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Applied Natural Science # INTEGRATED ANIMAL SCIENCE **10-12**

Curriculum Standard: **The student will understand the nature of disease as it applies to animal health.**

Performance Objective	Critical Attributes	Benchmarks/Assessment
1. The student will recognize the importance of proper nutrition.	A. Can the student recognize the five major nutrition areas and identify feeds that cover each for animal needs?	• The student will write a paper on Infectious vs. Noninfectious Disease.
2. The student will compare and contrast organic and inorganic causes of disease.	A. Can the student identify organic and inorganic poisoning or disease?	• The student will create a collage of internal and external parasites and pests.
3. The student will compare and contrast external and internal parasites.	A. Can the student identify parasite an facilitate effective prevention?	• The student will compare and contrast external and internal pests and parasites.
4. The student will discuss the prevention and control of disease as applied to animal health.	A. Can the student list the identifying symptoms of major diseases of four species of common livestock?	• Given a disease, the student should be able to give an oral presentation describing the disease, its prevention, its cause, its symptoms, its control, and transmissibility to man.
5. The student will prepare a health management program.		• The student will identify a healthy animal through vital signs and visual inspection. As well as suggest proper restraint techniques for the given situation. • The student will create an Animal Health Calendar.

Applied Natural Science # INTEGRATED ANIMAL SCIENCE **10-12**

Curriculum Standard: **The student will understand the relationship between a supervised occupational experience project (SAEP) and their preparation of a career in agriculture.**

Performance Objective	Critical Attributes	Benchmarks/Assessment
1. The student will perform career exploration activities.	A. Can the student carry on an SAEP?	• The student will complete a SAEP.
2. The student will discuss SAEP responsibilities.	A. Can the student relate responsibility skills gained during SAEP to career expectations?	
3. The student will utilize computerized record keeping.	A. Can the student carry on California Record Book functions on the computer?	• The student can demonstrate use of computerized record book.

Applied Natural Science # INTEGRATED ANIMAL SCIENCE **10-12**

Curriculum Standard: **The student will understand basic genetics with regards to animal production and selection.**

Performance Objective	Critical Attributes	Benchmarks/Assessment
1. The student will utilize genetic principles in animal selection.	A. Can the student recognize the role of genetics in animal selection?	• For a modern mean animal, the student will generate a list of genetic traits important in the production of that animal. From the list, each student or a small group of students selects one trait and researches how that trait has evolved over the years. The students also determine how the animal can be bred for that and assess the importance of the trait in today's market. Using this information, the students prepare oral presentations in which they describe how the trait has changed over time, the reasons for this change, the usefulness of the trait today. The students then predict future changes in the trait and explain their reasoning.
2. The student will compare and contrast mitosis and meiosis.	A. Can the student distinguish between the processes of mitosis and meiosis and recognize the importance of each process?	
3. The student will defend/justify phenotypic and genotypic predictions.	A. Can the student make predictions given phenotypic and genotypic information?	
4. The student will discuss the roles of DNA and RNA in regards to genetics.		
5. The student will explain the process of fertilization and its importance in genetics.	A. Can the student explain the process of fertilization and discuss the importance of it in genetics?	
6. The student will compare and contrast dominant and recessive traits.	A. Can the student discuss the difference between dominant and recessive traits? B. Can the student discuss the roles of DNA and RNA?	

Applied Natural Science # INTEGRATED ANIMAL SCIENCE **10-12**

Curriculum Standard: **The student will understand the anatomy and physiology of the major organ systems of animals.**

Performance Objective	Critical Attributes	Benchmarks/Assessment
1. The student will perform basic identification and function for each of the systems listed below: ♦ Reproductive System ♦ Digestive System ♦ Circulatory ♦ Respiratory ♦ Endocrine ♦ Skeletal ♦ Muscle ♦ Nervous ♦ Excretory	A. Can the student explain the interrelationships as well as the functions of all major body systems? B. Can the student discuss the importance and significance of AI and ET in modern animal science?	• The student will perform a fetal pig dissection and appropriate lab write-up. • The student will conduct a major body system exploration. • The student will do a portfolio entry on AI and ET and a research paper on the topic of AI.

