

# Telematic Schools Project



## 2022 SUBJECT WORKBOOK Grade 10



## GEOGRAPHY

A joint initiative between the Western Cape Education Department and Stellenbosch University.



Western Cape  
Government

Education



Stellenbosch

UNIVERSITY  
IYUNIVESITHI  
UNIVERSITEIT

forward together  
sonke siya phambili  
saam vorentoe



**BROADCAST SESSIONS**

**GRADE 10**

**GEOGRAPHY**

<b>Grade</b>	<b>Date</b>	<b>Time</b>	<b>Topic</b>
<b>10</b>	<b>20 October</b>	<b>15h00-16h00</b>	<b>Map skills</b>



**INTRODUCTION**

Dear Grade 10 Learner

The Telematics Teaching Project stems from cooperation between the Western Cape Education Department and the Stellenbosch University. To be able to have success at the end of the year it will be very important to keep on learning and applying the prescribed key concepts/processes and process skills in the different knowledge areas throughout the year.

Make sure that you are able to analyse and interpret geography related concepts in newspapers and magazines to the concepts and content you have discussed in the classroom. In addition, spend at least a few hours per week studying / reading / making summaries about the four components in the theory section and attempt to integrate it with the mapwork section.

This year our broadcasts will concentrate on the application and interpretation section of mapwork. Remember that mapwork is tested in question 3 of both question papers 1 and 2 in the new structure of the Geography question papers. All four sections can be tested in the mapwork question - see example below.

**The Atmosphere**  
*Why would it be warmer here?*

**The Atmosphere**  
*Why would it be colder here?*

**Geomorphology**  
*What type of rock is Paarl Rock?  
How was it formed?*

**Population**  
*Why low population density?*

**Water resources**  
*For what is this dam used?*

**Water resources**  
*Name the dam in this river*

**Population**  
*Why large population found here?*

**The Atmosphere**  
*Seasonal or rainfall through the year?*

**Population**  
*Favourable factors for rural population?*

**Water resources**  
*For what are these dams used?*

Therefore an integrated approach will be followed in the telematic broadcasts. We choose and discuss topics in all four sections and integrate it with mapwork. This should empower you to analyze, interpret and answer other questions in the application and interpretation of Question 3 (mapwork) as well. This workbook also follows an integrated approach




**TAKE NOTE: READING OF TOPOGRAPHIC MAP**

It is a good idea to use at least 5 minutes to study the topographic map. In so doing, you will get a mental image of the map.

All map interpretation in examinations and this workbook is based on the questions that you need to answer while reading the topographic map

**HOW TO STUDY THIS SECTION**

You must know ...



Ask the following questions when reading a map:

- What is it?
- Where is it?
- Why is it there?
- What are the relationships between the colours?

**Getting a mental image of the map**  
**RDISE**

**ECONOMIC ACTIVITIES**

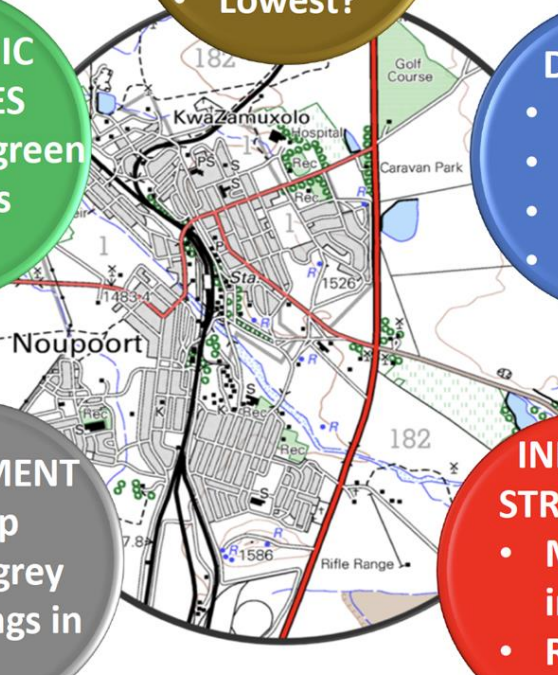
- Farming green
- Industries black

**RELIEF**

- Mountains
- Valleys
- Highest?
- Lowest?

**DRAINAGE**

- Rivers types
- Dams
- Sea
- Climate?

