

# Agriculture, Food and Natural Resources: Animal Science and Services 2: Grades 9-12

Describe animal science and the role of animals in society. The student will be able to: 1.0

- 1 Describe animal science and the role of animals in society. 1.1
- 2 Analyze perceptions of public opinion of animal related issues. 1.2
- 3 Identify the origin, significance, distribution, and domestication of animal species 1.3
- 4 Describe animal adaptations developed in response to environment and domestication. 1.4
- 5 Predict adaptations of animals to production practices and environments. 1.5
- 6 Describe the predominant sectors of the animal science industry. 1.6
- 7 Outline the development of the animal industry and the resulting products, services, and careers. 1.7
- 8 Predict trends and implications of future development of the animal systems industry. 1.8

Classify animals according to hierarchical taxonomy and agricultural use. The student will be able to: 2.0

- 1 Analyze the visual characteristics of an animal or animal product; select taxonomical classification terminology when referring to companion and production animals. 2.1
- 2 Appraise and evaluate the economic value of animals for various applications in the agriculture industry. 2.2

Evaluate and implement the steps and requirements to pursue a career opportunity in the animal industry. The student will be able to: 3.0

- 1 Locate and obtain information on animal-industry careers and career opportunities. 3.1
- 2 Examine the educational training and experiential requirements to pursue a career in the animal industry 3.2
- 3 Examine professional organizations and commodity groups in the animal industry and supporting organizations. 3.3

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**4 Demonstrate those qualities, attributes, and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society.** 3.4

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**5 Prepare and maintain Supervised Agricultural Experience (SAE) records.** 3.5

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**Describe animal and human first aid and laboratory safety. The student will be able to:** 4.0

**1 Practice safe procedures when working with animal-related equipment and in laboratory settings** 4.1

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**2 Understand animal behaviors as they relate to practicing safety precautions around animal restraint.** 4.2

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**3 Discuss the impact of unsafe procedures.** 4.3

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**4 Define zoonosis and identify selected zoonotic diseases.** 4.4

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**5 Discuss OHSA as it relates to the animal industry.** 4.5

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**6 Explain how to use a first aid kit and its key components.** 4.6

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**7 Recognize allergic reactions and proper responses.** 4.7

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**8 Describe proper use of eye wash solution.** 4.8

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**9 Explain how to control minor hemorrhage and/or trauma.** 4.9

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**10 Explain emergency procedures.** 4.10

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**Recognize normal and abnormal animal behaviors. The student will be able to:** 5.0

**1 Distinguish between instinctive and learned behaviors.** 5.1

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**2 Recognize normal and abnormal behavioral characteristics of animals through observations.** 5.2

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**3 Identify behavioral problems.** 5.3

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**Apply principles of comparative anatomy and physiology to uses within various animal systems. The student will be able to:** 6.0

- 1 Identify parts, major organ, and functions, of the following systems of animals using correct terminology:** 6.1
  - a Identify the general function of the skeletal system and the major bones of the axial and appendicular skeleton. 6.1.A
  - b Identify the general function of the nervous system and the major organs. 6.1.B
  - c Identify the general function of the muscular system and major groups of muscles. 6.1.C
  - d Identify the general function of the digestive system; differentiate between ruminants and nonruminants (monogastric and hind gut fermentors); and the major organs. 6.1.D
  - e Identify the general function of the respiratory system and the major organs. 6.1.E
  - f Identify the general function of the urinary system and the major organs. 6.1.F
  - g Identify the general function of the reproductive system and both male and female organs. 6.1.G

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- 2 Compare and contrast animal cells, tissues, organs, body systems types and functions among animal species.** 6.2

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- 3 Apply knowledge of anatomical and physiological characteristics of animals to make production and management decisions.** 6.3

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- 4 Correlate the functions of animal cell structures to animal growth, development, health, and reproduction.** 6.4

**Demonstrate safe animal handling and management techniques. The student will be able to:** 7.0

- 1 Devise, implement and evaluate safety procedures and plans for working with animals by species using information based on animal behavior and responses.** 7.1

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- 2 Outline safety procedures for working with animals by species.** 7.2

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- 3 Interpret animal behaviors and execute protocols for safe handling of animals.** 7.3

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- 4 Analyze and document animal husbandry practices and their impact on animal welfare.** 7.4

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- 5 Design programs that assure the proper care and use of animals and prevent abuse or mistreatment.** 7.5

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- 6 Implement quality-assurance programs and procedures for animal production.** 7.6

**Analyze the community's responsibility in options for caring for**

- 1 Differentiate between animal control agencies and humane societies.** 8.1

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- 2 Explain the laws governing animal care and use.** 8.2

**unwanted/neglected livestock. The student will be able to:** 8.0

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**Evaluate the importance of the animal science industry to understand the impact on global economy. The student will be able to:** 9.0

- 1 Assess the impact of the animal science industry upon the US gross national product and the total global economy.** 9.1

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- 2 Investigate local, state, and national regulatory laws, industry regulations, and legislation for animal agriculture businesses.** 9.2

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- 3 Identify and describe the primary government agencies involved with animal agriculture** 9.3

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- 4 Research new and emerging technologies in animal agriculture and their impact on the economy.** 9.4

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- 5 Recognize the value of the food and agribusiness industry.** 9.5