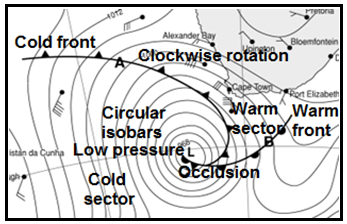
|  |
| --- |
| **1 CLIMATE AND WEATHER** |

**1.1 MID-LATITUDE CYCLONES (MLC)**

**1.1.1 General Characteristics**

***-Name the general characteristics of the mid-latitude cyclone***

**NB The following:**

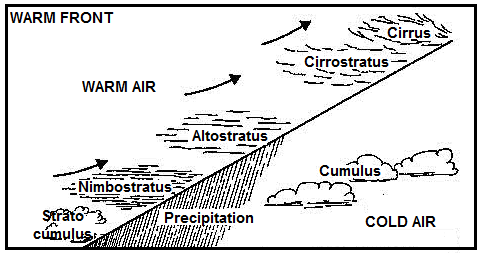
* Cold front (air behind front cold)
* Warm front (air behind front warm)
* Circular isobars
* Warm sector
* Cold sector
* Clockwise movement of air
* Low pressure in centre
* Value of isobars decrease

Towards centre

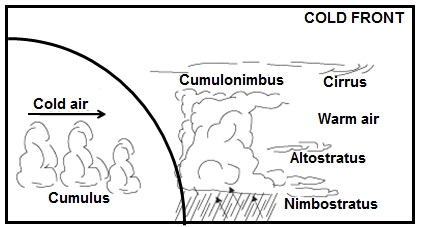
* Moves from west to east

*NB you must be able to identify these characteristics on weather maps and diagrams*

***-Distinguish between a warm and a cold front***



Warm air is forced to override cold air



Cold air undercuts a body of warm air

**1.1.2 Weather changes**



***Key question***

*What weather changes occur when a cold front moves over an area?*

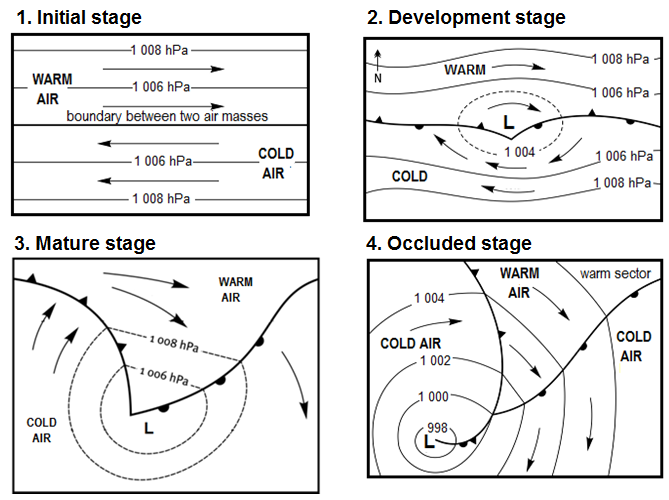
*NB You must be able to apply this content on synoptic weather map as well.*

* Sudden decrease in temperature.
* Air pressure increases.
* Wind direction changes from northwest to southwest.
* Wind speed very strong to gale force.
* Cloud cover very thick, cumulonimbus and cumulus clouds
* Rainfall heavy showers
* Humidity starts to decrease

**1.1.3 Development stages**

*-****Identify the stages of the MLC on the weather map.***

***Give a reason for your answer.***



**1.2 TROPICAL CYCLONES (TC)**

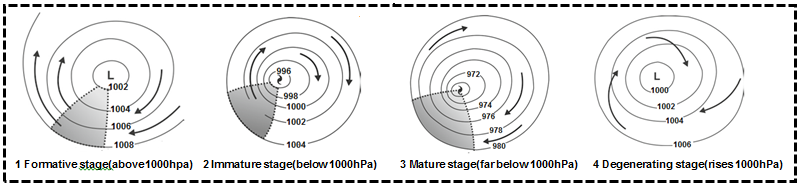
* + 1. **General characteristics**

*You must know ALL General characteristics of tropical cyclones*

*and identify them on synoptic weather maps and diagrams.*

* Intense low pressures.
* Named in alphabetical order.
* During late summer or autumn.
* Move from EAST to WEST. AWAY from the equator. Turns EAST at 30°.
* Causes destruction by hurricane force winds, storm surges and heavy rainfall.
  + 1. **Development stages**

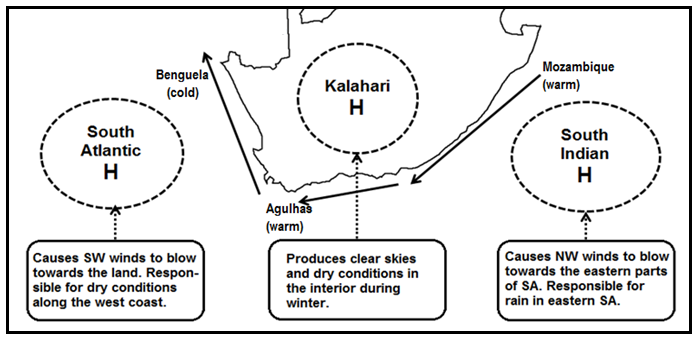
***Identify the stages of tropical cyclones. Give reasons for your answer.***



**1.2.3 Management of tropical cyclones**

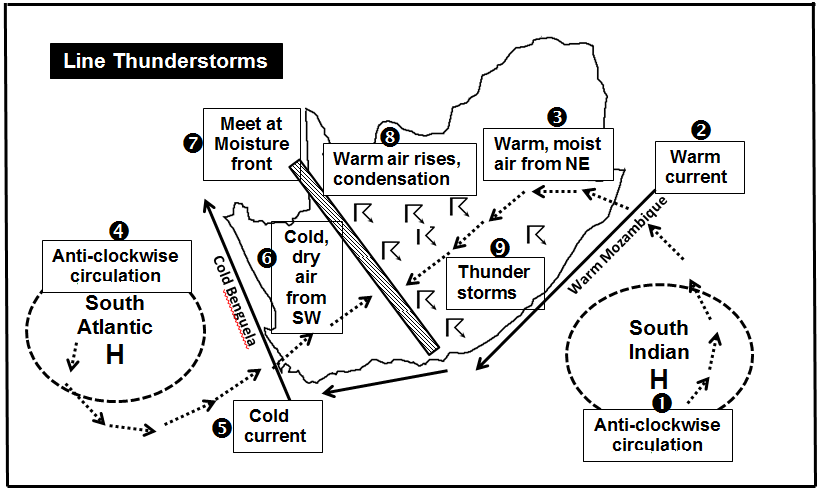
*How can tropical cyclones be managed NB Paragraph-type question*

