

4. Activities

4.1. Activity 1: Map Features

Objective

This activity aims to assist learners in understanding how different map features are represented.

Resources

- Print out of **Lesson 2_Images_Activity 1_High Resolution Image**
- Tracing paper
- Black pens or pencils

Directions

- Divide class into groups of 3-5.
- Hand out the Image below (**Funda Lula** image section: **L2_Act 1_High Resolution Image**) and tracing paper.
- For this activity use a black pen or a pencil.



The learners must capture the following features:

- the trees
- the roads
- the dams

1. What was the challenge in tracing them?

Some are big and some are small so it is difficult to trace them into a shape that is standard for all of them so that they are easily recognizable.

2. Did you draw the features as you see them or did you choose a symbol to represent it?

Answers may vary, although it better to choose to a symbol to represent the features that are similar.

3. If you did not choose a symbol do you think it would have been easier to draw the features if you had chosen a symbol?

Answers may vary, however for the trees it might have been better to choose a symbol so as not confuse them with the dam.

Trace some other features.

4. Use a table below and list the features you traced and their feature types and whether they are a natural or an artificial object?

Map Feature	Feature Type	Artificial/Manmade
Dam	Polygon	Artificial
Road	Line	Artificial
Tree	Point	Manmade
Sandpit	Polygon	Artificial
Grass	Polygon	Manmade

5. Would you be able to draw the golf sandpits as polygon features on a 1:50 000 scale? Why not?

They would be too small on a 1:50 000 map

Each group should join another group and overlay the tracing papers on top of each other and compare the different groups' interpretation of the image's features and how they chose to represent them.

Outcome

The objective of this activity was to evaluate how different people use features in different ways to represent the real world. In summary: No map is completely objective and every cartographer has to make countless decisions over what is more important and what is less so. Some of these choices may be purely technical, some may be issues of historical convention, and some may be informed by ideological assumptions. But these decisions – as invisible as they are in the final product – have to be made and they all fundamentally change how we see the world.

4.2. Activity 2: Map symbols: Shape, Color and Size (Funda Lula)

Objective

To understand the importance of Symbol shape, symbol colour and symbol size in maps.

Directions

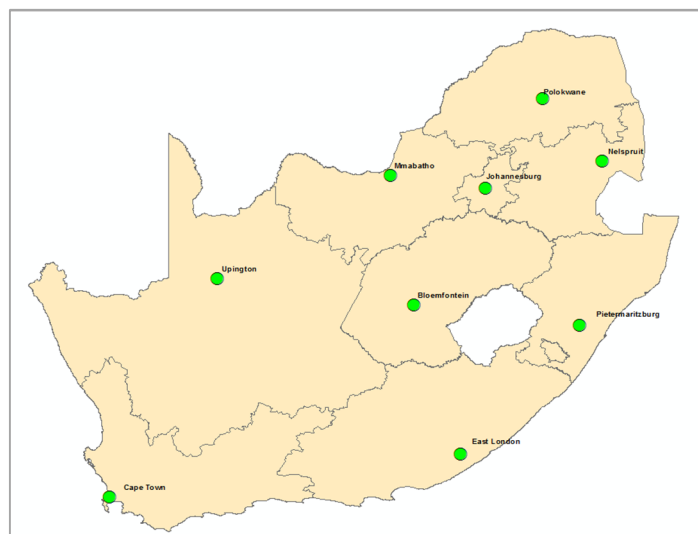
In Funda Lula navigate to the Maps section.



In the window that opens, click on the Lessons button to expand the lesson options. Select Lesson 2 from the list to expand it and then “click” on Activity 2.

Open the Activity layer and in the window, the following layers will open:

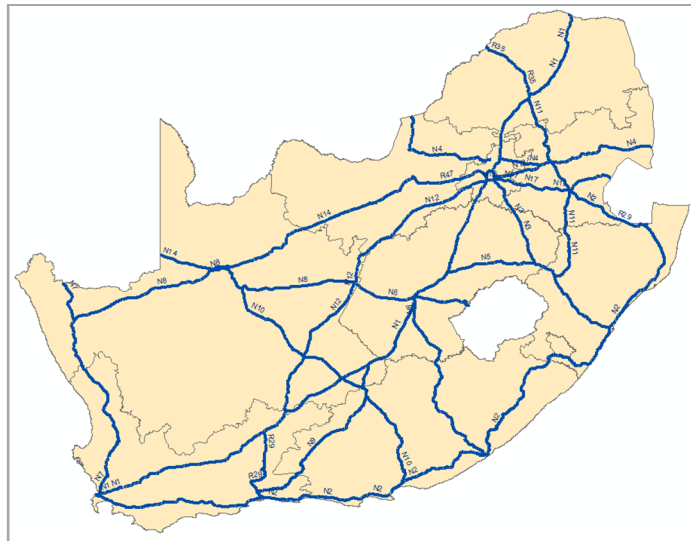
- **Main Towns**
 - **Main Roads**
 - **Major Dams**
 - **Rainfall_Unclass**
 - **Rainfall_Class**
- Switch on the **Main Town** layer.



