

PASSING GEOGRAPHY WITH A DISTINCTION

Master the following areas in geography in order to get a distinction one.

MAP READING

- i. Grid Reference
- ii. Area
- iii. Distance
- iv. Detour index
- v. Trend
- vi. Bearing and Direction
- vii. Vertical interval
- viii. Inter-visibility
- ix. Direction of flow of river
- x. Amplitude
- xi. Location and hemisphere
- xii. Drawing a sketch map
- xiii. Cross section
- xiv. Describing relief
- xv. Describing drainage
- xvi. Drainage patterns/types
- xvii. Describing vegetation
- xviii. Describing settlement
- xix. Describing settlement patterns
- xx. Describing Transport and communication
- xxi. Describing Relationships between geographical aspects e.g Relief
Drainage, Relief and Transport, Drainage and Settlement e.t.c
- xxii. Factors for the presence of geographical aspects
- xxiii. Describing economic activities/land use types using map extract
- xxiv. Describing problems/challenges faced by people in the areas
- xxv. Sample Map Reading questions

PHOTOGRAPHIC INTERPRETATION

- i. Types of photographs
- ii. Drawing a landscape sketch
- iii. Economic activities/ land use types
- iv. Relationships between geographical aspects in the photograph
- v. Formation of various features seen in the photograph
- vi. Economic importance of features and land use types
- vii. Problems faced by the region seen in the photograph
- viii. Effects of the land use type on the environment
- ix. Sample photographs and questions

FIELD WORK

- i. Topic of study
- ii. Objectives/Aims/Goals of the study
- iii. Pre-field activities(preparation stage)
- iv. Data collection (How different method are used)
- v. Advantages and disadvantages of using particular methods
- vi. Problems faced during data collection
- vii. Skills obtained from the field
- viii. Sketches
 - ✓ Sketch map of the area studied/Lay out
 - ✓ Cross section/relief section/line Transect/Transverse/Catena
 - ✓ Panoramic view (panorama)
- ix. Relationships between geographical aspects
(importance/findings/significances/ Conclusions)
 - ✓ Physical –physical
 - ✓ Physical-human
 - ✓ Human-human
- x. Effect of land use on physical environment
- xi. Follow-up activities (post field work)
- xii. Recommendations

GENERAL SUMMARY OF GEOGRAPHY

- i. Drawing maps
 - ✓ East Africa
 - ✓ Africa
 - ✓ Rest of Africa
 - ✓ North American maps
 - ✓ Rhine lands
 - ✓ China
- ii. Studying maps
 - ✓ East Africa
 - ✓ Africa
 - ✓ Rest of Africa
 - ✓ North American maps
 - ✓ Rhine lands
 - ✓ China
- iii. Statistics

How to draw a;

 - Bar graph
 - Line graph
 - Combined Bar and Line Graph
 - Pie-chart
- iv. Factors favouring.....
 - Adjective + Factor + Use of the factor + e.g
- v. Benefits/importance/contributions/positive effects/values/significances
 - Contribution + Resultant effect/impact + e.g
- vi. Problems/challenges/bottlenecks faced
 - Problem + Resultant effect/impact + e.g
- vii. Problems resulting /Negative effects
 - Problem + Cause + e.g
- viii. Solution to problems faced and resulting
 - Mind the language use in the question (Solution + Reason + e.g)