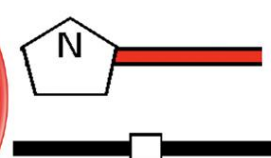


**SETTLEMENT**

- Built up areas-grey
- Buildings in black

**INFRA-STRUCTURE**

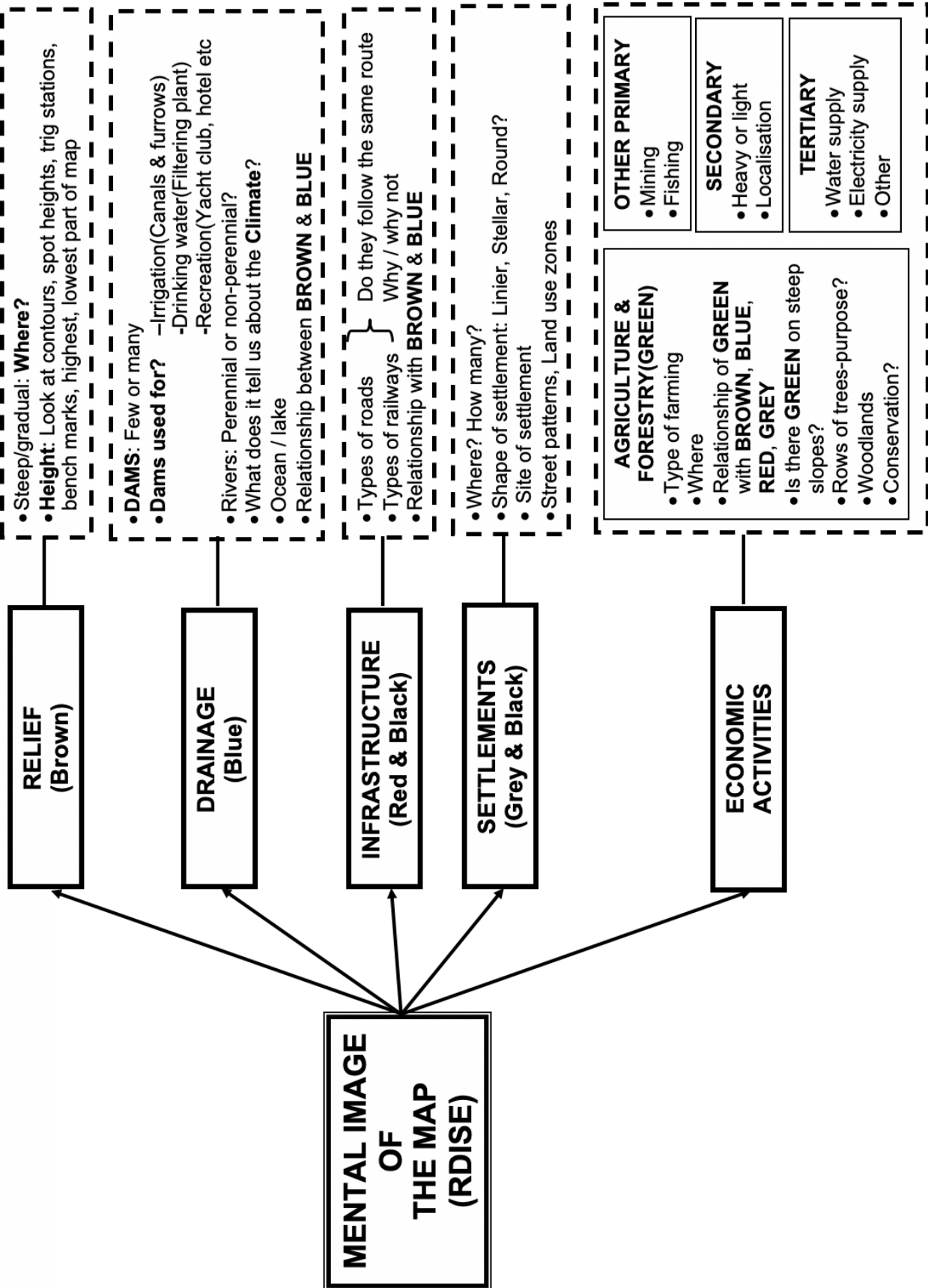
- Main roads in red
- Railway in black



NB Relationships between all the colours



MENTAL IMAGE OF A MAP





# 1 | FACTORS INFLUENCING TEMPERATURE



## SUMMARY

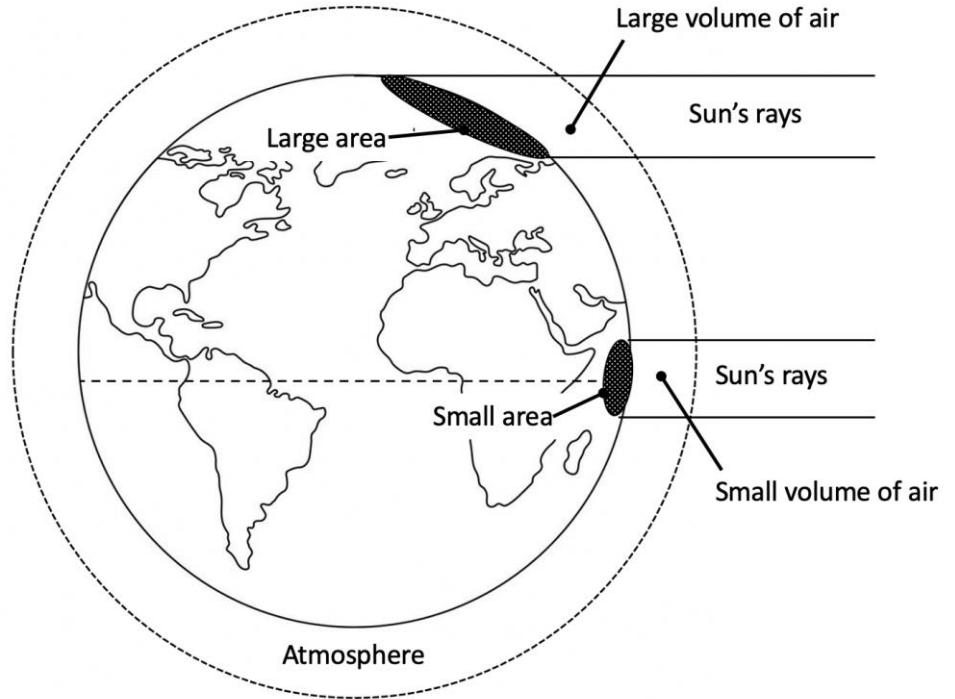
### WHAT YOU SHOULD KNOW

In order to answer a mapwork question regarding the factors influencing temperature, you must have a sound knowledge of the following factors that affect temperature:

- Latitude
- Altitude
- Ocean currents
- Distance from the Oceans

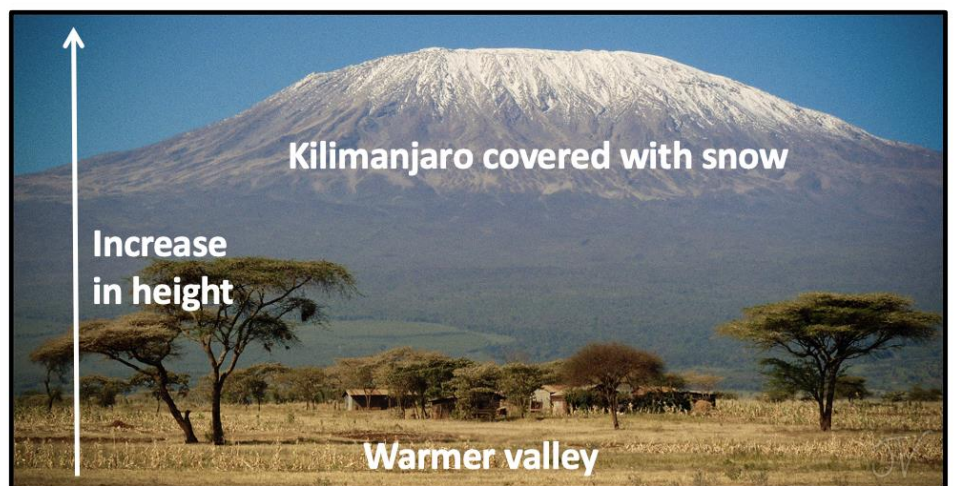
### 1. LATITUDE

The equator is hotter than the poles. Sun's rays are more direct and are concentrated on a smaller area than the the poles.



### 2. Altitude

Air temperature decreases with altitude (the higher you go). Therefore mountains are colder than low-lying areas.





