Instructional Design Project: Unit 2

Kermit Riehle

EDTL 7100

5-E Learning Cycle Model for Animal Science

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| Theme-*Nutrition: Minerals and Roughages* |  |
| Science Standards: Agricultural Course of StudyAnimal Husbandry: grades 9-10Animal Nutrition: grades 9-10 | Objectives:* The students will be able to identify the major and minor minerals used by dairy cattle in their diet and their application
* The students will understand the importance of water as a major mineral in cattle
* The students will recognize and identify various roughages used as dietary product in dairy cattle nutrition their functions
* The students will be able to differentiate between aerobic and anaerobic storage methods.
* The students will construct a dairy cattle ration using the learned roughages and products identified in this unit
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| Time Requirements: 2 days*Technology* including overhead transparencies and Power Point presentations of unit material, as well as video presentations, as needed, to teach material. | Concept/Skills:* Use of a forage chopper will be used to demonstrate to students how roughages are harvested.
* The use of sensory perception will be instrumental in identification of moisture and fiber levels of roughages.
* Pictures and other visuals will be use to show the cows ruminant stomach and how she best uses roughages
* Use of “Feeding Dairy Cattle” Power Point will be used for student benefit in learning unit material
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| **ENGAGING** THE STUDENTS | Day 1: Ask: * What does the word roughage mean to you?
* Is this the same as fiber?
* How do fiber levels vary in a human diet?
* Captain Crunch vs. Grape Nuts Cereal
* What do cattle eat for fiber?
* What function does it play in cattle’s diet?
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| **EXPLORING** WITH STUDENTS | Day 1: Have the students view feed roughage examples, determine moisture and fiber differences using the 5 senses. |
| **EXPLANATION** OF CONCEPTS | Day 1: View Dairy Feeds Power Point and expand detail of specific areas |
| **ELABORATING** TO EXTEND STUDENT LEARNING | Day 2: Ration Balancing: Determine levels of protein, energy, fiber, moisture in feeds through feed sampling and testing in lab. |
| **EVALUATING** STUDENT LEARNING | Day 2: Give the students the roughage samples and ask them to identify them. Also identify which feeds which are user specific to protein, energy, and fiber levels |