MAP READING

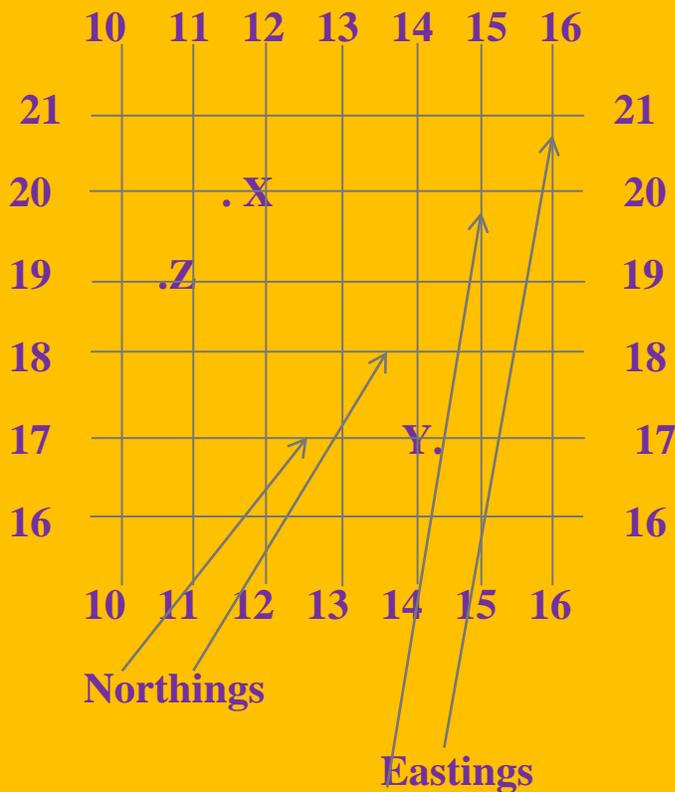
A map is a representation of physical and human features of a particular area on a sheet of paper as seen, drawn and printed from above using conventional symbols.

GRID REFERENCES

These are networks of lines running vertically and horizontally on the map extract. These are used to locate features on a map extract.

The horizontal lines are known as Northings while vertical lines are known as Eastings.

While reading grid reference, start with Eastings then Northings as illustrated below;



e.g X → 115199 ✓ Try this; Y → Z →

Sample question to do:

Using the map extract of NABYESO,

What is the grid reference of;

- a. Arwotcek road junction
- b. Ayabi bore hole

What is the feature at grid reference?

- a. 851034
- b. 801959

CALCULATING AREA ON MAP EXTRACT

Area is the total distance covered or occupied by a feature.

This has a Formula as **Full squares + $\frac{\text{Half squares}}{2}$**

Count all the fully covered boxes and then count the boxes that are partially covered by the feature.

E.g $10 + \frac{18^9}{2_1} = 10+9 = 19$ squares

1Square \rightarrow 1km
19 squares X 1km = **$19km^2$**

Area = **$\underline{19km^2}$**

MEASURING DISTANCE OF LINEAR OBJECTS ON A MAP EXTRACT

e.g A road, railway line, river, boundary e.t.c

Identify the feature in the question on the map extract. The start point and the end point

Using a straight edged piece of paper, measure a short but straight distance portion of the feature up to the end point.

Transfer the distance of the feature marked on paper to the linear scale on the map extract starting from zero rightwards to determine the distance in kilometers. The remaining distance can be measured in meters using the same scale but from zero leftwards. E.g *6km +500 meters =6.5km*

DETOUR INDEX

This has a formula; $\frac{\text{Actual distance} - \text{straight distance}}{\text{Actual distance}} \times 100$

The Actual distance is the *6.5km* as obtained above. The straight distance is obtained by joining the two points in question along the linear feature like a road and then using a straight edge of a paper; get the distance of the straight line e.g *3.5km*

$$\frac{6.5 - 3.5}{6.5} \times 100 = 46.15\%$$

TREND

This is the degree segments from the point of start to the point of end along a transport route.

Identify the transport route in question and the two points asked. Draw a line to join the two points along the transport route. Draw a compass direction in the middle of the line. Using a protractor, measure from north clockwise up to when the line is met e.g 045° . Measure again from north clockwise up to when the line is met the second time. E.g 225° .