* Good weather forecasts.
* Keep public informed by tracking storm
* Early warning systems.
* Medical- and rescue services on alert.
* Build houses with strong materials.
* Evacuation routes and procedures
* Avoid crossing strongly flowing rivers
  1. **SUBTROPICAL ANTICYCLONES (HIGH PRESSURES)**
     1. ***Give the names and location of the three high pressures.***

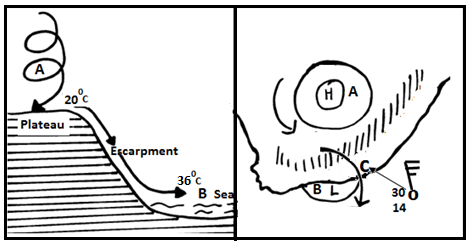


* + 1. ***Explain how line thunderstorms are formed.***





***1.3.3 South African Berg wind***



* *In what season does the SA berg wind occur?*: Winter
* *How formed*: -High pressure in interior

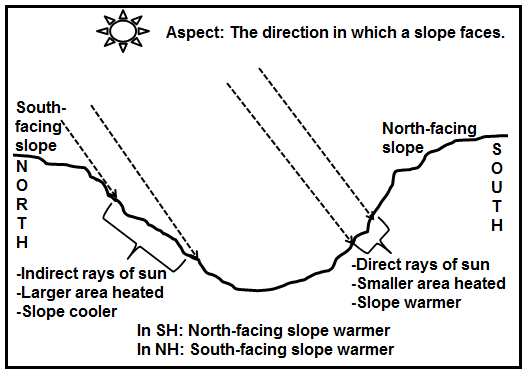
-Low pressure at sea

-Wind blows from interior(HP) to sea(LP)

-Warmed as it decends over plateau

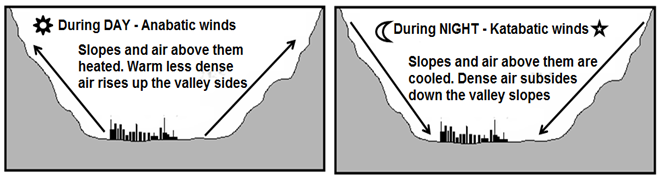
-Reaches coast as warm dry wind

* ***Why warm and dry?****:* Blow from land to sea
* *Danger*: Veld fires
* *How wind stops*: Cold front moves over.
  1. **VALLEY CLIMATES**
     1. ***What slope is warmer? Why? (NH and SH)***



* + 1. ***Explain how anabatic and katabatic winds are formed***

***Discuss the influence on settlements and farming***



**1.4.3 INVERSIONS**

*-How are inversions formed? What is the influence of inversions on pollution?*

* Inversions form when the normal pattern

of air temperature is reversed.

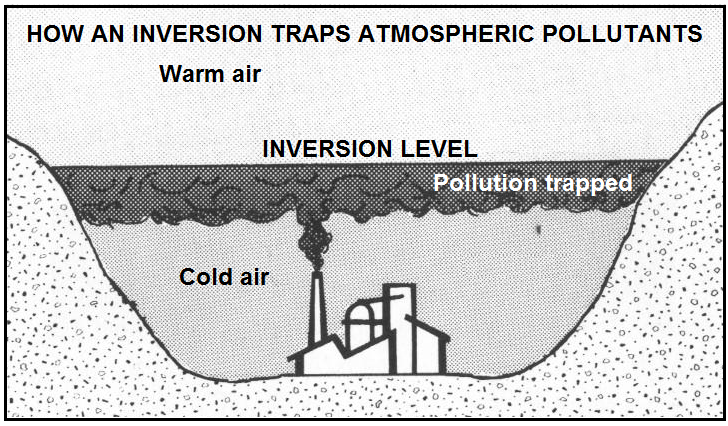
* Air closer to the ground is cooler than the

air above it.

* Happens on calm cloudless winter nights.
* Upper slopes cool rapidly.
* Cold air sinks down slopes to the valley.
* The colder air is trapped under warmer air
* Temperature increases with altitude in

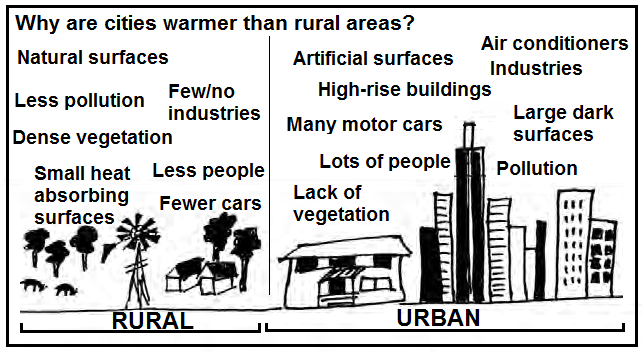
The valley

* Polluted air gets trapped and cannot rise.



**1.5 URBAN CLIMATES**

*-Why are cities warmer than rural areas?*



* Building materials: Concrete, tar,

brick absorb heat.

* Tall buildings trap heat.
* Air pollution helps to trap heat.
* Burning of fuels.
* Transport
* Industries release heat.
* Central heating from shops.
* Large concentration of people.

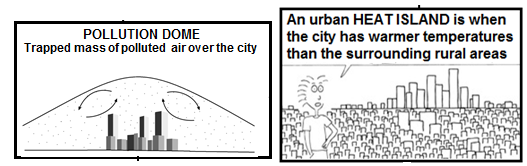
**CAUSES**

* Building materials: Concrete, tar, brick absorb heat.
* Tall buildings trap heat.
* Air pollution helps to trap heat.
* Burning of fuels.
* Transport
* Industries release heat.
* Central heating from shops.
* Large concentration of people.

**CAUSES**

* Building materials: Concrete, tar, brick absorb heat.
* Tall buildings trap heat.
* Air pollution helps to trap heat.
* Burning of fuels.
* Transport
* Industries release heat.
* Central heating from shops.
* Large concentration of people.