# 1 | FACTORS INFLUENCING TEMPERATURE



## SUMMARY

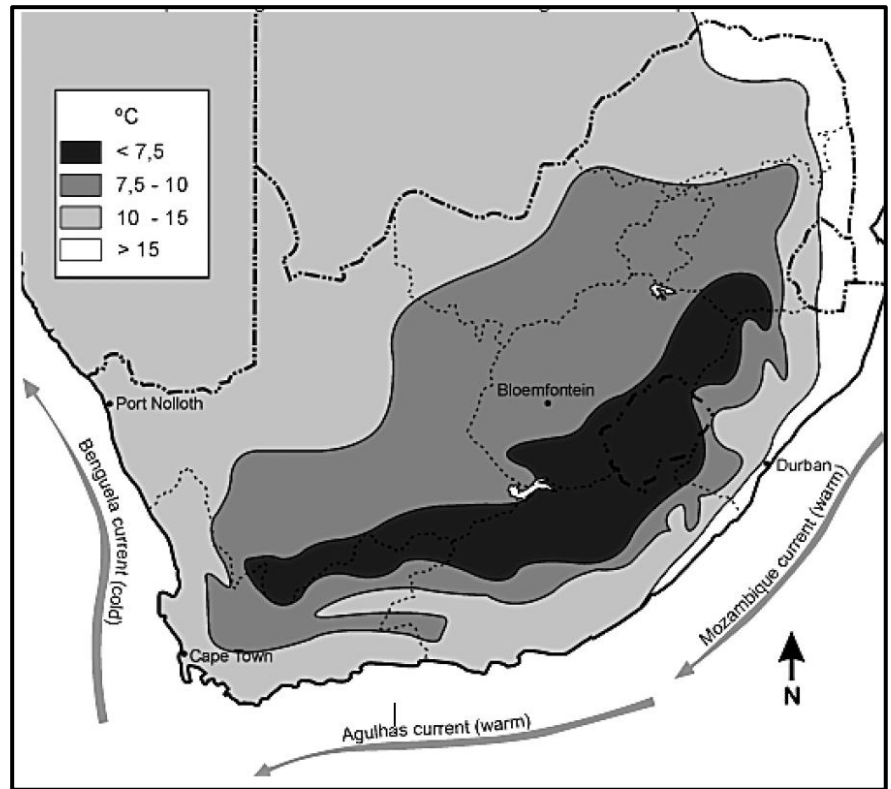
### WHAT YOU SHOULD KNOW

For application and interpretation of factors influencing temperature you need to look at the following on topographic maps

- Brown: Many contours close to each other indicates a mountain. Temperature will drop as you move higher up the mountain.
- A coastal area on the west coast in South Africa will be colder than a coastal area on the east coast.
- Is the area further or closer to the coast

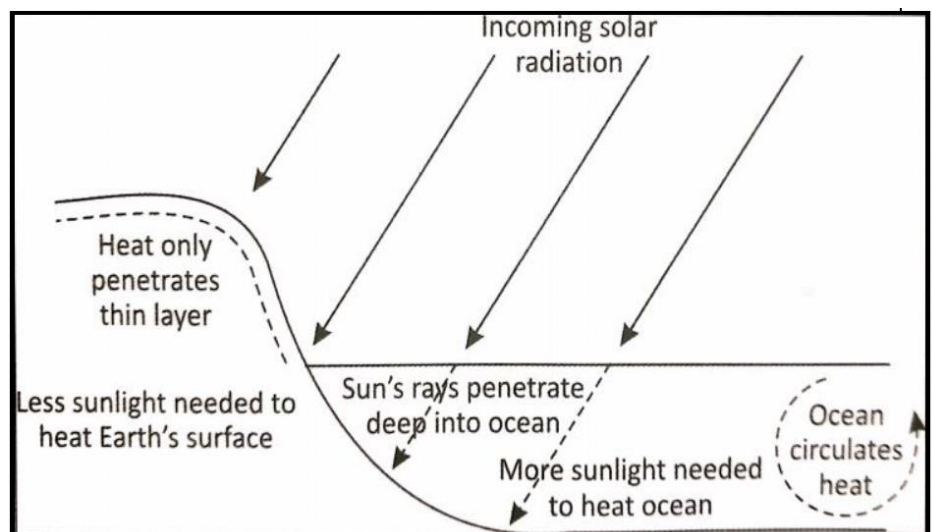
### 3. OCEAN CURRENTS

- Cold ocean currents lower water and air temperatures
- Warm ocean currents raise water and air temperatures
- The east coast has higher temperatures than the west coast in South Africa. Consult key on the map of South Africa below



### 4. DISTANCE FROM THE OCEAN

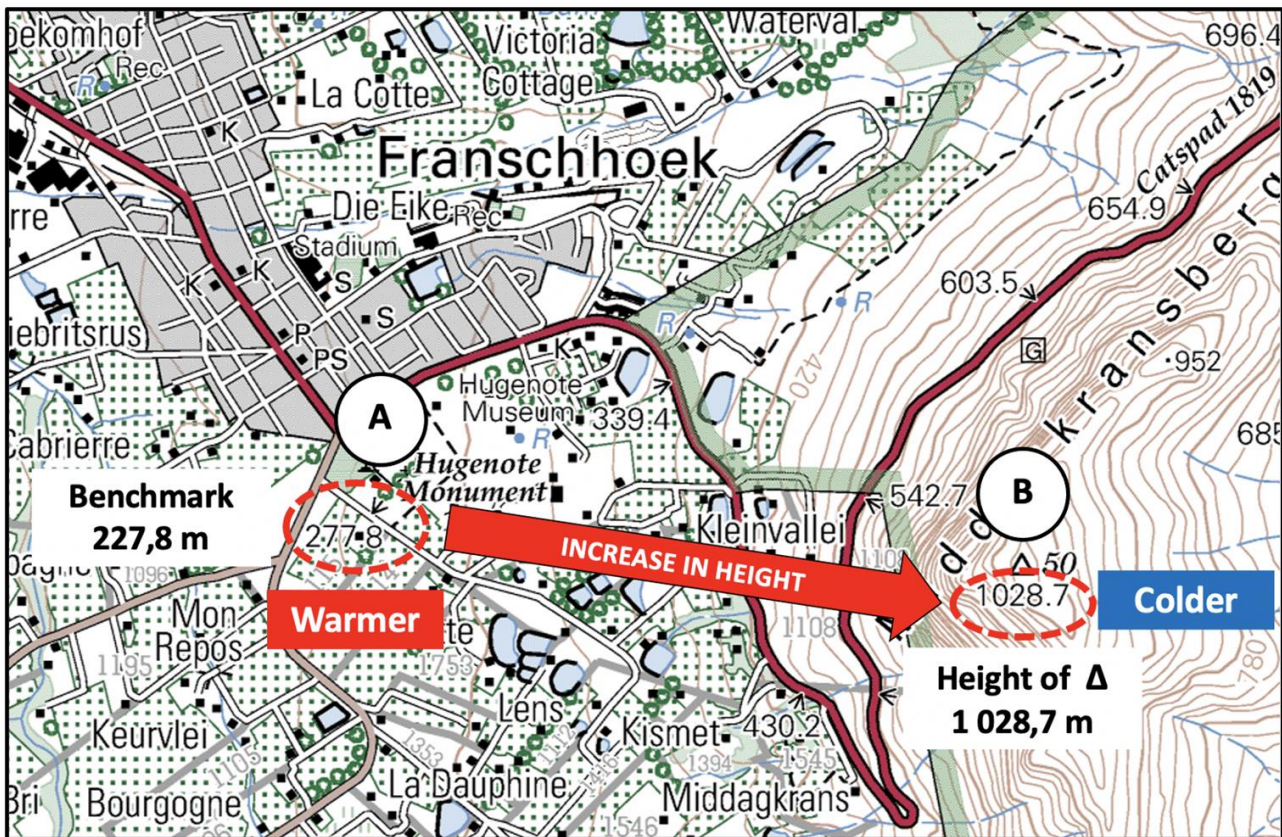
- Oceans heat up and cool down more slowly than the land.
- Coastal areas are cooler than inland areas during the day.
- Coastal areas are warmer than inland areas during the night.