It is then recorded as $045^{\circ} - 225^{\circ}$

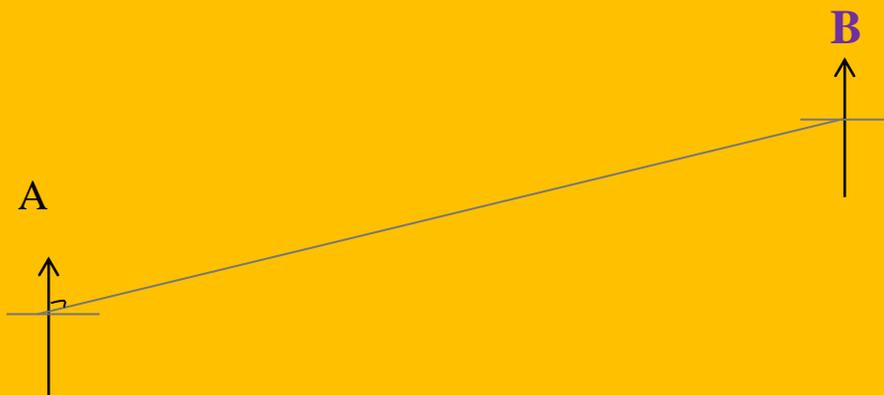
CALCULATING BEARING AND DETERMINING DIRECTION ON MAP EXTRACT

Bearing of one geographical feature from another is measured using a protractor starting from north clockwise. The bearing is recorded in degrees and usually as three digits e. g 060° NE

The direction of one geographical feature from another is determined using the cardinal points of the compass

Identify the two features in question then identify the starting point of bearing and direction considering the word “*from*”; join the two points with a straight line, draw compass directions on both ends. Put the protractor on the starting point and measure from north clockwise up when then line joining the two points is met. As illustrated below

From A to B



Bearing = 061° NE

VERTICAL INTERVAL

This is the gap or range between any two successive contours on the map extract. It is also indicated at the extreme south East of the map extract. It is calculated by getting the difference between two contours following each other e.g $3500ft - 3450ft = 50ft$

AMPLITUDE

This is literally known as range; it is calculated by subtracting the lowest contour from the highest contour on the map extract
e.g $4550ft - 3450ft = 1100ft$

DIRECTION OF FLOW OF RIVERS

A river flows from a high gradient/altitude to a low gradient/altitude. The contours on the map extract guide one to determine the direction of the flow

of a river. Identify the river in question and then by use of contours determine the direction of flow showing from and to; *e.g from east to west because the east is at high altitude than west.*

INTER-VISIBILITY

This is the ability of two features or people to see/connect with each other at distance with ease. We say two points on a map extract are inter-visible when there is no physical feature in between them. The two features are said not to be inter-visible when there is a physical obstacle (*hill*) in between them.

N.B: Forests, water bodies, swamps are not obstacles

LOCATION AND HEMISPHERE

Location is the global position of a place/area in terms of latitudes and longitudes while hemisphere of an area is the position of the place in relation to the equator.

On the extreme east and west of the map extract are degrees that may be increasing either northwards or southwards. When degrees increase northwards, it is an indication that the area is in the northern hemisphere and vice versa. You may also consider the abbreviations like $1^{\circ} 5'N$; which mean northern Hemisphere.

DRAWING A SKETCH MAP

While drawing a sketch map of an area shown on the map extract, the following procedures should be followed;

- Identify the area on the map extract to be drawn (area in question) either part or the whole map extract.
- On a fresh sheet of paper, write the title in full with the place names and features asked.
- Draw a frame covering at least three quarters $\frac{3}{4}$ of a page (*Draw the same shape as the original shape of the map extract*)

- Enclose the sketch outline with a frame/boundary; include the compass on the left top side and the key below the frame to explain the features.
- With the help of main (*thick*) grid lines, mark and name the features in question.

IDENTIFYING AND DESCRIBING ECONOMIC ACTIVITIES ON A MAP EXTRACT

The economic activities/land use types/ human activities are identified according to the existing features that act as evidence on a map extract.