*-Define heat island and pollution domes.*



*-Ways to reduce influence of heat islands*

* Energy saving strategies
* Green belts
* Roof gardens
* Public transport
* Use lighter-coloured materials

|  |
| --- |
| **GEOMORPHOLOGY** |

1. **DRAINAGE SYSTEMS**

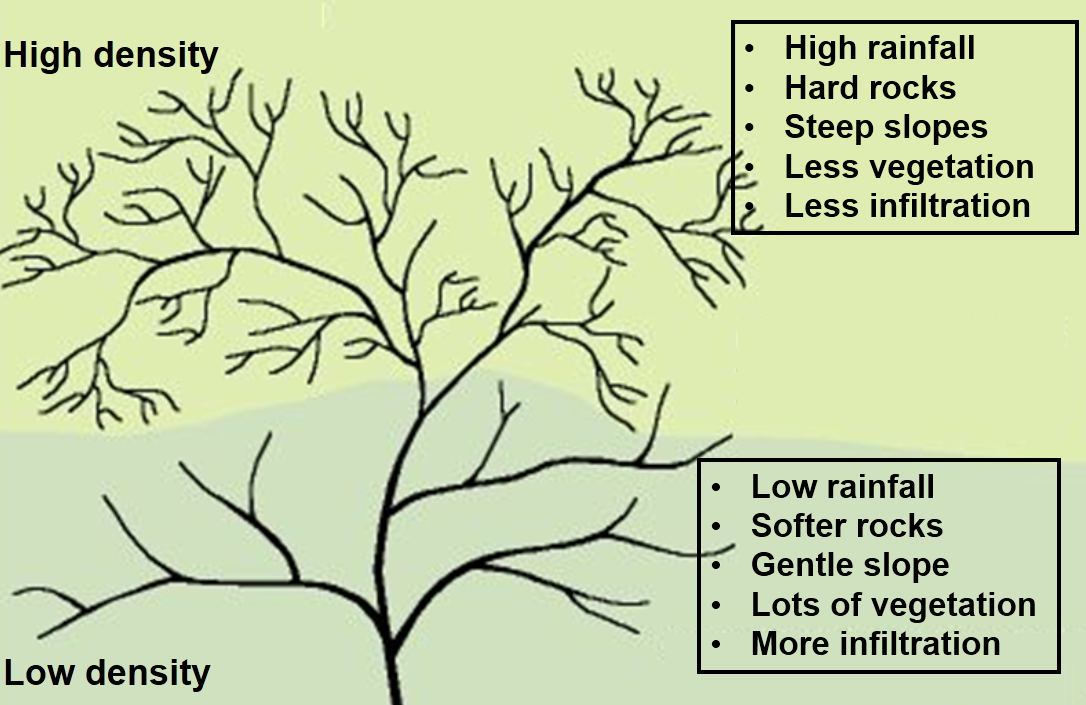
***1.1 Define all concepts.***

|  |  |  |  |
| --- | --- | --- | --- |
| **C O N C E P T S** | | | |
| **Catchment area** | **Area over which rain falls and is caught by a drainage basin** | **Watershed** | **High lying area separating two drainage basins** |
| **Infiltration** | **Movement of water through soil into the ground** | **Water table** | **Upper level of underground saturated rock** |
| **Confluence** | **Place where two rivers join** | **Run-off** | **The surface flow of water** |
| **Tributary** | **A river that joins a larger river** | **Groundwater** | **Water found under the ground** |
| **River mouth** | **Sea or lake where river ends** | **Interfluve** | **High lying are between two river valleys** |
| **Source** | **Where river begins** | **River system** | **Main river with all its tributaries** |

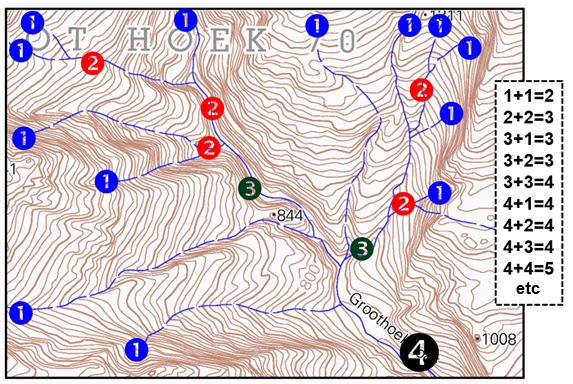
***1.2 Identify and describe ALL drainage patterns.***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Pattern** | **Dendritic** | **Trellis** | **Radial** | **Rectangular** |
| **Diagram** |  |  |  |  |
| **Description** | Looks like branches of a tree. Tributaries join at acute angles. | Strong main stream joined by short tributaries at right angles | Looks like spokes of a wheel when viewed from above | Tributaries join at right angles and have bends of 90° |
| **Underlying**  **structures** | Uniform rocks of similar hardness | Gently sloping alternating layers of hard and soft rock | Rivers flow away from a high central point such like a butte or mesa | In areas with hard rock that is well jointed. |

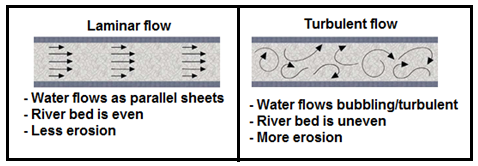
***1.3 Distinguish between a high and a low drainage density***