# 1 | FACTORS INFLUENCING TEMPERATURE

## Application of Factors influencing temperature on topographic maps



At which of the locations, A or at B would it be warmer? Give evidence from the map to support your answer.

You must take note of the following on the map:

- A is located in the valley at a benchmark, height 227,8
- B is located on a mountain (NB contours) at a trig station height 1028,7
- It will therefore be warmer at A
- It will therefore be colder at B
- There is an increase of height from A to B.

**MAP SKILLS NEEDED**

You must know ...

- Key of map
- Contours
- Gradual slope contours far apart
- Steep slope contours close to each other
- How height is represented on a topographic map





## 2 | TYPES OF ROCKS



### SUMMARY

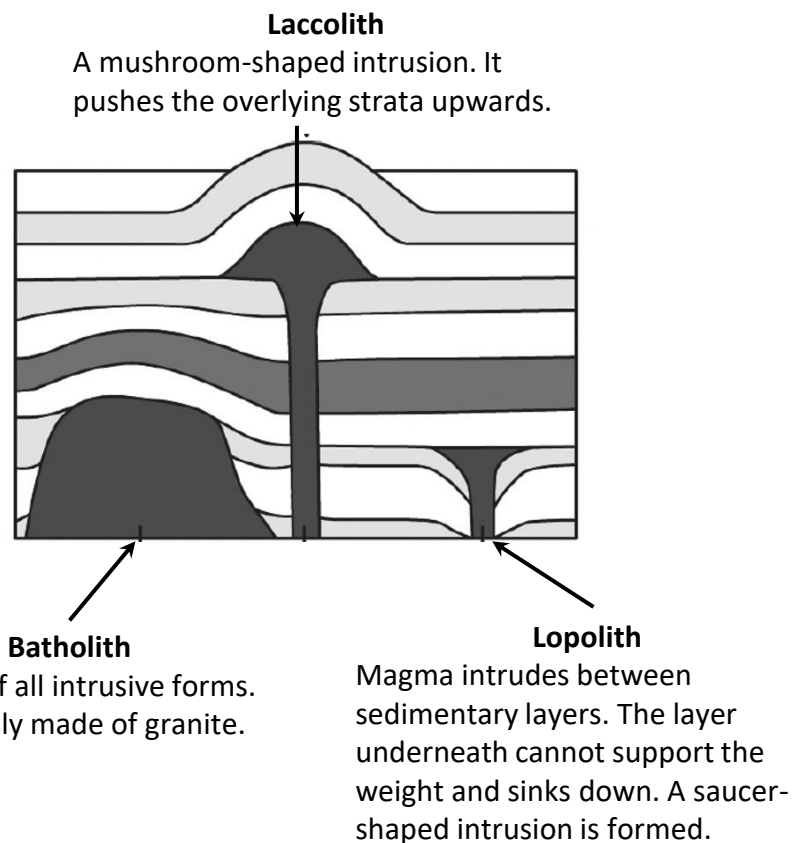
#### WHAT YOU SHOULD KNOW

You must know the characteristics of Igneous, Sedimentary and Metamorphic rocks. This is needed to identify and apply on topographic maps

### TOPIC Types of Rocks

TYPES OF ROCK			
Type of rock	Where formed	How formed	Examples
Igneous	Crust and deeper crust	Magma rises through the crust, cools and crystallises	Granite Obsidian Basalt
Sedimentary	Upper crust	Sediments deposited by wind, water and ice built up in layers	Conglomerate Limestone Shale
Metamorphic	Deeper crust	Igneous and sedimentary rocks changed by heat and pressure	Gneiss Marble Slate

### TOPIC Intrusive igneous activity





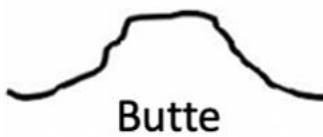
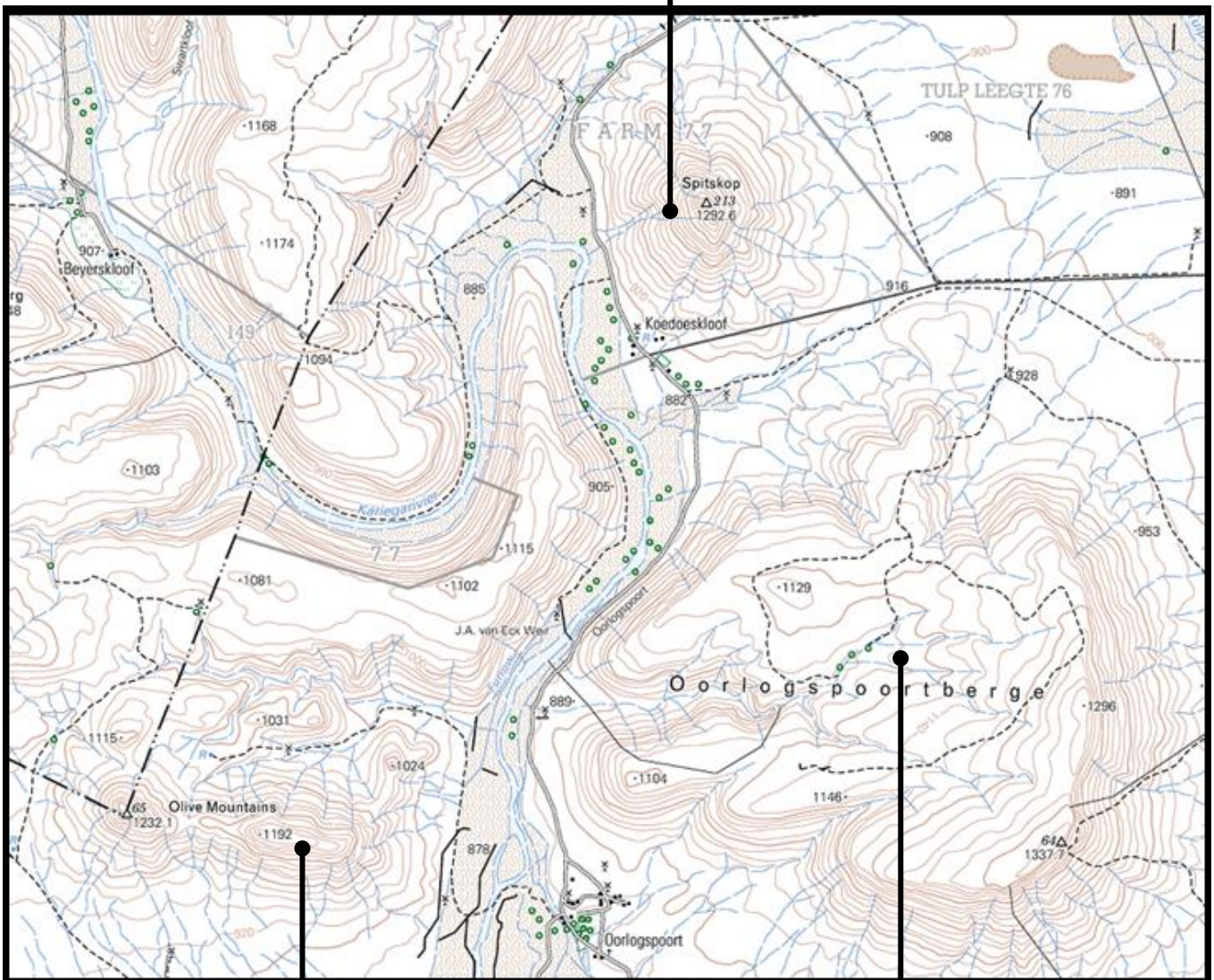
## 2 | TYPES OF ROCKS - SEDIMENTARY ROCKS