Must Show **WHAT EVIDENCE** and **WHERE**

e.g There is mining due to presence of mineral deposit north of kalugutu

The table below shows the economic activities and their evidences:

No	Economic activity/land use types	Indicator /evidence
1	Crop growing/farming/plantation/irrigation	Crop farm/ estate/plantation/crop store/crop market/crop factory like ginnery for cotton, hullery for coffee, jaggery for sugar cane /agricultural department
2	Animal rearing/livestock farming	Animal farm/Ranch/agricultural department/ animal market/abattoir/Bore holes/ water holes/water tanks/water reservoirs/valley dams, cattle dips/veterinary offices/kraal e.t.c
3	Mining /quarrying	Mineral pit/mineral quarry (workings)/ mineral factory mineral deposit e.t.c
4	Industrialization (manufacturing/processing industries)	Industry/factory e.g ginnery, Hullery, jaggery
5	Forestry (economic activity and land use)	Forest reserve/forest department/forest plantation/forest guard posts/ tree stations e.t.c
6	Lumbering	Saw mill/timber factory/carpentry workshop/transport route ending in forest or at forest, lumbering pit e.t.c <i>N.B: Forest alone does not symbolize Lumbering</i>
7	Wild life conservation	Gazatted area/forest reserve/game reserve/nationalparks/zoos/sanctuary/conservation areas
8	Fishing	Fish pond/fish farm/fish landing site/fish port/fish market/fish factory/fish village, transport route ending at a lake shore or river banks, fish trap, settlements along a lake e.t.c
9	Recreation	Recreational centres and posts
10	Transportation and communication	Transport routes/ports/landing sites/transport stations or terminals/air fields and fields and stripes/telephone line/communication masts e.t.c

11	Tourism	Gazetted area/tourist attractions/rest houses/lodges/hotels/motels/inns/guesthouses/camping sites/game department/antiquity, Ranger post e.t.c
12	Trading/trade and commerce	Market/trading centre/transport junction/transport station towns/linear settlement along transport route e.t.c
13	Power generation/production	Power station/power dam/power transmission line e.t.c
14	Hand craft/brickmaking/pottery	Hand craft yard/brick yard/pot yard e.t.c
15	Hunting	Hunting area/hunting tools/hunting posts, Ranger post e.t.c
16	Settlement (land use)	Built up areas/villages/huts/rest houses/hotels/lodges e.t.c
17	Urbanization	Towns/cities/ports e.t.c

N.B: please endeavor to show; **WHAT** (Economic activity), **EVIDENCE** (Indicator) and **WHERE** (location) **on the map extract** using direction grid box or local place name

IDENTIFICATION AND DESCRIBING PROBLEMS IN THE AREA ON A MAP EXTRACT

The problems faced by areas/people living in the area shown on the map extract can be physical or human as seen in the table below.

Must **WHAT** (problem) **INDICATOR** (feature) + **WHERE** (location)

E.g using a map extract of Nabyeso. There is flooding due to presence of a seasonal swamp at Kadomato in the south

Indicator /feature	Problem/challenge
Steep slopes/ hilly areas/mountainous areas highland areas	Severe soil erosion/ limited mechanized agriculture/limited settlement/remoteness/poor transport facilities/inaccessibility
Broad and narrow valleys (Rivers)	Poor transport facilities/frequent or seasonal flooding/seasonal silting / inaccessibility/ remoteness
Seasonal and permanent swamps (swamps)	frequent or seasonal flooding/dangerous wild animals/harmful pests and diseases/

	seasonal silting / inaccessibility/ remoteness
Forests/permanent swamps	dangerous wild animals/harmful pests and diseases/ remoteness/inaccessibility/insecurity/limited transport facilities
Transport routes/industries/towns/trading centres	Frequent air, noise, water or dust pollution accordingly, accidents
Sparse settlement	Limited social services/remoteness
Dense population	Easy spread of diseases /congestion /frequent environmental pollution/shortage of land /land fragmentation/high crime rate e.t.c
Bore holes/valley dams/water tanks/seasonal swamps/water reservoirs/wells	Drought/ shortage of water/famine.