******

***1.4 How do you determine stream order?***



***1.5 Distinguish between Laminar and turbulent flow***

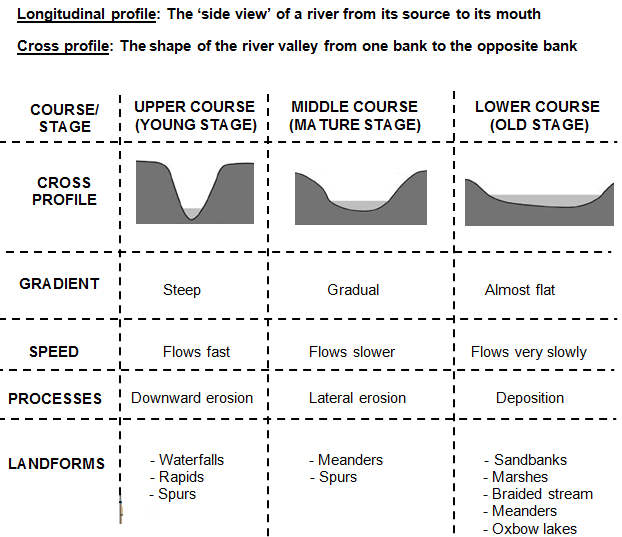


**2 FLUVIAL PROCESSES**

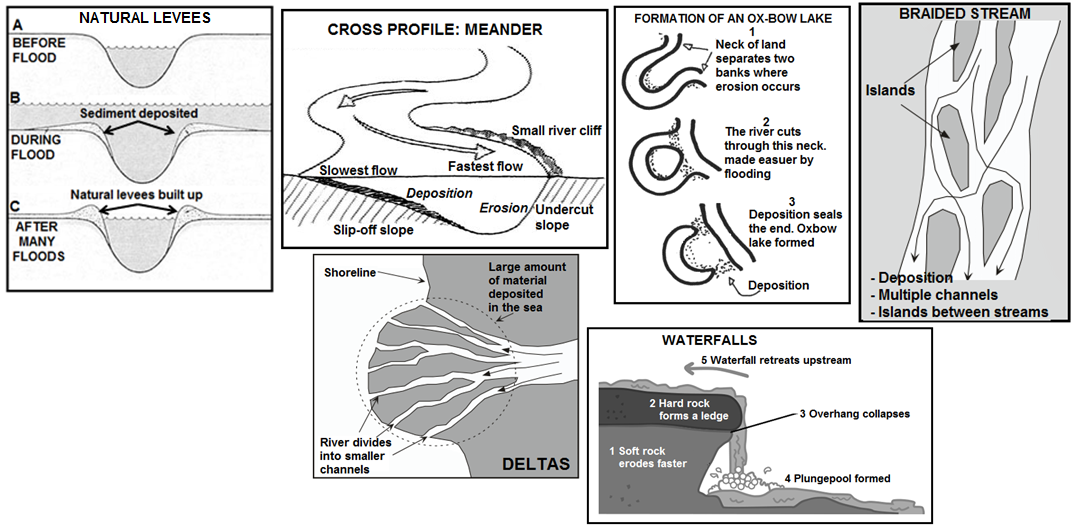
**2.1 Stages (courses) of a river Key Questions**

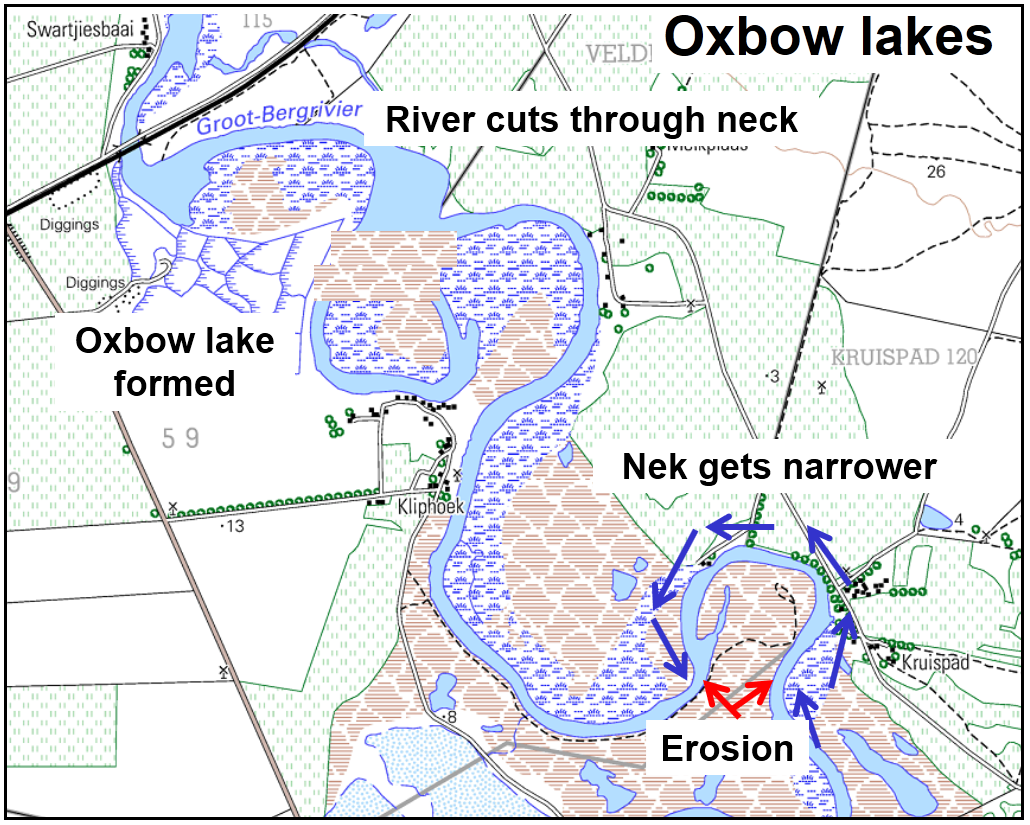
**-***In what stage is the river + reasons (upper, middle & lower course)*

*-Identify/draw cross profiles (in 3 stages)*



**2.2 Identify/describe all Fluvial landforms**



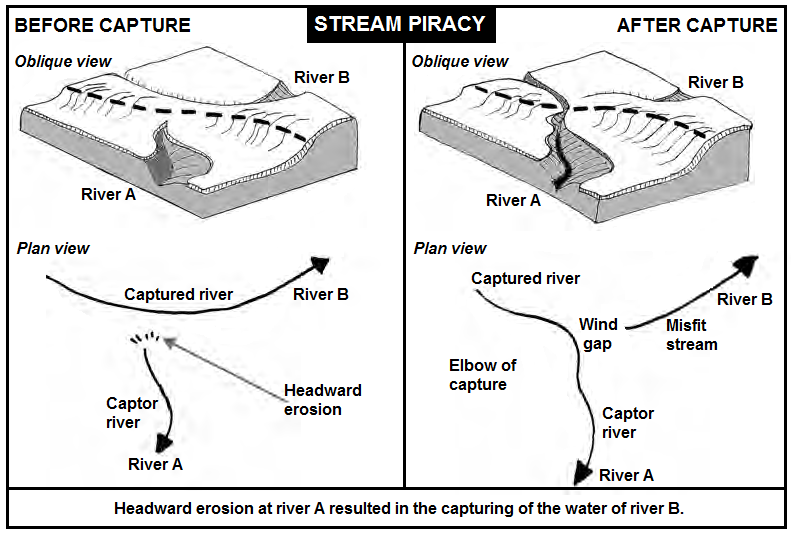
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**2.3 River capture (Stream piracy)**