Identify the following on the topographic map:

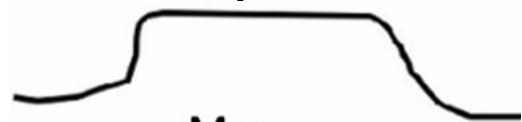
- Mesa
- Butte
- Conical hill



Conical hill



Butte

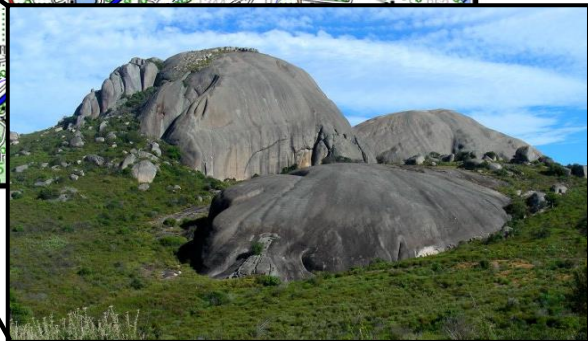
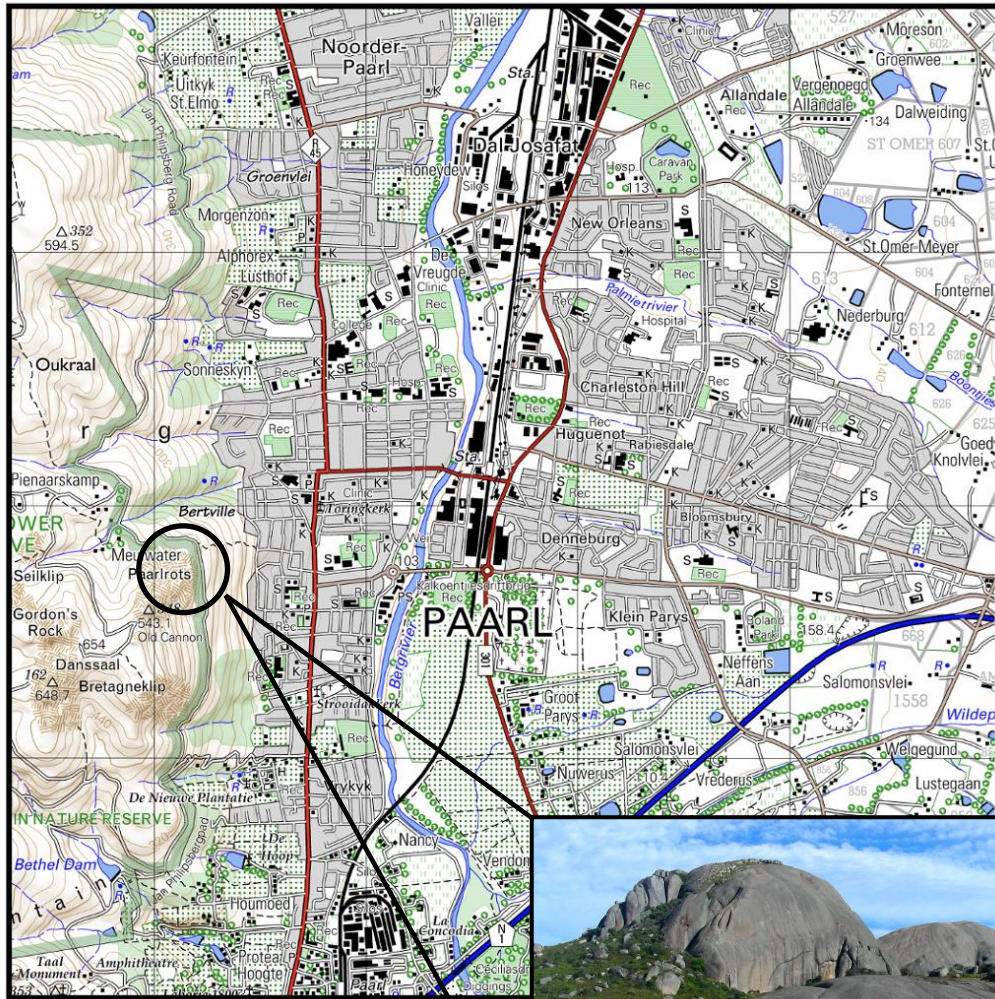


Mesa



## 2 | ROCK TYPES AND INTRUSIVE IGNEOUS ACTIVITY

### Application rock types and intrusive igneous activity on topographic maps



1. Would you regard the slope at Paarl Rock as steep or gentle?
2. Give a reason for your answer.
3. What type of rock is Paarl rock?
4. Is Paarl Rock a batholith, laccolith or lopolith?
5. Explain how Paarl Rock was formed.

You must take note of the following:

- The photo must be integrated with the map
- The contours are close to each other at Paarl Rock indicating a steep slope.
- A good content knowledge of rock types and batholiths is necessary to answer the questions.

**MAP SKILLS NEEDED**

You must know ...

- Key of map
- Contours
- Steep slope contours close to each other
- Map-photo integration



