

# Introduction to Agriscience (2014)

Adopted 2014

## Career Opportunities in Agriculture

- a. Explore various career interests/options.<ul><li>career clusters and pathways</li><li>personal career interests and skills</li></ul> CS.02.03.01.A
- a. Identify the skills required for various careers.<ul><li>steps to setting career goals</li><li>degree requirements, salary and job availability for agricultural careers</li></ul> CS.02.03.03.A

## Record Keeping

- a. Describe the meaning, importance and economic importance of entrepreneurship.<ul><li>types of SAEs</li></ul> ABS.01.02.01.A
- a. Maintain production and agribusiness records.<ul><li>inventory assets</li><li>record keeping transactions</li><li>closing records</li></ul> ABS.03.01.01.A
- a. Identify financial concepts associated with production and profit.<ul><li>sales and income</li><li>expenses</li><li>liabilities</li></ul> ABS.04.01.02.A
- a. Identify accounting information in AFNR business reporting and management.<ul><li>types of records kept</li><li>recording transactions</li></ul> ABS.05.01.01.A

## The Food Industry

- b. Discover the different cultures that exist in one's community.<ul><li>food customs of major world populations</li></ul> CS.02.02.01.B
- a. Discuss the history and describe and explain the components (e.g., processing, distribution, byproducts) of the food products and processing industry. FPP.01.01.01.A
- a. Explain the purposes of organizations that are part of or regulate the food products and processing industry.<ul><li>quality assurance</li><li>government regulations</li></ul> FPP.01.02.01.A
- a. Identify and describe foods derived from meat, egg, poultry, fish and dairy products. FPP.04.02.01.A
- a. Identify and describe products derived from fruits and vegetables. FPP.04.02.02.A

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- a. Identify and describe products derived from grains, legumes and oilseeds.** FPP.04.02.02.A
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## Plant and Soil Science

- a. Explain the process of soil formation through weathering.** ESS.03.02.01.A
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- a. Explain how the physical qualities of the soil influence the infiltration and percolation of water.**
  - sand, silt, clay
  - textural triangle
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- a. Explain systems used to classify plants.**
  - taxonomy
  - life cycles
  - structures
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- a. Describe the morphological characteristics used to identify agricultural plants.**
  - structures
  - monocot and dicot
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- a. Explain the basic process of photosynthesis and its importance to life on Earth.** PS.01.03.01.A
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- a. Explain cellular respiration and its importance to plant life.** PS.01.03.02.A
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- a. Identify the major components of growing media and describe how growing media support plant growth.** PS.02.02.01.A
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## The Beef Cattle Industry

- a. Identify the origin, significance, distribution and domestication of animal species.** AS.01.01.01.A
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- a. Define major components of the animal industry.**
  - specie breeds and characteristics
  - economic importance
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- b. Outline the development of the animal industry and the resulting products, services and careers.**
  - phases of production
  - animals for work and recreation
  - consumer products
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- a. Identify major animal species by common and scientific names.** AS.02.01.02.A
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- a. Describe the functions of the animal body systems and system components.**
  - anatomy/parts
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## The Swine Industry

- a. Identify the origin, significance, distribution and domestication of animal species.** AS.01.01.01.A
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- a. Define major components of the animal industry.**
  - specie breeds and characteristics
  - economic importance
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- b. Outline the development of the animal industry and the resulting products, services and careers.**
  - phases of production
  - consumer products

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**a. Identify major animal species by common and scientific names.** AS.02.01.02.A

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**a. Describe the functions of the animal body systems and system components.**  
**<li>anatomy/parts</li></ul>** AS.02.02.06.A

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**a. Describe how animal identification systems can track an animal's location, nutrition requirements, production progress and changes in health.**  
**<ul><li>swine universal ear notching system</li></ul>** AS.06.02.02.A

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## The Sheep Industry

**a. Identify the origin, significance, distribution and domestication of animal species.** AS.01.01.01.A

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**a. Define major components of the animal industry.**  
**<ul><li>specie breeds and characteristics</li><li>economic importance</li></ul>** AS.01.01.02.A

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**b. Outline the development of the animal industry and the resulting products, services and careers.**  
**<ul><li>phases of production</li><li>consumer products</li></ul>** AS.01.01.02.B