***Key questions:***

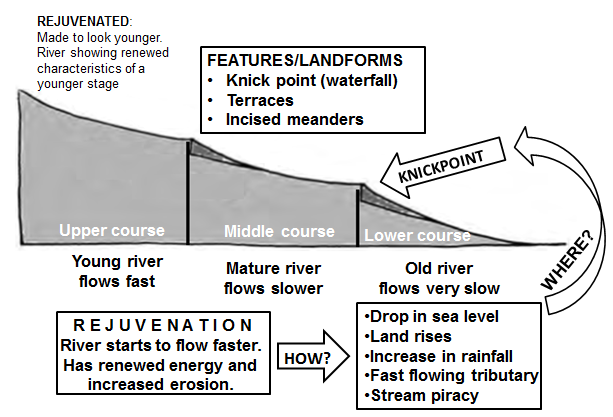
* *How does river capture (stream piracy) occur?*
* *Name the landforms features of stream piracy*
* *(NB must be able to identify on diagrams or*
* *draw and add labels)*

Stream piracy (river capture) takes place when the energetic stream (captor stream) cuts back and intercepts (takes) the water from the other river (captured/beheaded river).



|  |  |
| --- | --- |
| **FEATURE** | **EXPLANATION** |
| Captor river | The energetic stream that intercepts (takes) the water of the other river. |
| Captured river | The river which water was intercepted (taken) by the captor river. |
| Misfit stream | The river that has lost its water. (Also called beheaded stream) |
| Elbow of capture | The place where stream piracy has taken place |
| Wind gap | The dry river valley between the elbow of capture and the misfit stream |
| Waterfall | May form at the point where the captured river flows into the captor river |

**2.4 Rejuvenation**

-*How does rejuvenation occur? Name/identify features.*



**You must be in a position to do/answer the following:**

* Identify the process of rejuvenation on a diagram.
* Define the concept, rejuvenation.
* Explain how rejuvenation occurs.
* Identify/describe the features/landforms of rejuvenation.

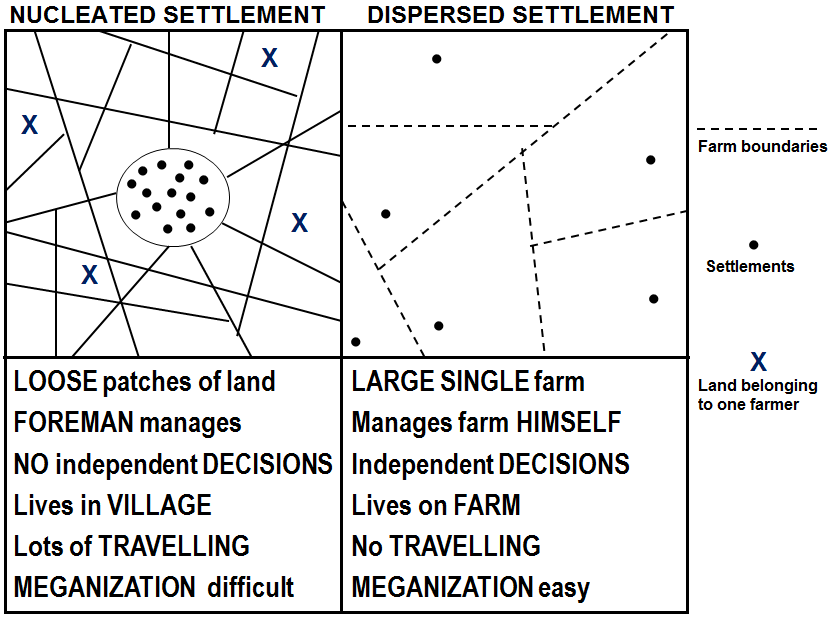
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| **3 RURAL AND URBAN SETTLEMENT** |

**3.1 RURAL SETTLEMENTS**

**3.1.1 Nucleated and dispersed patterns**

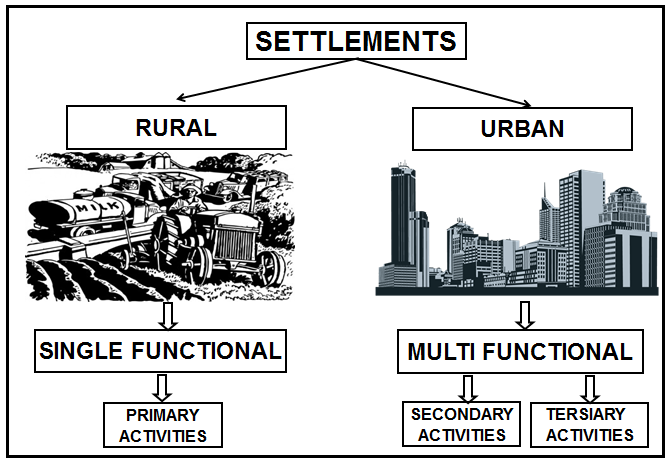
 ***Key questions:***

* *Identify the pattern + reason*
* *What factors caused the type of pattern?*
* *Give advantages/disadvantages of nucleated and dispersed patterns.*