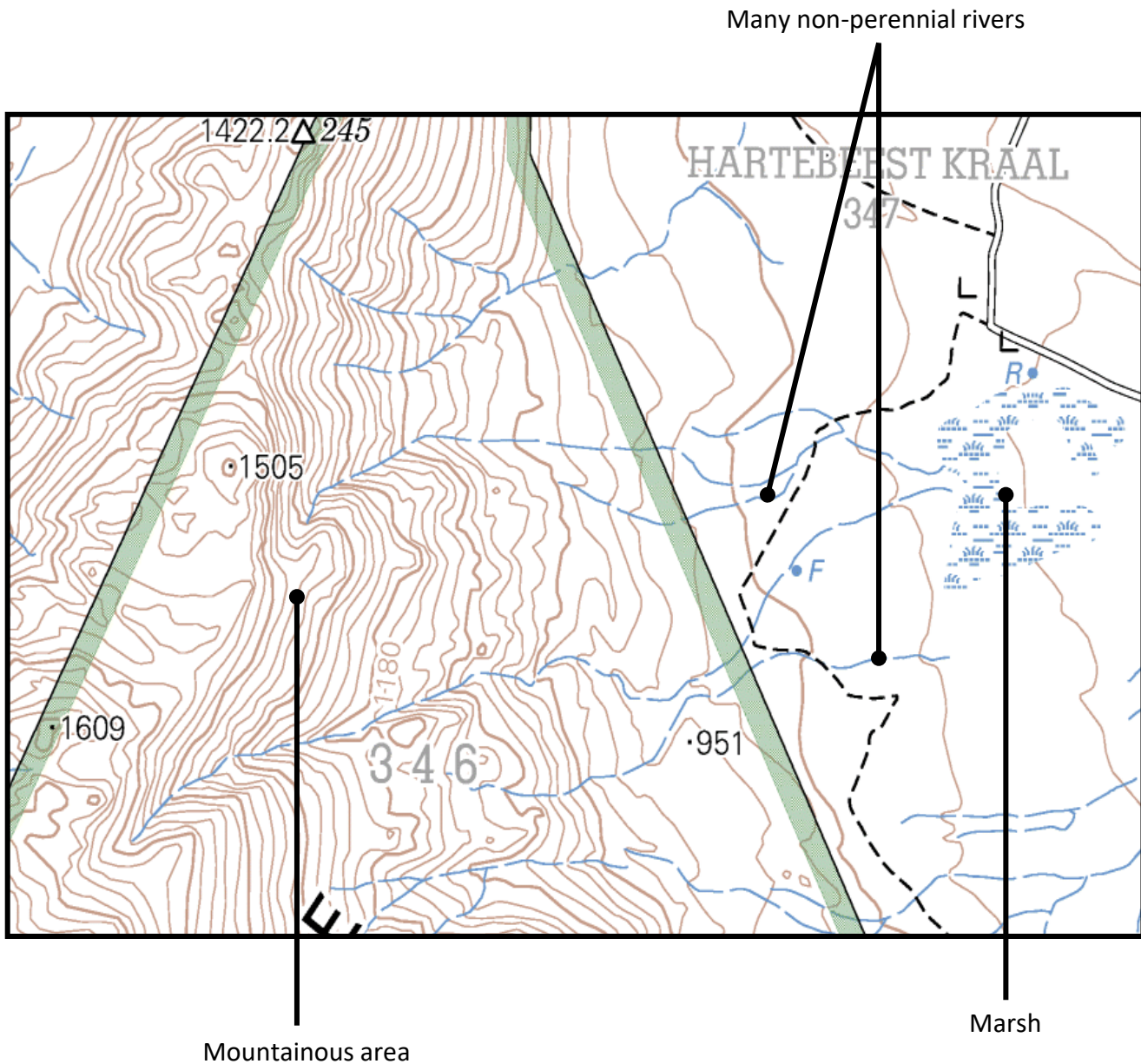
### 3 | FACTORS THAT AFFECT POPULATION DENSITY AND DISTRIBUTION

#### TOPIC

Give reasons for the low population density in the mapped area

Look for the following on the map:

- **Availability of water**
- **Indication of fertile soil**
- **Relief: Mountains-low population density. Valleys high population density**
- **Availability of resources**
- **Indication of type of climate**
- **Marshes-low population density**
- **Rivers: perennial rivers higher population density**