IDENTIFYING AND DESCRIBING RELIEF ON MAP EXTRACT

Relief on a map extract is identified or described using the contours (brown like lines on the map extract)

- The highest point (contour value) of the area is _____ at _____(location)
- The lowest point (contour value) of the area is _____ at _____(location)
- The amplitude of the area is _____ (highest – lowest contours)
- The average point of the area is _____ highest + lowest point divide by two

Describe Relief features like;

Hilly area (when contours area compacted)

Conical hill

Ridge (elongated hill)

Saddle and col (gap between hills)

Flat topped hill (table like hill)

Broad (basin) and narrow valley

Gentle slopes

Steep slopes/escarpment

Low land e.t.c

Show **WHAT** (feature) + **LOCAL PLACE NAME** + **WHERE**

IDENTIFYING AND DESCRIBING DRAINAGE FEATURES

Drainage is the water surface coverage of a given area

Drainage features on a map may include; rivers, swamps, lakes e.t.c

Show **WHAT** (drainage feature) + **LOCAL NAME** + **WHERE**

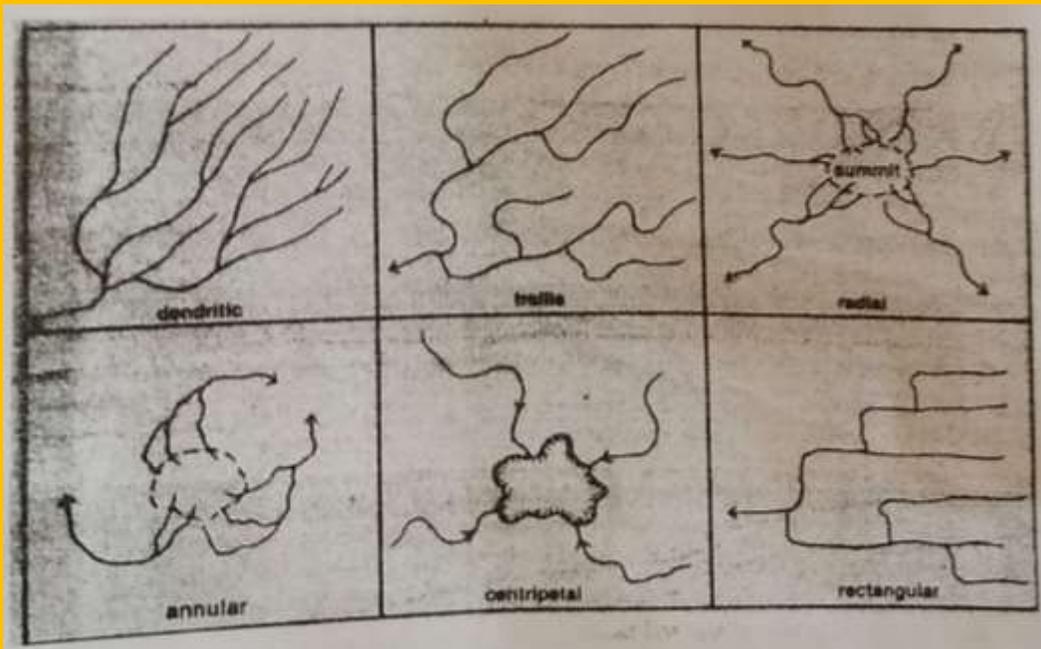
IDENTIFYING AND DESCRIBING DRAINAGE PATTERNS

There are different drainage patterns e.g

- Dendritic pattern (tree like river with its branches)
- Trellis/rectangular pattern (main river and tributaries flow along faulted areas)
- Parallel pattern (rivers flow opposite in each other for a long distance)
- Radial pattern (cycle wheel like rivers from a dome to different directions)
- Centripetal pattern (rivers pouring in to one basin)
- Pinnate pattern (feather like river as tributaries flow from one direction to the main river)

N.B: Show **WHAT** (drainage pattern) + **LOCAL RIVER NAME** + **WHERE**

As illustrated below;



