



NQF Level: 3 US No: 116263

Assessment Guide

Primary Agriculture

Monitor Natural Resource Management Practices




Assessor:


Workplace / Company:

Commodity: Date:

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agriculture
Department:
Agriculture
REPUBLIC OF SOUTH AFRICA



Before we start...

This assessment guide contains all necessary activities and instructions that will enable the assessor and learner to gather evidence of the learner's competence as required by the unit standard. This guide was designed to be used by a trained and accredited assessor whom is registered to assess this specific unit standard as per the requirements of the AgriSETA ETQA.

Prior to the delivery of the program the facilitator and assessor must familiarise themselves with content of this guide, as well as the content of the relevant Learner Workbook.

The assessor, facilitator and learner must plan the assessment process together, in order to offer the learner the maximum support, and the opportunity to reflect competence.

The policies and procedures that are required during the application of this assessment are available on the website of the AgriSET and should be strictly adhered to. The assessor must familiarise him/herself with this document before proceeding.

This guide provides step-by-step instructions for the assessment process of:

Title: Monitor Natural Resource Management Practices
US No: 116263 NQF Level: 2 Credits: 4

This unit standard is one of the building blocks in the qualification listed below. Please mark the qualification you are currently assessing, because that will be determined by the context of application:

Title	ID Number	NQF Level	Credits	Mark
National Certificate in Animal Production	49048	3	120	<input type="checkbox"/>
National Certificate in Plant Production	49052	3	120	<input type="checkbox"/>

Please mark the learning program you are enrolled in:

Are you enrolled in a:	Y	N
Learnership?	<input type="checkbox"/>	<input type="checkbox"/>
Skills Program?	<input type="checkbox"/>	<input type="checkbox"/>
Short Course?	<input type="checkbox"/>	<input type="checkbox"/>

Note to Assessor:

If you are assessing this module as part of a full qualification or learnership, please ensure that you have familiarized yourself with the content of the qualification.

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Instructions to the learners:

Answer the questions.

Learner Guide: Page 15

Facilitator Guide: Page 12

1. Explain how a ecosystem functions.

Model Answer(s):

*An ecosystem can be categorized into its abiotic constituents, **including minerals, climate, soil, water, sunlight, and all other nonliving elements**, and its biotic constituents, consisting of all its living members. Linking these constituents together are two major forces: the **flow of energy** through the ecosystem, and the **cycling of nutrients** within the ecosystem.*

2. Explain methods that could be applied to avoid the degradation of soils and the deterioration of vegetation?

Model Answer(s):

- ◆ Rotational farming- this is when crops are rotated in cycles in order to allow the soils to rest to regain their lost nutrients.
- ◆ Planting of cover crops so that the land is never left exposed.
- ◆ Practicing organic farming- so that the natural organisms and nutrients in the soils are maintained.
- ◆ Practicing no till farming- this is when the crop is planted into the vegetative remains of the last crop with out exposing the soils to harsh cultivation methods.
- ◆ Keeping the soil covered with organic waste to protect the soil from the harsh elements.
- ◆ Practicing contour farming- where the fields follow the layout of contours to limit the damage incurred by water erosion.

3. Describe how the different animals at your place of work might utilize the vegetation differently to another animal species', for example a sheep is a grazer and browser while a cow tends to mainly graze.

Model Answer(s):

- ◆ *A sheep regurgitates its food and chews the cud, thus enabling its four separate stomach compartments to thoroughly digest the grasses and other herbage that it eats. The animals prefer grazing on grass or legume vegetation that is short and fine, though they will also consume high, coarse, or brushy plants as well. They graze plants closer to the root than do cattle, and so care must be taken that sheep do not overgraze a particular range.*
- ◆ *In the Western Cape some farmers do keep sheep but they are not as popular as other parts of the country. So for this example the klip Springer has been used. The klip Springer will browse on the most delicate parts of the fynbos and move on before the plant suffers any form of damage.*

My Notes ...

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Instructions to learner:

Answer the questions

Learner Guide: Page 28 Facilitator Guide: Page 14

1. Know and monitor the occurrence of key types of fauna and flora and their environmental requirements

Model Answer(s):

- ◆ *The uses and impacts of animals in different vegetation types are described.*
- ◆ *The utilization patterns of different animals are described.*
- ◆ *The effects of farming activities on the habitat of fauna and flora are described.*
- ◆ *Decreases and increases of fauna and flora are recorded.*
- ◆ *Suitable solutions to counteract the decreases and increases from a limited range of options are selected.*

2. Demonstrate an understanding of the elements of an ecosystem and a food chain.

Model Answer(s):

- ◆ *Correct and appropriate methods to maintain and balance the ecosystem are selected and applied.*
- ◆ *Identified problem areas are communicated to the supervisor.*
- ◆ *Preventative measures to avoid degradation of soil and deterioration of vegetation are selected and applied.*
- ◆ *The roles of the food chain and the ecosystem are explained.*

Summative Test and Attitude & Attribute Evaluation

Before the knowledge test is undertaken, the learner must be reminded of what is expected from him / her in terms of summative and reflexive competence. Read and explain to the learner, the **Preparation for Your Final Assessment** section in the learner workbook. Learners and assessor should sign off this section to acknowledge that this step was completed.

