MINDEN - UNIT PLAN	AGRICULTURE EDUCATION	ANIMAL SCIENCE

A focal point for our course offerings is to enhance student literacy. Throughout the Course Guide, (RI) and (WI) will indicate lessons where Reading and Writing Intensive activities are present.

Course Description:

(What can students expect to more fully understand as a result of taking this course?)

This course focuses on the basic scientific principles and processes that are involved in animal physiology, breeding, nutrition, and care in preparation for an animal systems career. Topics include introduction to animal science, animal reproduction, animal nutrition, animal science issues, animal evaluation, and career opportunities. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Text: Agribusiness Fundamentals and Applications

Unit 1: Domestication and Importance of Livestock Animals	
Standards	
AFNR.HS.X.1	Analyze historic and current trends impacting the animal system industry
AFNR.HS.1.a	Identify and summarize the origin, significance, distribution and domestication of different animal species.
AFNR.HS.1.b	Compare and contrast animal production methods for use in animal systems based upon their effectiveness and impacts.
AFNR.HS.1.c	Research and summarize major components of animal systems (e.g., livestock, companion animals, etc.).

Unit 1	Topics/Skill/Theme Covered	Essential Vocabulary
Domestication and Importance of Livestock Animals	• Domestication of Livestock • History of Livestock Production • Economic Importance of Livestock Industry	•

Expected Performances	
Students will know the following:	Students will be able to do the following:

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Unit 2: Careers in Animal Science	
Standards	

Unit 2	Topics/Skill/Theme Covered	Essential Vocabulary
Careers in Animal Science	• Career Exploration	•

Expected Performances	
Students will know the following:	Students will be able to do the following:
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Unit 3: Classification of Livestock Animals	
Standards	
AFNR.HS.X.2	Evaluate and select animals based on anatomical and physiological characteristics
AFNR.HS.X.3.a	Classify animals according to taxonomic classification systems and use (e.g., companion, production, etc.).

Unit 3	Topics/Skill/Theme Covered	Essential Vocabulary

Classification of Livestock Animals	• Scientific Classification • Dichotomous Keys • Livestock Systems Terminology • Livestock Breeds	•

Expected Performances	
Students will know the following:	Students will be able to do the following:
•	•

Unit 4: Livestock Judging	
Standards	
AFNR.HS.X.2	Evaluate and select animals based on anatomical and physiological characteristics
AFNR.HS.X.3.c	Apply knowledge of anatomical and physiological characteristics of animals to select animals for specific purposes.

Unit 4	**Topics/Skill/Theme Covered**	**Essential Vocabulary**
Livestock Judging	• External Anatomy • Selection of Livestock	•

Expected Performances	
Students will know the following:	Students will be able to do the following:
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Unit 5: Reproduction	
Standards	
AFNR.HS.X.2	Evaluate and select animals based on anatomical and physiological characteristics
AFNR.HS.X.3.b	Identify and summarize the properties, locations, functions, and types of animal cells, tissues, organs, and body systems.
AFNR.HS.X.4	**Apply reproductive principles to animal selection, breeding, and production.**
AFNR.HS.X.4.a	Identify and categorize reproductive organs of major animal species.
AFNR.HS.X.4.b	Identify and summarize inheritance and terms related to inheritance within animal breeding (e.g., dominant, co-dominant, recessive, homozygous, heterozygous, etc.).
AFNR.HS.X.4.c	Compare and contrast various breeding systems (e.g. artificial insemination, embryo transfer, hand breeding, etc.)

Unit 5	Topics/Skill/Theme Covered	Essential Vocabulary
Reproduction	• Breeding Systems • Breeding Technology • Reproduction Anatomy	•

Expected Performances	
Students will know the following:	Students will be able to do the following:
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Unit 6: Genetics	
Standards	
AFNR.HS.X.4	Apply reproductive principles to animal selection, breeding, and production.
AFNR.HS.X.4.d	Assess and describe factors that lead to reproductive maturity.
AFNR.HS.X.4.e	Evaluate and select animals for reproductive readiness.

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Unit 6	Topics/Skill/Theme Covered	Essential Vocabulary
Genetics	• Punnett Squares • EPD's • Pedigrees	•

Expected Performances	
Students will know the following:	Students will be able to do the following:
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Unit 7: Nutrition	
Standards	
AFNR.HS.X.5	Analyze the nutritional needs of animals.
AFNR.HS.X.5.a	Identify and summarize essential nutrients required for animal health.
AFNR.HS.X.5.b	Analyze each nutrient's role in growth and performance.
AFNR.HS.X.5.c	Differentiate between nutritional needs of animal species based on a variety of factors (e.g. types of digestive systems, production goals, management system, growth stage, reproductive stage)

Unit 7	Topics/Skill/Theme Covered	Essential Vocabulary
Nutrition	• Essential Nutrients • Digestive System • Feed Rations and Requirements • Feed ID	•

Expected Performances	
Students will know the following:	Students will be able to do the following:
•	•

Unit 8: Behavior and Welfare	
Standards	
AFNR.HS.X.3	**Critique best-practice protocols based upon animal behaviors for animal husbandry and welfare**
AFNR.HS.X.2.a	Explain the implications of animal welfare and animal rights for animal systems.
AFNR.HS.X.2.b	Research and summarize the challenges involved in working with animals and resources available to overcome them (e.g., tools, technology, equipment, facilities, animal behavior signals, etc.).
AFNR.HS.X.2.c	Utilize animal welfare procedures used to ensure safety and maintain low stress when moving and restraining animals.

Unit 8	Topics/Skill/Theme Covered	Essential Vocabulary
	• Animal Behavior • Temple Grandin	•

Expected Performances	
Students will know the following:	Students will be able to do the following:
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