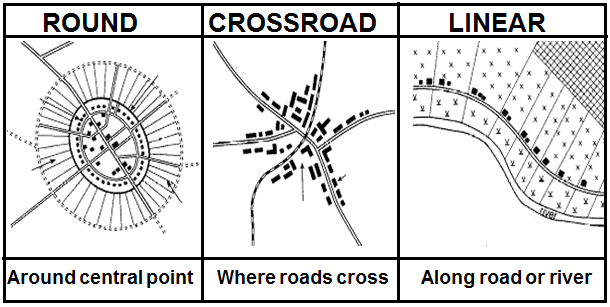


**3.1.2 Rural and urban settlements**

*Distinguish between rural and urban settlements*



**3.1.3 Round, linear and cross road shapes**



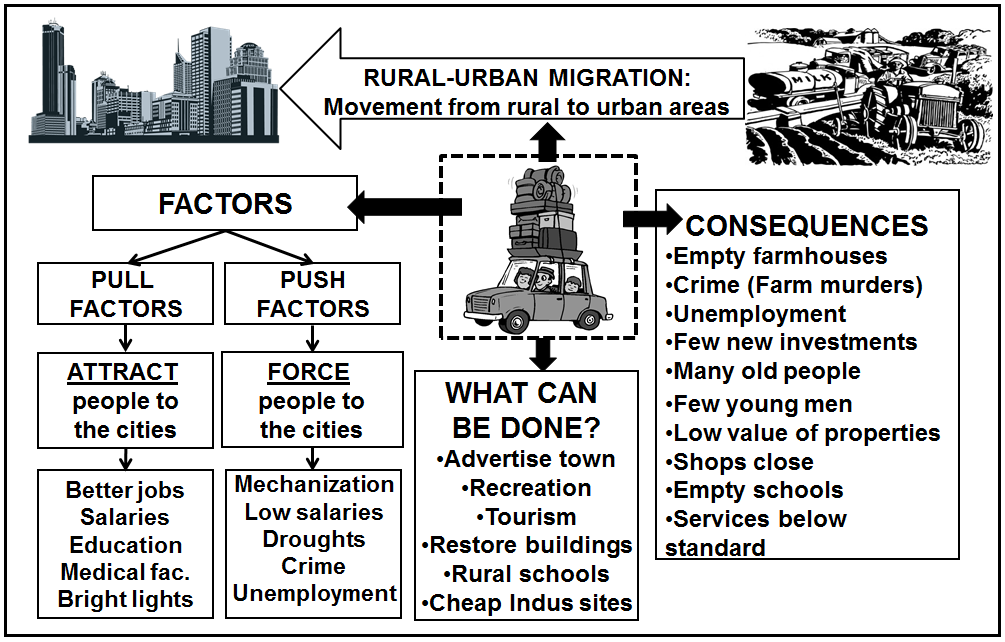
**3.2 RURAL SETTLEMENT ISSUES**

***Key questions:***

* *Define rural-urban migration.*
* *Discuss the causes of rural-urban migration*

*(Pull/push factors).*

* *Discuss the consequences of rural-urban migration.*
* *What can be done to get people to stay in rural areas?*



* 1. **URBAN SETTLEMENTS**

3.3.1 **How site and situation affect location of urban settlements**

*A combination of physical and human factors determine where urban settlements are located*

Physical factors: Fresh water, underlying rock and structure, relief, drainage

aspect, resources

Social factors: Transport routes, harbours, defensibility, building materials,

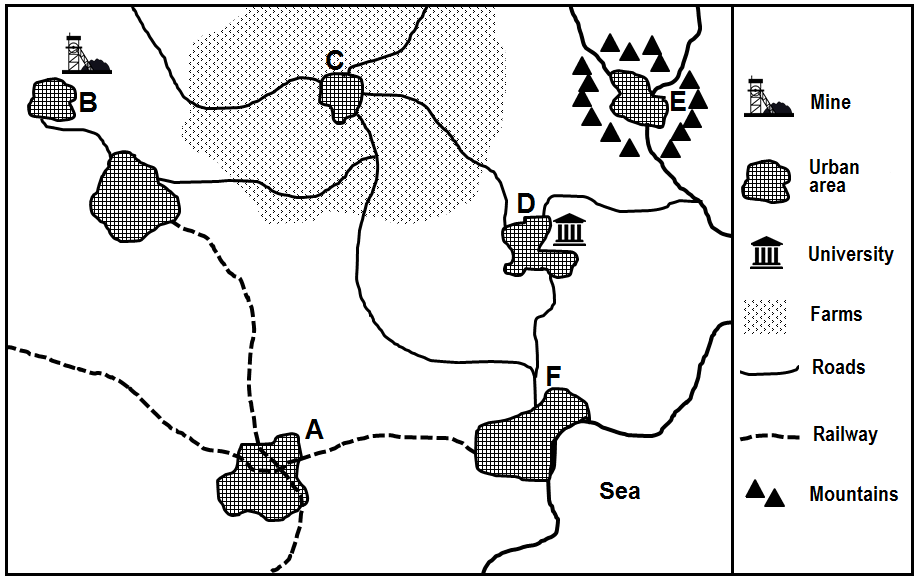
food supply

**3.3.2 Types of urban settlements**

The three types of urban settlements

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1. **CENTRAL PLACES** | | | | | | | |
| *Towns supplying urban goods and services to surrounding rural area* | | | | | | | |
| **Low order/good service**   * Need often (bread, milk, doctor) * Smaller threshold population * Several shops/services | | | | **High order good/service**   * Don’t need or need less often (health spa) * Larger threshold population * Few shops/services | | | |
| 1. **TRADE AND TRANSPORT TOWNS/CITIES** | | | | | | | |
| *Established due to trade and transportation* | | | | | | | |
| **Break of bulk**   * Transport changes (e.g. from sea to land. * Example: Cape Town | | **Junction**   * Intersection of two main transport routes. * Example: De Aar | | | | **Gap town**   * Point of access at physical barrier. * Example: Worcester | |
| 1. **SPECIALISED TOWNS/CITIES** | | | | | | | |
| Mining  Example: Welkom | Education  Example: Stellenbosch | | Industrial  Example: Secunda | | Resort  Example: Margate | | Commuter  Example: Soweto |

Study the map and complete the table



|  |  |  |
| --- | --- | --- |
|  | Type of settlement | Reason |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |
| E |  |  |
| F |  |  |