Please set up a knowledge test from the questions given as a guideline to learners and supply each learner with a test sheet.

Supply each report with the following heading:

Unit Standard:	116263	NQF Level:	2
Learner Name:			

Questions	Model Answers
1. Explain how a food chain function.	<i>Because all species are specialized in their diets, each trophic pyramid is made up of a series of interconnected feeding relationships called food chains. Most food chains consist of three or four trophic levels. A typical sequence may be plant, herbivore, carnivore, top carnivore; another sequence is plant, herbivore, parasite of the herbivore, and parasite of the parasite. Many herbivores, detritivores, carnivores, and parasites, however, eat more than one species, and a large number of animal species eats different foods at different stages of their life histories. In addition, many species eat both plants and animals and therefore feed at more than one trophic level. Consequently, food chains combine into highly complex food webs). Even a simplified food web can show a complicated network of trophic relationships.</i>
2. Describe how at your place of work animals are used in different vegetation types and the impact of this.	<i>Cows can graze on a mountain side pasture containing a lot of fynbos plants. They are only allowed in for short periods of time. This grazing allows them to naturally select additions to their diet that they may be lacking in the standard pasture or feed. This process needs to be carefully monitored as the cows can easily damage the mountainside pasture if the area is over utilized. The cows need to be monitored for unnatural reactions to the natural pasture.</i>
3. Describe the effects of farming on the flora and fauna found at your place of work.	<ul style="list-style-type: none"> • <i>Poisoning</i> • <i>Pollution</i> • <i>Loss of habitat</i>

Questions	Model Answers
	<ul style="list-style-type: none"> • <i>Interference in movement patterns</i> • <i>Lack of access routes and loss of range.</i> • <i>Introduction of exotic species and competition</i> • <i>Spread of diseases to natural resources</i> • <i>Loss of species such as butterflies when buildings or expansion of fields occurs.</i> • <i>Increased ranges of some natural species such as the egret that thrives on short pastures.</i>
<p>4. Identify the key flora and fauna types and their sustainable management.</p>	<ul style="list-style-type: none"> • <i>An understanding of the wise utilization of different fauna and flora to the benefit of the farming activities and the environment are demonstrated.</i> • <i>Management techniques are understood and applied.</i> • <i>Rehabilitation methods are described.</i> • <i>The status of the fauna and flora on the farm is monitored, recorded and reported.</i>
<p>5. Identify the different soil categories, the utilization, and maintenance thereof.</p>	<ul style="list-style-type: none"> • <i>Deterioration in vegetation in relation to the soil condition / degradation is observed and explained.</i> • <i>Signs of soil erosion is observed and reported.</i> • <i>Soil erosion preventative measures are monitored and progress or the lack thereof is reported.</i> • <i>Vegetation species suitable to the soil type that can be used for degraded soil are identified and planted.</i> • <i>Appropriate application of soil conservation structures and methods are monitored.</i> • <i>Rotational farming practices are applied.</i>
<p>6. Monitor and implement principles of water management.</p>	<ul style="list-style-type: none"> • <i>Maintenance needs of water sources are identified and acted upon.</i> • <i>Cultivars promoting optimal use of water are identified.</i> • <i>Causes of water pollution are described and methods of water pollution are applied.</i> • <i>Basic methods of water harvesting are described and appropriately applied.</i> • <i>Understanding of the water run-off plan is demonstrated.</i>
<p>7. Demonstrate a basic understanding of the energy cycle.</p>	<ul style="list-style-type: none"> • <i>Importance of attitude (position relative to the sun) of plants and animals, and sun interactive cycles are explained.</i> • <i>The conversion of sun energy into food is explained.</i> • <i>The energy cycle is explained.</i>

Assessment Feedback Form

Comments / Remarks	
<p>Feedback to learner on assessment and / or overall recommendations and action plan for competence:</p>	
<p>Feedback from learner to assessor:</p>	
<p>Assessment Judgement You have been found:</p> <p><input type="radio"/> Competent</p> <p><input type="radio"/> Not yet competent in this unit standard</p>	<p>Actions to follow:</p> <p><input type="radio"/> Assessor report to ETQA</p> <p><input type="radio"/> Learner results and attendance certification issued</p>
<p>Learner's Signature:</p>	<p>Date:</p>
<p>Assessor's Signature:</p>	<p>Date:</p>
<p>Moderator's Signature:</p>	<p>Date:</p>