IDENTIFICATION AND DESCRIPTION OF VEGETATION

Vegetation is the plant cover on the earth's surface. These can be;

- Forest
- Thicket
- Bamboo
- Wood land
- Scrub
- Scattered trees
- Palms
- Mangrove swamps
- Tree swamps
- Papyrus/marsh/bog swamps

N.B: Show **WHAT** (vegetation type) + **LOCAL NAME** + **WHERE** (location)

IDENTIFICATION AND DESCRIBING OF SETTLEMENT

Settlement is the way how people live in a particular area

It can be described as;

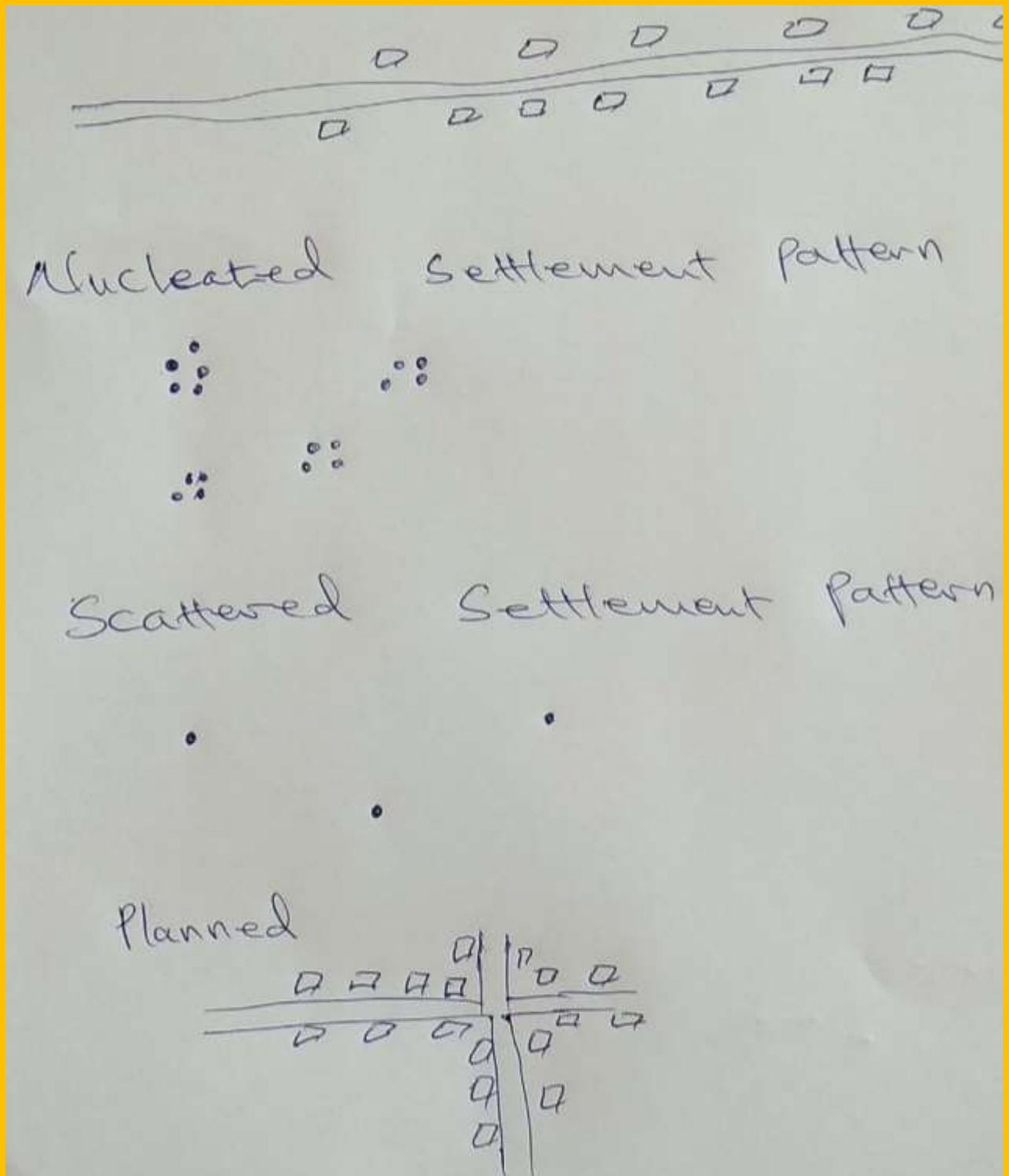
- Dense
- Moderate
- Sparse
- Limited

N.B: Show **WHAT** (settlement) + **WHERE** (location)

IDENTIFICATION AND DESCRIBING OF SETTLEMENT PATTERNS/TYPES

There are different settlement patterns like;

- Linear
- Nucleated
- Planned
- Scattered



N.B: Show **WHAT** (settlement pattern) + **WHERE** (location)

e.g There is Linear settlement pattern along the dry weather road from Arwoteck road junction to Aputi road junction in the south east

As illustrated below;

IDENTIFYING AND DESCRIBING TRANSPORT AND COMMUNICATION ON A MAP EXTRACT

This is the mode/way through which goods and passengers are moved from one place to another by land, air or water. These include;

- Roads
- Railways
- Airfields
- Water Routes

Check on the key of the map extracts for the symbols of these routes.

N.B: Show **WHAT** (transport route) + **EVIDENCE** (local name) **WHERE** (location)

IDENTIFICATION AND DESCRIPTION OF RELATIONSHIPS BETWEEN FEATURES ON THE MAP EXTRACT

This is the way how two features connect to each other

This is a quite interesting and simple part of map reading by using connecting words like;

- Favour
- Encourage
- Occupy
- Attract
- Cover
- Occupy
- Ease
- Discourage
- Limited
- E.t.c

Relief and Drainage

Relief and Transport

Relief and communication

Vegetation and settlement

Communication and settlement

Drainage and Settlement e.t.c

Relief	Settlement
Hilly areas of.....	Are sparsely populated due to steep slopes
Gently sloping areas of...	Are densely populated due to ease of construction
Flat areas of	Are densely populated due to ease of construction