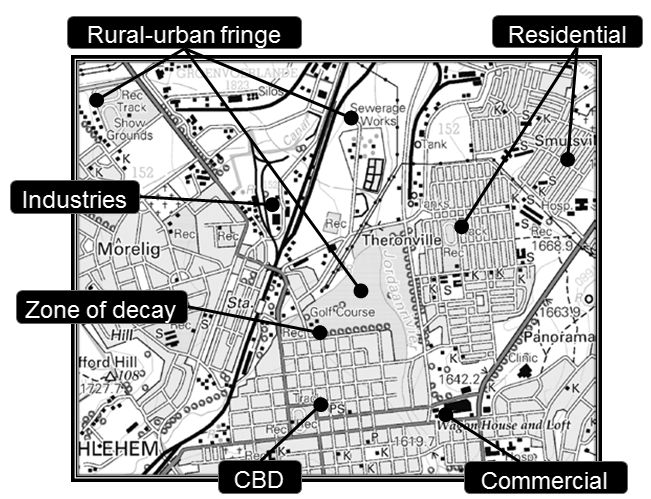
**3.4 URBAN STRUCTURE**

**3.4.1 Land use zones**

*****Key Questions***

* *Identify land use zone*
* *Where found*
* *Describe characteristics*

|  |  |  |  |
| --- | --- | --- | --- |
| **Land use zone** | | **Where?** | **Characteristics** |
| **CBD** | | * Most accessible * Where transport routes meet * In the city centre | * Highest land values * Highest building density * Tallest buildings * Concentration of shops and offices * High-order commercial functions |
| **Industries** | **(a) Light**  **industry** | * Often near CBD or residential areas * In planned industrial estates * Near road transport | * Little noise and air pollution * No heavy machinery |
| **(b) Heavy**  **industry** | * On outskirts of the city on cheap land * Near major road and rail networks * On flat land * Near water source | * Lots of air and noise pollution * Dangerous |
| **Residential** | **(a) Middle to**  **high income** | * Found away from CBD * Good view | * Larger properties * Good services * Recreational areas |
| **(b) Low income** | * Closer to CBD | * Houses close together * Fewer facilities * Poor services * Smaller properties |
| **(c) Informal**  **settlement** | * On the city outskirts | * Houses built out of plastic, wood, zinc * Unhealthy conditions * No service delivery * Poverty * Crime |
| **Zone of decay**  **(Transition zone)** | | * Just outside the CBD | * Mixed functions (residential, commercial, light industry) * Decayed buildings * Renewal * Valuable land |
| **Rural-urban fringe** | | * On edge of urban area | * Urban functions invade rural area * Both Urban and rural functions * Large properties because of cheaper land * Plots and small holdings * Airports, cemeteries, power stations, golf courses, sewage works |
| **Green belt** | | * In/around CBD | * Parks and sports fields * No buildings in this area * Cleans air in urban areas * For recreation purposes * Very dense housing |



* + 1. **Street patterns**

*****Key questions (1st and 2nd paper)***

* *Identify the street patterns*
* *Discuss the advantages of all 3 street patterns*
* *Discuss the disadvantages of all 3 street patterns*

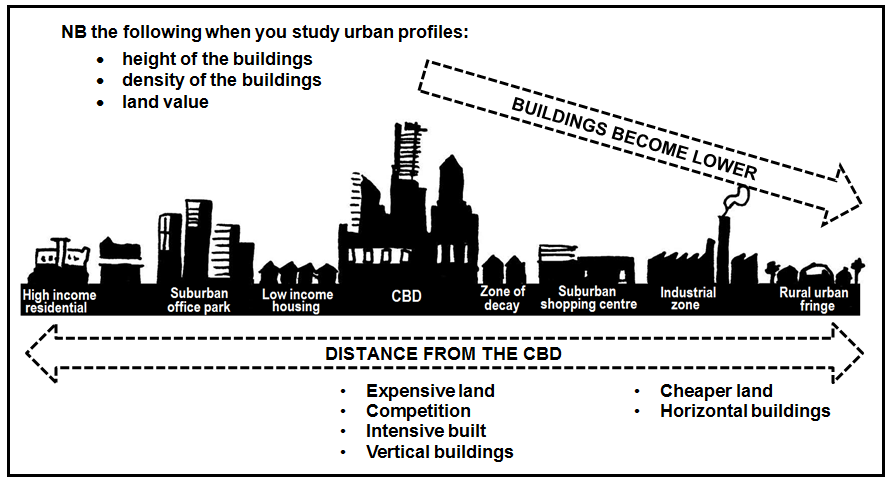
|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Gridiron/Rectangular** | **Radial** | **Irregular** |
|  |  |  |  |
| **Characteristics** | Roads intersect at right angles | Roads radiate outwards from central point like spider’s web | * No clear structure * Can be planned or unplanned |
| **Advantages** | * Easy to plan * Land divided easily * Easy to find way | * Easier flow of traffic * All roads lead to central point | * Improves traffic flow * Fewer intersections * Accommodates topography |
| **Disadvantages** | * Traffic congestion * Monotonous * Accidents | * Traffic jams * Traffic is slow * Wasted space | * Difficult to plan * Easy to get lost * Not easy to expand or subdivide |

* + 1. **Urban profile**



***Key questions*:**

* *What is urban profile?*
* *Describe how the buildings change as you move away from the CBD.*
* *Why does the height and density of the profile change?*



* 1. **URBAN SETTLEMENT ISSUES/PROBLEMS**

 ***Key questions***

* *Describe causes of each issue*
* *What are the effects of each issue?*
* *How can issues be managed?*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **CONGESTION** | **URBAN DECAY** | **SENTRALISATION** |
| **CAUSES** | * Too many people using own cars * Not enough public transport * Old street pattern | * Too many people living in the city * Empty buildings | * High demand for land in city * Too many people living in the city |
| **EFFECTS** | * Air pollution * More accidents * Stress, health problems   road rage | * Slums develop * Services decline * Increased pollution * Area becomes dirty | * Increased pollution * Health problems * Destruction of environment * Production of too much waste |
| **SOLUTIONS** | * Improve public transport * Lift schemes * Decentralisation of businesses * Synchronise traffic lights | * Renovation * Renewal * Reduce housing density * Improve services | * Decentralisation of functions * Green belts * Stricter control of pollution |

|  |
| --- |
| **4 ECONOMIC GEOGRAPHY OF SOUTH AFRICA** |

**4.1 ECONOMIC SECTORS**

**Key question:** *Define Primary, secondary, tertiary activities*

**PRIMARY ACTIVITIES**

Extraction and exploitation of raw materials

**ECONOMIC**

**SECTORS**

**SECONDARY ACTIVITIES**

Processing and manufacturing of primary materials

**TERTIARY ACTIVITIES**

Provides services to the consumer

**QUARTERNARY ACTIVITIES**

High level expertise, eg research, information

**4.2 AGRICULTURE**

**Key questions:**

* *Discuss the favourable factors that impact on agriculture in South Africa*
* *Discuss the unfavourable factors that impact on agriculture in South Africa*
* *What is food security?*
* *Why do people not have enough food security?*
* *What measures could prevent food insecurity?*