Applied Natural Science # INTEGRATED ANIMAL SCIENCE **10-12**

Curriculum Standard: **The student will understand the principles of animal nutrition and feeding.**

Performance Objective	Critical Attributes	Benchmarks/Assessment
1. The student will recognize major feed ingredients.	A. Can the student identify given feed samples?	• The student will do a feed identification quiz.
2. The student will develop feed usage charts.	A. Can the student develop feed ration?	• The student will establish a cost effective ration formulation and balancing. • The student will establish minimum daily requirements.
3. The student will illustrate digestible systems of three animal groups.	A. Can the student diagram different animal digestive tracts?	• The student will identify animal digestive tracts.
4. The student will illustrate body systems interrelationships.	A. Can the student describe the interrelationships between major body systems?	• The student will identify and label major body systems.

Applied Natural Science # INTEGRATED ANIMAL SCIENCE **10-12**

Curriculum Standard: **The student will understand the principles of record keeping, They will demonstrate record keeping, utilizing a variety of methods and systems. They will explain the difference between production and financial records. The students will also understand the importance of computer literacy as it pertains to record keeping.**

Performance Objective	Critical Attributes	Benchmarks/Assessment
1. The student will recognize the importance of keeping accurate records.	A. Can the student explain reasons behind keeping accurate records?	• Given a choice of several examples of Supervised Practical Experience options, the student will complete the California Vocational Agriculture Record Book. The students will complete the record book based upon information provided by the instructor for their selected project and make decisions about various methods and systems of record keeping.
2. The student will maintain and complete a California Agricultural Record Book.	A. Can the student maintain and complete a California Agricultural Record Book?	
3. The student will discuss the consequences of inaccurate records.		
4. The student will identify various methods and systems of record keeping.	A. Can the student discuss various methods and systems of record keeping?	
5. The student will compare and contrast production and financial records.	A. Can the student compare and contrast production versus financial records?	

Technology Proficiencies met by benchmarks/assessments. Numbers indicate areas of proficiency: See Attachment I.

Applied Natural Science # INTEGRATED ANIMAL SCIENCE **10-12**

Performance Objective	Critical Attributes	Benchmarks/Assessment
6. The student will illustrate the importance of computers in record keeping.	A. Can the student demonstrate computer literacy in regards to recording keeping?	• Using a microcomputer resource book, the student will identify and explain the functions of word processing, data base, and spreadsheet software and determine the advantages and disadvantages of computers as a record keeping tool.

Technology Proficiencies met by benchmarks/assessments. Numbers indicate areas of proficiency: See Attachment I.

Applied Natural Science # INTEGRATED ANIMAL SCIENCE **10-12**

Curriculum Standard: **The student will understand the importance of domestic animals, their welfare, and their use in modern society.**

Performance Objective	Critical Attributes	Benchmarks/Assessment
1. The student will verbalize the difference in public position on Animal Rights and Animal Welfare.	A. Can the student discuss the difference between animal rights and animal welfare?	• The student will prepare a portfolio position paper. • The student will lead a group discussion on animal rights vs. animal welfare.
2. The student will relate the importance of animal use as it affects man.	A. Can the student identify different livestock uses and their economic importance in the United States.	• Given a species, the student will discuss the various uses and economic importance of that species.

Applied Natural Science # INTEGRATED ANIMAL SCIENCE **10-12**

Curriculum Standard: **The student will describe different production and marketing strategies and their economic importance as they relate to principles of animal production.**

Performance Objective	Critical Attributes	Benchmarks/Assessment
1. The student will identify different marketing strategies.	A. Can the student develop a marketing plan for a given product?	• The student will survey local agriculturist and develop a paper discussing current animal waste management practices.
2. The student will compare the importance of animal production across the United States.	A. Can the student list major animal production types common to the United States marketing areas?	• Given a species of livestock, the student will develop a management schedule to include all appropriate management practices as well as a marketing plan.
3. The student will discuss the economic importance of different marketing strategies and production.	A. Can the student discuss economic importance of animal products and world economic?	