The low land areas of	Are sparsely populated due to poor drainage

N.B: Fill the dashes with the local place names from the map extract

Relief	Drainage
Hilly areas of.....	Rivers likeflow from the hill top down slope
Gently sloping areas of...	Have river meanders as seen on river
The low land/basin areas of	Occupied by a lake e.g Covered by permanent/seasonal swamp

N.B: Fill the dashes with the local place names from the map extract

Relief	Transport
Hilly area of.....	Discourage construction of transport routes due to rugged terrain as seen in
Gently sloping/flat areas of	Have encouraged construction of transport routes as seen in
Lowland areas of.....	Contain a lake used for water transport. Discourage construction of transport route.

N.B: Fill the dashes with the local place names from the map extract

Guiding question:

Use the knowledge obtained above, and describe the relationships between other geographical aspect using the provided map extract

DRAWING A CROSS SECTION/SKETCH SECTION/TRANSECT/TRANSVERSE/LINE TRASECT

This is a line of drawing from one point to another, showing physical and human features along it.

It is drawn under the guidance of contours with their figures.

Steps/procedures to be followed while drawing a cross section

- Identify the starting point and ending point as asked in the question.
- Join the two points using a ruler and study all the contours crossed by the line as well as features.
- Use the bottom part of a graph paper; demarcate the contours and features crossed by line. Write the figures on the contours demarcated on the graph.
- Fold the graph paper and draw the outline (Horizontal distance) as demarcated.
- Using a scale of equivalent to the Vertical interval draw the section by use of the figures on the bottom of graph paper.
- Using a free hand join the dots and shade the bottom part.
- Use pointed arrows touching the ground to represent the features crossed by the line.
- Endeavor to write the title with the starting and ending point and features asked as well as the scale

As illustrated below;