**A**

**G**

**R**

**I**

**C**

**U**

**L**

**T**

**U**

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**E**

**UNFAVOURABLE FACTORS**

* Low rainfall
* Soil erosion
* Natural disasters – droughts
* Subsistence farming
* Pests decrease production

**FAVOURABLE FACTORS**

* High demand for products
* Fertile floodplains
* High summer temperatures help crops grow
* Availability of labour

**FOOD SECURITY**

**DEFINITION**

When all people have enough food to sustain a healthy lifestyle

**HINDERING FATORS**

* Lack of fertile land
* Natural disaster – droughts
* Poverty
* Subsistence farming

**MEASURES**

* Prevent soil erosion
* Efficient ways of storing food
* Reduce water wastage

**4.3 MINING**

**Key questions:**

* *Discuss the favourable factors that impact on mining in South Africa*
* *Discuss the unfavourable factors that impact on mining in South Africa*

**M**

**I**

**N**

**I**

**N**

**G**

**FAVOURABLE FACTORS**

* SA has different minerals
* Lots of unskilled labour
* Benefits from foreign skilled miners
* Many countries invested money in our mines
* Well-developed infrastructure

**UNFAVOURABLE FACTORS**

* High underground temperatures
* High costs in training of miners
* Mine worker strikes
* Large distances between mines and harbours
* Water shortages
* Mining is a dangerous activity

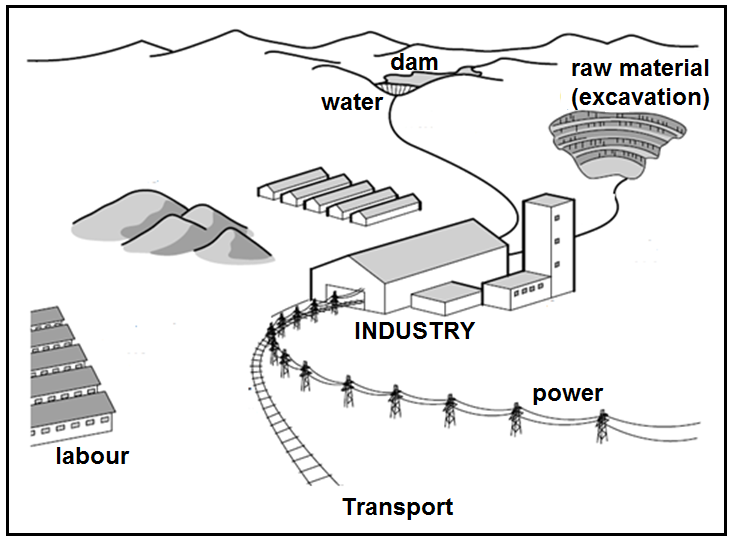
**4.4 SECONDARY SECTOR**



**Key question:**

* *Discuss/identify factors industrial development.*

**4.4.1 Factors affecting the location of an industry**

****

**4.4.2 Main industrial regions in South Africa**



**PWV OR GAUTENG**

***Factors of location***

* In Gauteng most important industrial region
* Largest industrial region in South Africa
* Large markets
* Plenty skilled and unskilled labour
* Many different kinds of raw material
* Well-developed transport routes
* Access to money

***Kinds if industries***

* Chemical
* Iron and steel
* Motor vehicles
* Machinery

**Key questions**

* *Discuss unfavourable factors of four industrial regions.*
* *Discuss favourable factors of four industrial regions.*
* *Name the industries*

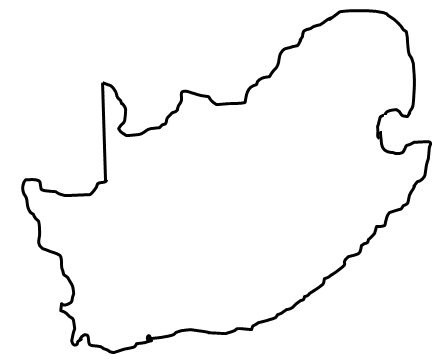
**DURBAN-PINETOWN**

***Factors of location***

* Durban harbour largest and busiest
* Large labour force
* Many different raw materials
* Well-developed transport routes
* Good water supply

***Kinds if industries***

* Chemical
* Food processing
* Sugar refining
* Motor manufacturing
* Oil refining

****

**SOUTHWESTERN CAPE**

***Factors of location***

* Cape Town harbour
* Historical reasons
* Plenty skilled and unskilled labour
* Availability of farming products

***Kinds if industries***

* Food canning
* Fish canning and packing
* Wine making
* Textiles, clothing and footwear

**PORT ELIZABETH-UITENHAGE**

***Factors of location***

* Access to shipping port
* Historical reasons
* Plenty skilled and unskilled labour
* Availability of farming products

***Kinds if industries***

* Motor vehicle factories
* Industries relating to fruit, sheep and cattle
* Leather goods factories

**4.5 INFORMAL SECTOR**

**Key questions:**

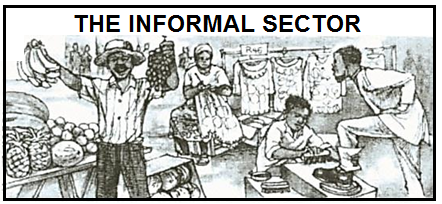
* *Define informal sector.*
* *Describe the characteristics of the informal sector.*
* *Why so many people in the informal sector?*
* *Challenges people face in the informal sector.*
* *What can be done to improve the informal sector?*

**DEFINITION**

* People not employed in the formal sector
* Hawkers, parking guards, casual labourers
* Not registered, do not pay tax

**CHARACTERSITICS**

* Workers are self-employed
* Casual labour
* Semi-skilled and unskilled workers



**IMPORTANCE**

* Provides income
* Decreases unemployment
* Lower prices for goods
* People develop entrepreneurial skills

**HOW IMPROVED?**

* Local authorities can provide specific areas for trading
* Can provide infrastructure such as hawker stalls
* Access to bank loans.

**PROBLEMS/CHALLENGES**

* Harassed by local authorities
* No access to proper trading facilities
* Exposed to the weather
* Do not get loans from banks
* Unreliable income