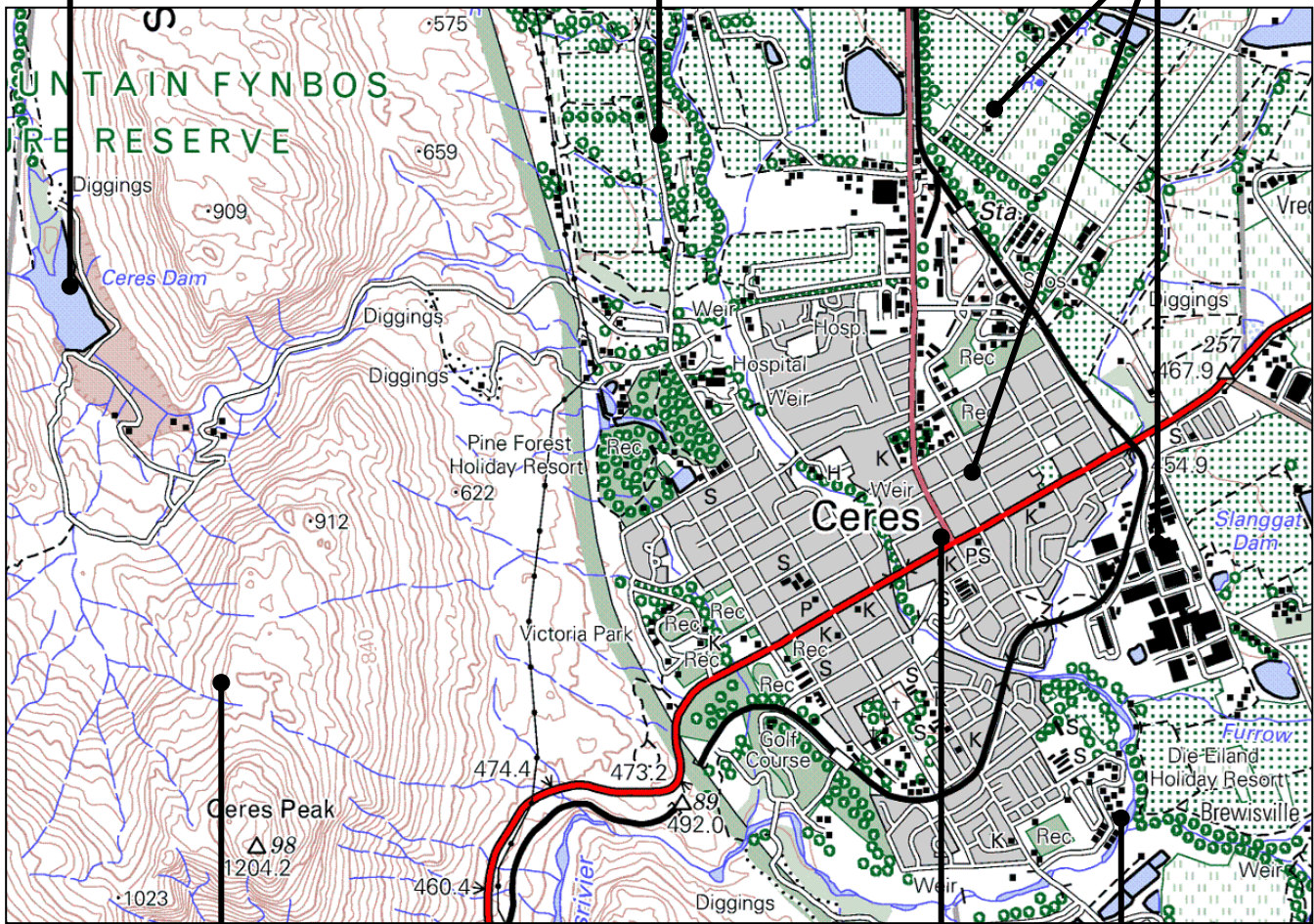
### 3 | FACTORS THAT AFFECT POPULATION DENSITY AND DISTRIBUTION

Discuss the factors that influenced population density and distribution in Ceres

Water from dam

Fertile soil for farming

Employment in town, farms and industries



Steep slopes  
Mountain  
Gradual  
valley

Accessible

Water from  
river



## 4 | POPULATION MOVEMENTS: RURAL URBAN MIGRATION



### SUMMARY

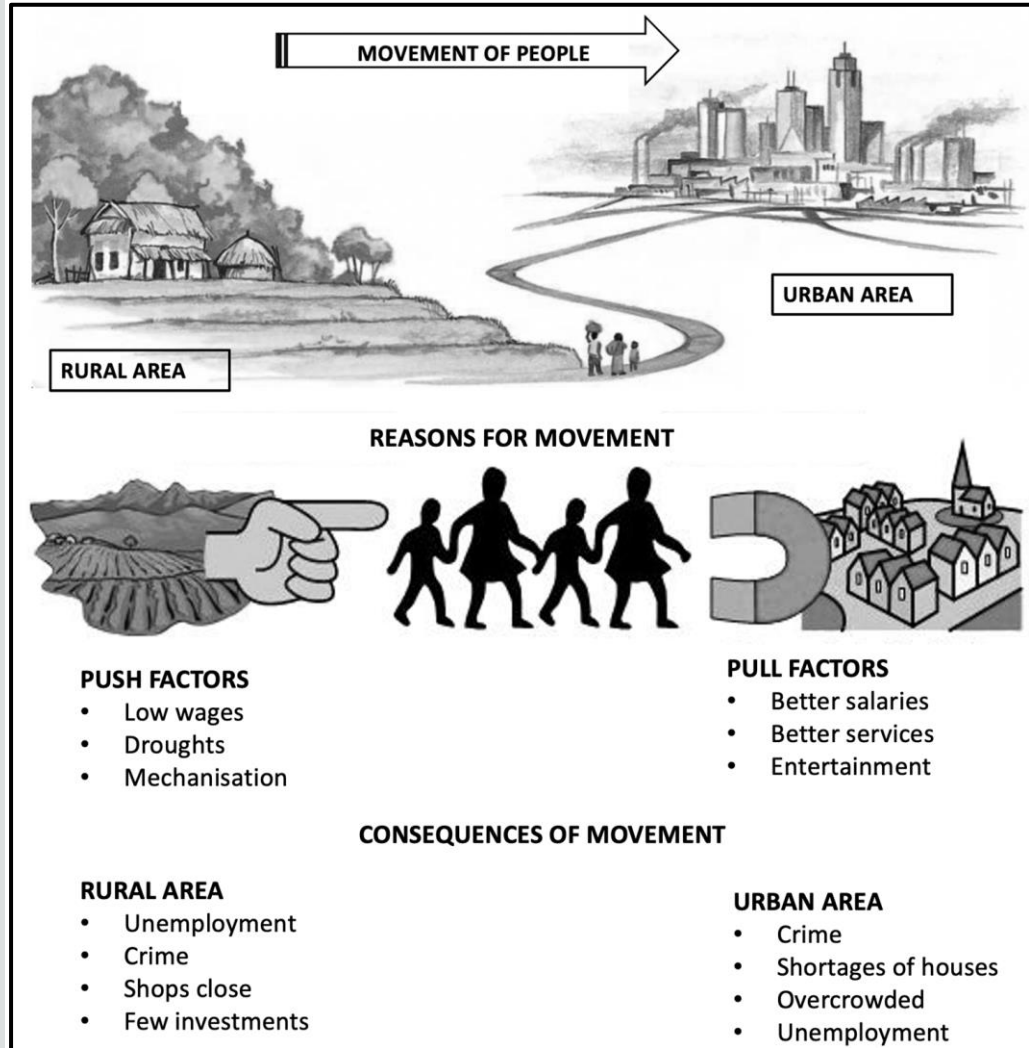
#### WHAT YOU SHOULD KNOW

Rural-urban migration is very important as it is also part of the Grade 12 syllabus. You must know the definition, reasons and consequences of rural-urban movement and apply the content on topographical- and orthophoto maps as well as diagrams

### RURAL-URBAN MIGRATION

The mind map below shows the following regarding rural-urban migration:

- Definition
- Reasons for movement
- Consequences of rural-urban movement



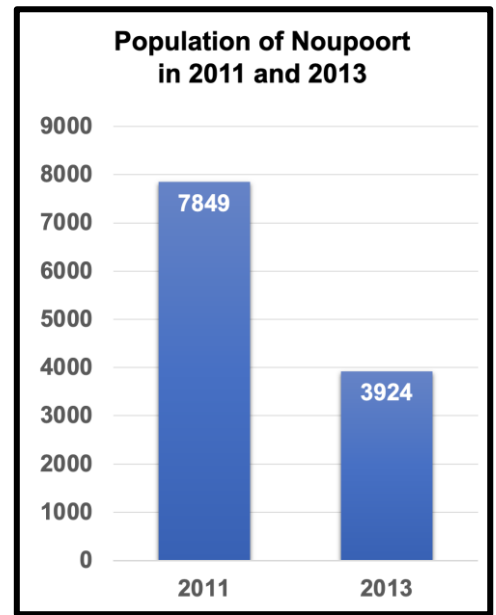
You must know ...

- What is rural-urban migration
- Push and pull factors
- Consequences of rural-urban migration