1. What is the shape of the town symbols?

Points

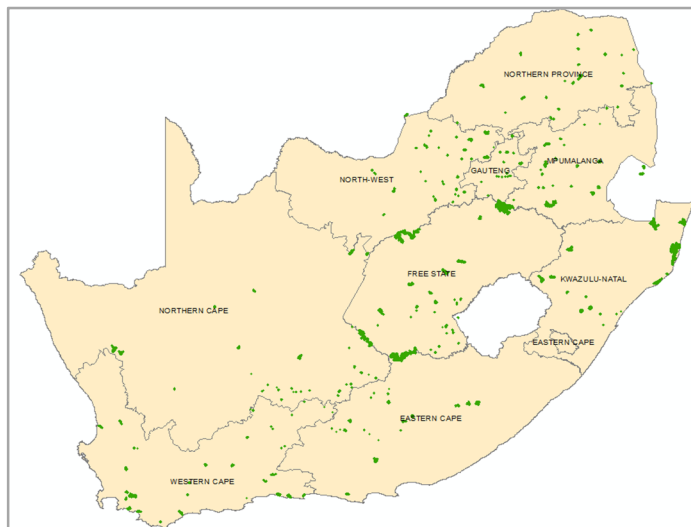
- Switch on the **Roads** layer.



2. What is the shape of the road?

Lines

- Open the **Major Dams** layer.



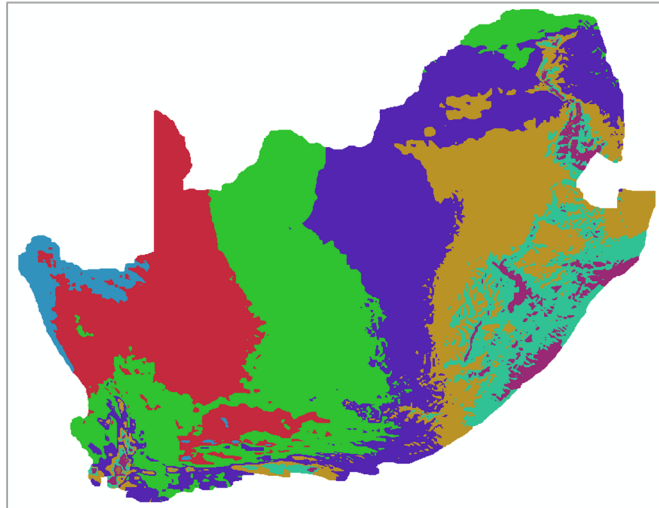
3. The dams are in green. What is the shape of the Dams?

Polygon

4. Why could choosing this symbol colour be problematic?

Green usually represents vegetation features on maps.

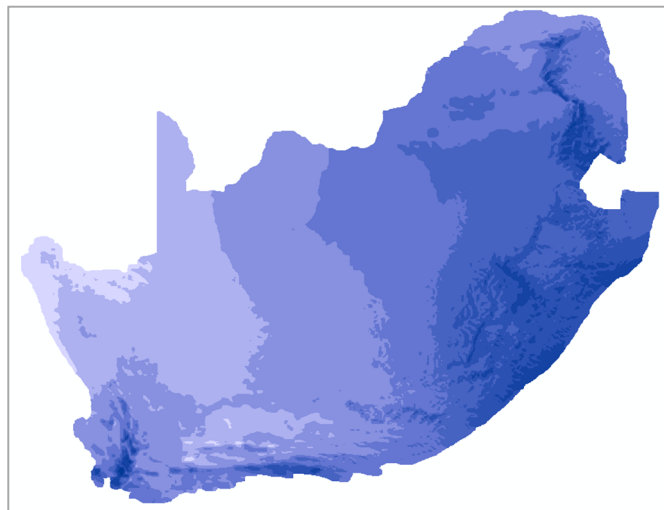
Switch on the map layer called **Rainfall_Unclass**.



