Arkansas CTE

Animal Science I: Grades 10, 11, 12

Adopted 2013

Animal Industry

1.1 The Animal Industry in the U.S.

1. Examine the distribution of Animal species in the U.S. (beef cattle, dairy cattle, meat sheep, wool sheep, meat goat, dairy goat, and swine) 1.1.1
2. Identify common products from animal species in the U.S. (beef cattle - meat, dairy cattle - milk, meat sheep - meat, wool sheep - wool, meat goat - meat, dairy goat - milk, and swine - meat) 1.1.2

1.2 Classifying Animals

1. Explain the importance of the binomial nomenclature system of naming animals. 1.2.1
2. Classify common livestock species (cattle, sheep, goats, swine, horses, chickens and turkeys) based on gender (adult male, adult female, young male, young female, castrated male, newborn) 1.2.2

Animal Handling and Safety

2.1 Animal Handling and Human Safety

1. Discuss the dangers to humans involved in working with animals. (physical contact, diseases, safe handling of medicine) 2.1.1
2. Outline safety procedures for working with animals by species. (beef cattle, dairy cattle, meat sheep, wool sheep, meat goat, dairy goat, and swine). 2.1.2

2.2 Animal Safety

1. Assess the implications of animal welfare for animal agriculture. 2.2.1

Animal Anatomy/Physiology

3.1 Animal Cells

1. Identify the parts of an animal cell and their functions. (cell membrane, nucleus, cytoplasm, mitochondrion, ribosome) 3.1.1
2. Describe the basic functions of animal cells in growth and reproduction. (meiosis and mitosis) 3.1.2

3.2 Animal Tissues and Organs

1. Describe the four major types of animal tissues. (epithelial, connective, nerve and muscle) 3.2.1

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2. Research the function of animal body systems and organs involved with each.<ol type="1">
reproductive – testis, ovaries
nervous – brain, spinal cord
circulatory – heart
respiratory – lungs
digestive – stomach
skeletal – bones
muscular - muscles 3.2.2

Animal Nutrition

4.1 Animal Digestive Systems

1. Identify and compare the digestive systems of livestock animals (cattle, sheep, goats, horses, swine, chickens and turkeys) and how they function. (ruminant/polygastric, non-ruminant/monogastric, pseudo-ruminant, avian) 4.1.1

4.2 Nutrients

1. Identify the six major nutrients required by animals. (carbohydrates, protein, fat, vitamins, minerals, water) 4.2.1

4.3 Feedstuffs

1. Examine the importance of types of feedstuffs in the diets of animals. (roughages, concentrates) 4.3.1

4.3 Balanced Rations

1. Assess the importance of a balanced ration for animals. 4.3.1
2. Use the Pearson Square to balance given feed rations. 4.3.2
3. Research the purpose and benefits of feed additives in animal production. (antibiotics, growth promotants, flavor enhancers) 4.3.3