You will *effectively apply spatial analysis* which involves:

- Collecting sufficient spatial data to address the geographic question or problem
  - As above
- Completing simple manipulations of the spatial data
  - polygons more accurate and complete
- Creating a layout based on the manipulations.
  - Contains two or more images/maps
  - At least one of the annotated image / map help to explain the locations of the retail banks and supermarkets
  - Images / maps show information accurately and most conventions are appropriate
- Writing a report based on the manipulations and layout.
  - Location of banking outlets and supermarkets described
  - Images / maps in layout referred to
  - Valid comments with some detail

### **Excellence**

You will *comprehensively apply spatial analysis* which involves:

- Collecting sufficient spatial data to address the geographic question or problem
  - As above
- Completing simple manipulations of the spatial data
  - As above
- Creating a layout based on the manipulations.
  - As above
- Writing a report based on the manipulations and layout.
  - a detailed and comprehensive explanation of the location features of banking outlets and supermarkets in \_\_\_\_\_ is presented
  - Images / maps in layout referred to, to provide locational detail
  - Valid comments with some detail
  - Specific examples of banking outlets and supermarkets and local place name in \_\_\_\_\_ are referred