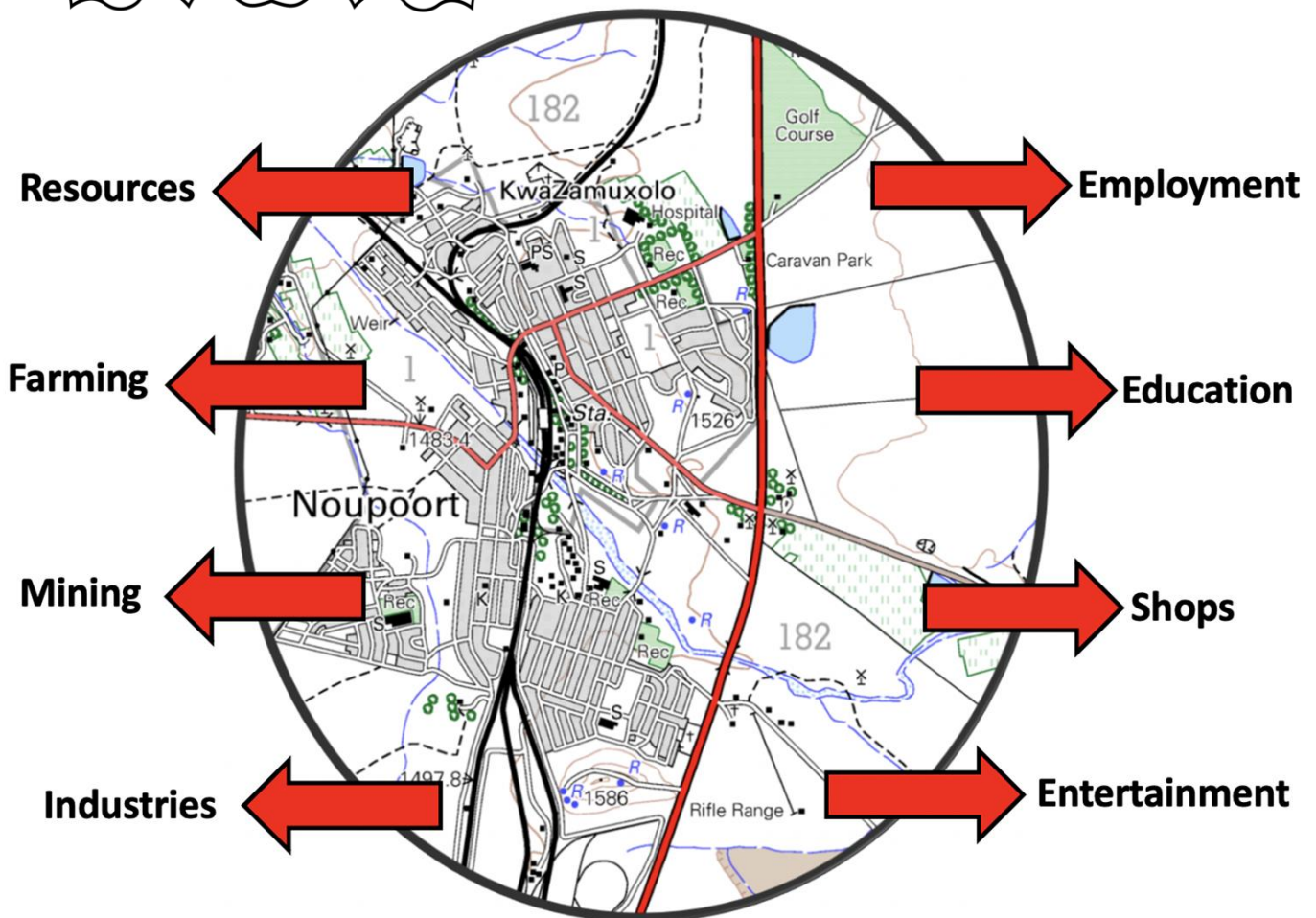
## 4 | POPULATION MOVEMENTS: RURAL URBAN MIGRATION

- Is there an increase or decrease in population of Noupoort?
- Why are so many people leaving the town, Noupoort?



You must know ...

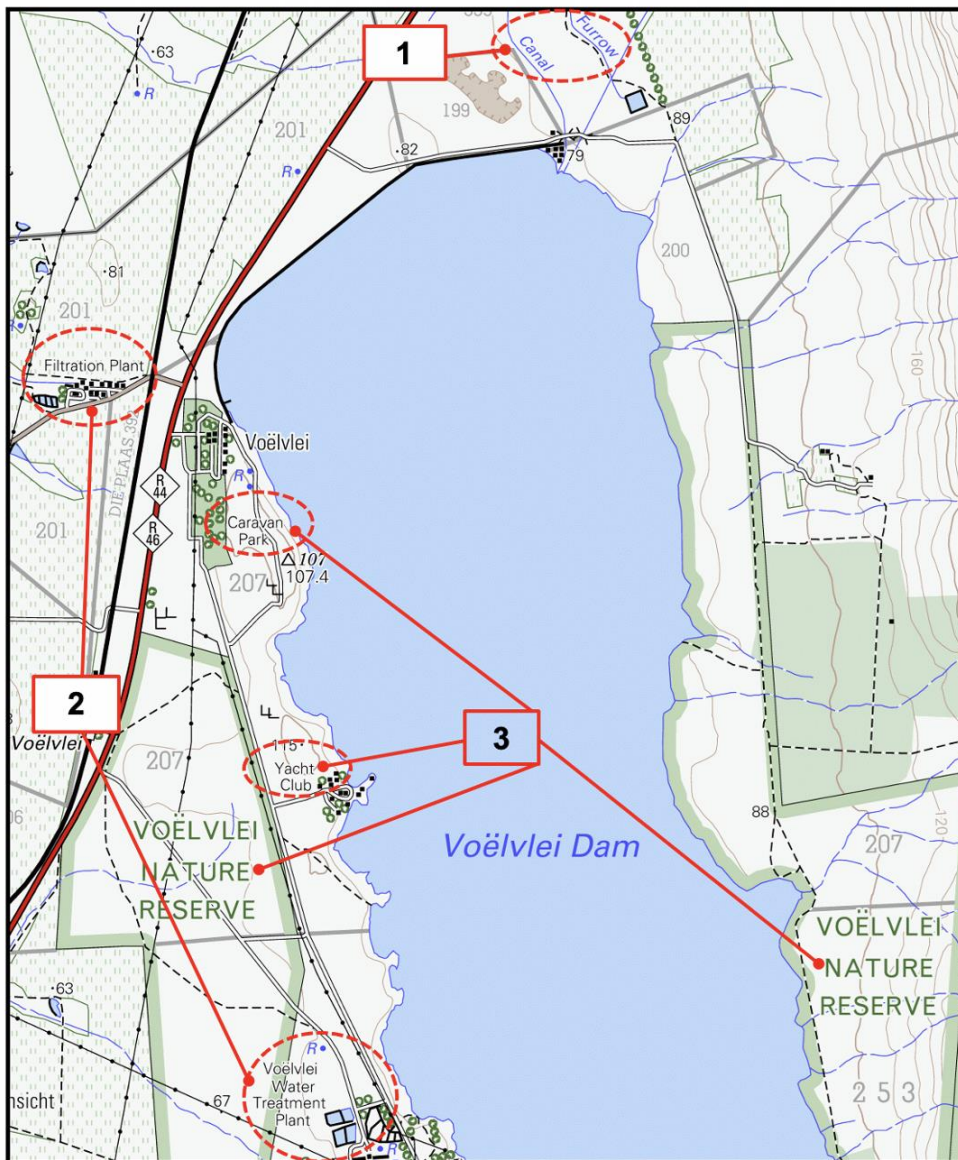
See if you can identify the push factors on the map. Usually they are not found in the area, like no schools, industries, etc





## 5 | THE USE OF DAMS

Application the use of dams on topographic maps



Complete the table below to indicate what the Voëlvlei Dam is used for at 1, 2 and 3. Give reasons for your answers

	USED FOR	REASON/S
1	Irrigation	Canal and furrow
2	Drinking water	Filtration plant / Water treatment plant
3	Recreation	Yacht club / Voëlvlei nature reserve / Caravan park