 Province of the

EASTERN CAPE

EDUCATION

**DIRECTORATE SENIOR CURRICULUM MANAGEMENT (SEN-FET)**

**HOME SCHOOLING SELF-STUDY WORKSHEET**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SUBJECT** | **GEOGRAPHY** | **GRADE** | **11** | **DATE** | **18/05/20** |
| **TOPIC** | **SLOPES** | **TERM 2****REVISION** | **√√** | **TERM 2 CONTENT** | **√√** |
| **TIME ALLOCATION** | **1HOUR** | **TIPS TO KEEP HEALTHY****1. WASH YOUR HANDS thoroughly with soap and water for at least 20 seconds. Alternatively, use hand sanitizer with an alcohol content of at least 60%.****2. PRACTICE SOCIAL DISTANCING – keep a distance of 1m away from other people.****3. PRACTISE GOOD RESPIRATORY HYGIENE: cough or sneeze into your elbow or tissue and dispose of the tissue immediately after use.****4. TRY NOT TO TOUCH YOUR FACE. The virus can be transferred from your hands to your nose, mouth and eyes. It can then enter your body and make you sick.** **5. STAY AT HOME.**  |
| **INSTRUCTIONS** |  |

1. **Notes on Slopes**
2. **Worksheet on Slopes**
3. **Please revise all concepts before going through your worksheet.**
4. **Revise at least 1 hour per day.**
5. **Please revise question papers from 2014 to 2019 on the ECEXAMS website**

**NB: Answer sheets will follow on Friday**

**Overview of South Africa’s Topography**

**The Escarpment**

* Separates the high interior from the low lying coastal plain.
* Runs the entire edge of the South African Coastline
* Escarpment along eastern side is 1900 m above sea level**(A on the map)**
* The escarpment in KZN forms the majestic Drakensberg range which separates Lesotho from KZN **(B on the Map)**

**The Interior Plateau:**

* South Africa consist mainly of a flat interior
* Interior lies approximately 1000m above sea level



**Rivers on the Western Side**

* Rivers from the plateau drain westwards to the Atlantic Ocean.
* Limpopo river is the only river on plateau to flow eastwards into the Indian Ocean

 **A**

**B**

**The Coastal Plain**

* Wide on the Eastern Side of the Country

**Y**

**X**

**The Escarpment on the Western Side**

* Only reaches a height of 1000m above Sea level

**Rivers on The Eastern Side**

* Shorter rivers drain down the escarpment

**The Coastal Plain**

* Narrow on the western side of the country

**The Topography of South Africa**

* The escarpment separates the coastal Plain from the high Interior.
* The high escarpment has a major effect on the rivers, climate, and infrastructure of South Africa.
* The escarpment is a major watershed for most rivers



* The Interior plateau gently slopes from East to West.
* The interior plateau, the escarpment and surrounding mountain ranges and low coastal plain, results in a wide variety of topographical features and vegetation types.

**Types of Slopes**

* Slopes types are mainly determined by the type of rock in the area.
* Resistant rocks erode slowly and form cliffs
* Less resistant rock erodes faster and forms gentle slopes.
* The orientation and presence of resistant rock determines the slope type that forms.

|  |  |  |
| --- | --- | --- |
| **Type of Slope** | **Slope Formation** | **Example** |
| Concave slope | * Forms when the top layer of rock is more resistant to erosion than the layer of rock below it
* Formed when intruding sills are exposed by erosion
 | Contour diagrams |
| Convex Slope | * Common in Humid areas.
* Forms when massive igneous intrusions are exposed.
* Forms when resistant rock layers of rock have been removed
 | Finding the Steepness of a Line | CK-12 Foundation Convex Slope |
| Stepped slope | * Areas of alternating rock types
* Resistant rocks form the cliffs and less resistant rock layers from the gentler slopes
* Areas where layers of intruding sills have been exposed.
 | Groynes and Gabions - Coastal and Environmental, Marine and Water ... Stepped Slope |
| Cliff | * Formed by a layer of resistant rock
* Erosion of the cliff face results in the retreat of the cliff.
* Rocks eroded fall to the base of the cliff.
 |  Cliff |

**Slope Elements**



**Characteristics of the Slope Elements: Crest, Cliff, Talus and Pediment**

**Cliff**

* Also called free or scarp face
* Vertical to the bottom
* Hard resistant rock layer
* Loose material falls to the foot of the cliff
* Cliff retreats backwards parallel to itself

**Crest**

* Top of the hill
* Convex in shape
* Thin layer of soil
* Weathered material removed



**Talus Slope**

* Also called the scree or Debris slope
* Material from cliff and crest land on this slope
* Uniform Slope angle

**Pediment**

* Slope has a low angle
* Concave slope – steeper towards the talus slope and gentler at the base
* Pediment increases as the slope retreats backwards because of scarp retreat

**Knick point**

* This is not a slope element but marks the change in the angle between the Talus Slope and the pediment

**Questions on Slopes**

|  |
| --- |
| 1.1 FIGURE 1.1 illustrates slope elements. Choose the correct slope element for the descriptions below. A slope element can be used more than once.  **SLOPE ELEMENTS**  |
| 1.1. |  |  |  |  |
|  | 1.1.1 | The slope element with the least soil coverage |  |  |
|  |  |  |  |  |
|  | 1.1.2 | The slope element with a constant gradient  |  |  |
|  |  |  |  |  |
|  | 1.1.3 | The slope element where the construction of buildings and infrastructure is possible |  |  |
|  |  |  |  |  |
|  | 1.1.4 | The feature that indicates the transition from one slope element to another |  |  |
|  |  |  |  |  |
|  | 1.1.5 | The slope element where the exposed rocks are usually unequal as weathering enlarged the joints and cracks in the rocks |  |  |
|  |  |  |  |  |
|  | 1.1.6 | Rockfalls are the main mass wasting process on this slope element  |  |  |
|  |  |  |  |  |
|  | 1.1.7 | The slope element with a convex shape |  |  |
|  |  |  |  |  |
|  | 1.1.8 | The slope element where the accumulation of weathered material is not possible.  | **(8 x1)** | **(8)** |
|  |  |  |  |  |
|  |  |  |  |  |
| 1.2. Refer to FIGURE 1.2 which shows slope elements. Match the descriptions below with slope elements **A**, **B**, **C** or **D**. Choose the answer and write only the letter **A**, **B**, **C** or **D** next to the question numbers (1.2.1–1.2.7) in the ANSWER BOOK, for example 1.2.8 A. You may choose the same letter more than once        [Source: sageography.myschoolstuff.co.za] |
|  |  |  |  |  |
|  | 1.2.1 | This slope element is usually convex in shape  |  |  |
|  |  |  |  |  |
|  | 1.2.2. | The steepest slope element |  |  |
|  |  |  |  |  |
|  | 1.2.3 |  Knickpoints form at the base of this slope element  |  |  |
|  |  |  |  |  |
|  | 1.2.4 |  Angle is 40° and little vegetation occurs on it |  |  |
|  |  |  |  |  |
|  | 1.2.5 |  The shape of this slope element is concave  |  |  |
|  |  |  |  |  |
|  | 1.2.6 |  Gentle gradient of this slope element is suitable for farming and settlements |  |  |
|  |  |  |  |  |
|  | 1.2.7 |  This slope element is commonly referred to as the talus, scree or debris slope  | (7x1) | (7) |
|  |  |  | [**15]** |  |