Instructional Design Project: Unit 2

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EDTL 7100

5-E Learning Cycle Model for Animal Science

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| Theme-*Nutrition: Minerals and Roughages* |  |
| Science Standards: Agricultural Course of Study  Animal Husbandry: grades 9-10  Animal 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 |
| 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 |
| **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? |
| **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 |