5. Would it be possible to try and establish from this map which area receives the most rain?

No

Next switch on the **Rainfall_class** map, which shows rainfall patterns using graduated blue colour scheme.



6. Do you think it will be possible to guess which areas are receiving the most rain in South Africa?

Yes, the dark blue colours are mostly likely the areas that receive more rain therefore the eastern side of South Africa is the area that gets has the highest rainfall rate.

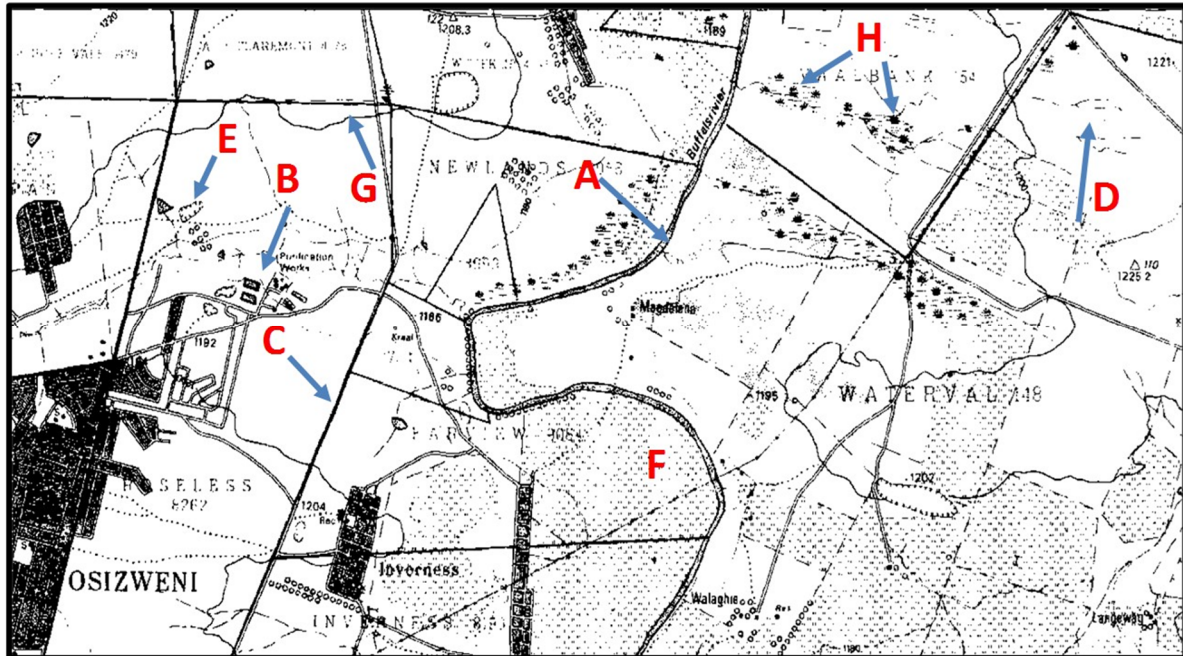
Outcome

The aim of the activity was to show learners the effects that different symbol sizes and shapes have on the message that the symbols show about the features they are representing.

4.3. Activity 3: Importance of colours in symbols

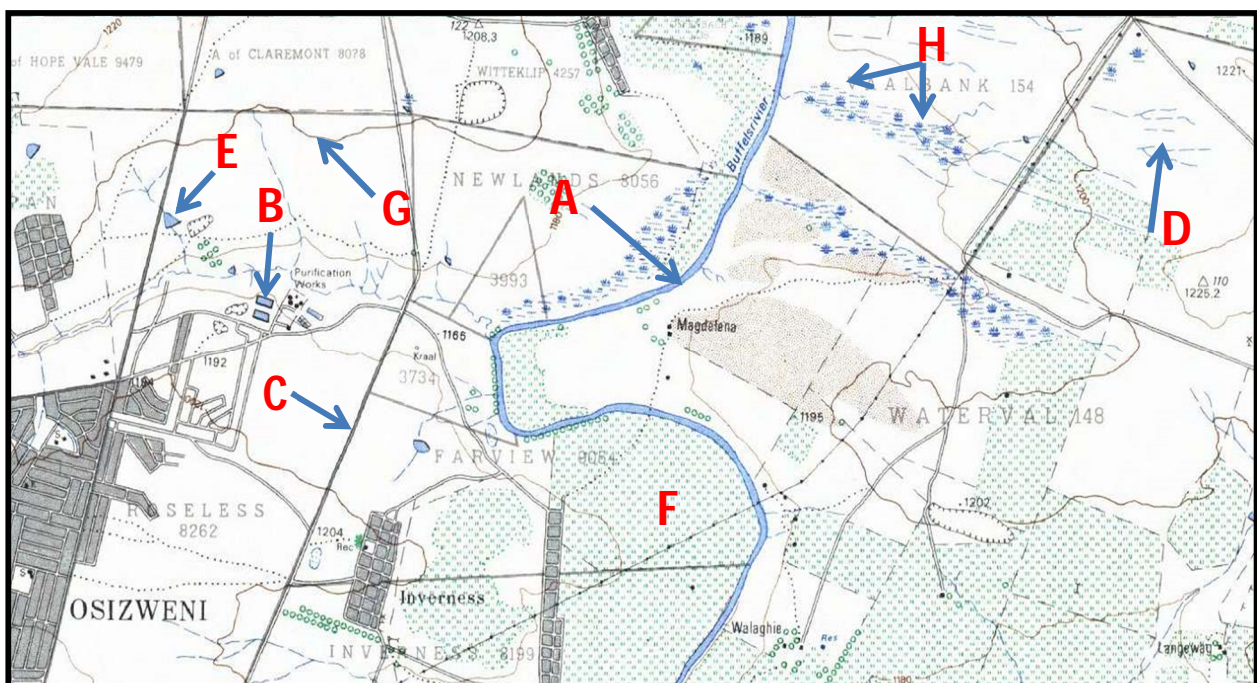
Objective

The following activity explores the use of colour to help make it easier to identify the features that symbols represent.



Directions

1. The learner should use the figure above (black and white copy of a Topographical map) to identify features A - H.
2. Discuss with the learners the difficulties they experienced in identifying the features when there is no colour. (They would need e.g. to find the attribute for the river (marked A) before they can indicate that it is a river. Otherwise it could have been a road as well, colour makes it easier to differentiate between different features)
3. Only after the learners has exhausted all avenues hand out the colour map of the same area and ask them to complete the outstanding answers using Slide 8.



Answers:

- A. Perennial river
- B. Dam
- C. Fence
- D. Non-perennial river
- E. Dam wall
- F. Orchard or Vineyard
- G. Trail
- H. Marsh and Vlei



Note: the map features listed above on the colour topographic map will be the same as the ones represented on the black and white map. The intention is to emphasise that it is harder to differentiate features if they are not represented in colour.

It often happens that cartographers standardise on symbols to make it easier for everybody to recognise it. On the 1:50 000 Topographical Map series of South Africa, the following generalisations are applied to colour:

- Blue represents water features
- Green represents vegetation features
- Black represents man-made features
- Brown represents natural features
- Red represents some roads and lighthouses



Note: These categories of colours are generalisations – there are some exceptions

Thereafter, discuss with the learners the difficulties that map users would face if map symbols had the same colour on the map (Recognition of features would not be as easy)

Outcome

To show the importance that colour plays when using symbols on a map.

4.4. Activity 4: Qualitative and Quantitative symbols (Funda Lula)


Objective

The purpose of this activity is to learn how to differentiate between Qualitative and Quantitative symbols.

Directions

In Funda Lula navigate to the Maps section.

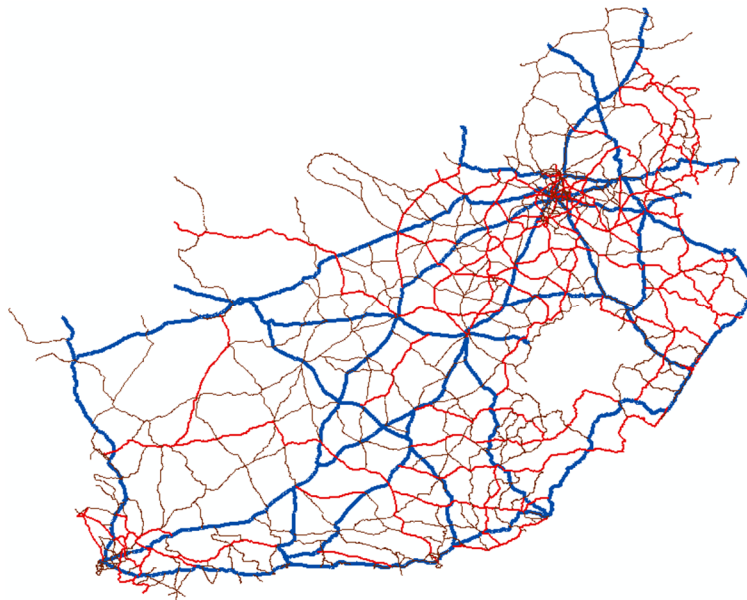


In the window that opens, click on the Lessons button  to expand the lesson options. Select Lesson 2 from the lesson options and expand Activity 4.

On the window that opens, click on the activity layer.

There will be six layers showing within this option.

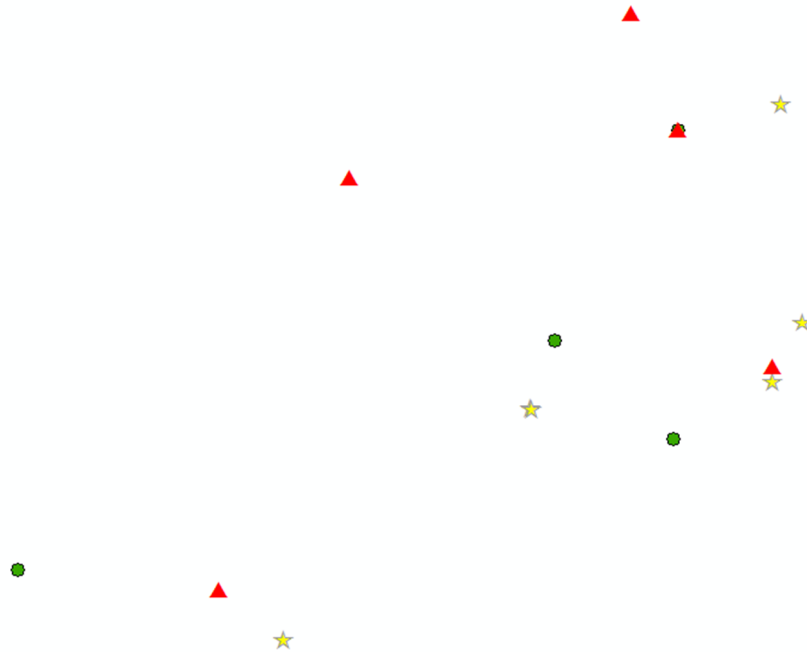
Check the **National Road**, **Arterial routes** and **Secondary roads** layers.



1. **How are the roads categorized?** (They are categorized according to the road types)
2. **Which are the important roads and why?** (The national roads are important as they link the different provinces together)

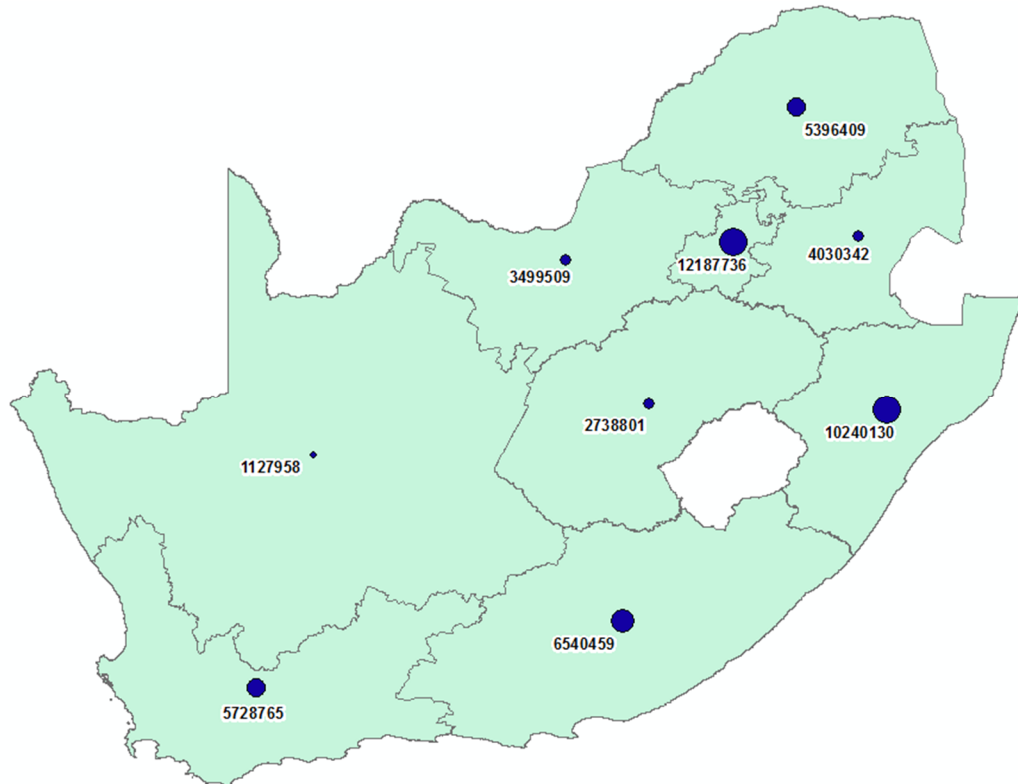
3. Is this an example of a qualitative or quantitative symbol? How can you tell? (Qualitative, as it shows a description of one kind of feature)

Next, check the **Health Facilities** layer.



4. What can you tell from the descriptions? (There are three types of health facilities in the layer)
5. Is this an example of a qualitative or quantitative symbol? How can you tell? (Qualitative, the facilities are being categorised)

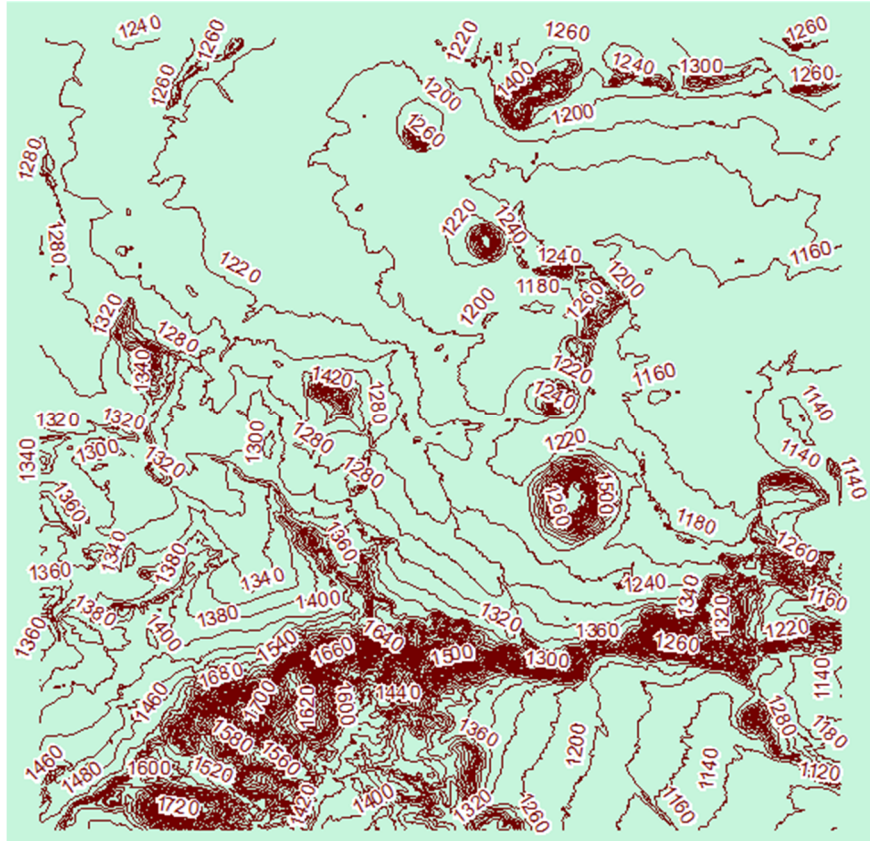
Now, switch on the **Population** layer.



6. **Which is the most populated province? Does this relate with the size of the province. Why do you think this is so?** (Gauteng, it does not relate to the size of the province because there are more people want to live in an area with higher job and social opportunities)
7. **Is this an example of a qualitative or quantitative symbol? How can you tell?** (Quantitative, the population size is a numerical values)

Lastly, switch on the contours layer and zoom into the area.

The values on the layers are height above sea level as seen on a topographic map. Open the Tafelberg Mt. bookmark.



8. Is the middle or the outer part of the conical circles the top of the mountain? How can you tell? (Middle, because it has a higher value than the outside)
9. Is this an example of a qualitative or quantitative symbol? How can you tell? (Quantitative, contour intervals are numerical values)
10. Switch on all the layers at the same time. What patterns can you see? (Most of the health facilities are near the national roads)

Outcome

At the end of this exercise, you will have practised to tell whether map symbols are qualitative, quantitative or both.

Tips and Modifications

This activity can be extended for higher grades by the following:

- Learners can find more examples of qualitative and quantitative symbols in atlases.