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**a. Identify major animal species by common and scientific names.** AS.02.01.02.A

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**a. Describe the functions of the animal body systems and system components.**  
**<li>anatomy/parts</li></ul>** AS.02.02.06.A

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## The Dairy Cattle Industry

**a. Identify the origin, significance, distribution and domestication of animal species.** AS.01.01.01.A

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**a. Define major components of the animal industry.**  
**<ul><li>specie breeds and characteristics</li><li>economic importance</li></ul>** AS.01.01.02.A

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**b. Outline the development of the animal industry and the resulting products, services and careers.**  
**<ul><li>phases of production</li><li>consumer products</li></ul>** AS.01.01.02.B

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**a. Identify major animal species by common and scientific names.** AS.02.01.02.A

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**a. Describe the functions of the animal body systems and system components.**  
**<li>anatomy/parts</li><li>milk production</li></ul>** AS.02.02.06.A

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**a. Describe how animal identification systems can track an animal's location, nutrition requirements, production progress and changes in health.**  
**<ul><li>advances in the dairy industry</li></ul>** AS.06.02.02.A

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## The Horse Industry

**a. Identify the origin, significance, distribution and domestication of animal species.** AS.01.01.01.A

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**a. Define major components of the animal industry.**  
**<ul><li>specie breeds and characteristics</li><li>economic importance</li></ul>** AS.01.01.02.A

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**b. Outline the development of the animal industry and the resulting products, services and careers.<ul><li>phases of production</li><li>animals for work and recreation</li></ul>** AS.01.01.02.B

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**a. Identify major animal species by common and scientific names.** AS.02.01.02.A

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**a. Describe the functions of the animal body systems and system components.<ul><li>anatomy/parts</li></ul>** AS.02.02.06.A

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## The Goat Industry

**a. Identify the origin, significance, distribution and domestication of animal species.** AS.01.01.01.A

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**a. Define major components of the animal industry.<ul><li>specie breeds and characteristics</li><li>economic importance</li></ul>** AS.01.01.02.A

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**b. Outline the development of the animal industry and the resulting products, services and careers.<ul><li>phases of production</li><li>consumer products</li></ul>** AS.01.01.02.B

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**a. Identify major animal species by common and scientific names.** AS.02.01.02.A

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**a. Describe the functions of the animal body systems and system components.<ul><li>anatomy/parts</li></ul>** AS.02.02.06.A

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## The Poultry Industry

**a. Identify the origin, significance, distribution and domestication of animal species.** AS.01.01.01.A

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**a. Define major components of the animal industry.<ul><li>specie breeds and characteristics</li><li>economic importance</li></ul>** AS.01.01.02.A

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**b. Outline the development of the animal industry and the resulting products, services and careers.<ul><li>phases of production</li><li>consumer products</li></ul>** AS.01.01.02.B

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**a. Identify major animal species by common and scientific names.** AS.02.01.02.A

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**a. Describe the functions of the animal body systems and system components.<ul><li>anatomy/parts</li><li>egg development and incubation</li></ul>** AS.02.02.06.A

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## Small Animal Care

**a. Identify the origin, significance, distribution and domestication of animal species.** AS.01.01.01.A

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**a. Define major components of the animal industry.<ul><li>specie breeds and characteristics</li><li>economic importance</li></ul>** AS.01.01.02.A

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- b. Outline the development of the animal industry and the resulting products, services and careers.**
    - types and uses of small animals
- </ul> AS.01.01.02.B
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- a. Identify major animal species by common and scientific names.** AS.02.01.02.A
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## Agricultural Mechanics Safety

- a. Use proper safety practices/personal protective equipment.** CS.06.02.01.A
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- a. Demonstrate the importance of safety, health, and environmental practices in the workplace.**
    - maintaining shop safety
- CS.06.03.01.A
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- a. Handle chemicals and equipment in a safe and appropriate manner.**
    - common hazards
    - welding safety
- CS.07.04.02.A
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## Arc Welding and Oxy- Gas Cutting

- a. Identify standard tools, equipment, and safety procedures related to a specific task.**
    - welding tools and equipment
    - cutting tools and equipment
    - fire classes and extinguishers
- CS.08.01.01.A
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- a. Follow operating instructions related to specific tools and equipment needed to complete a task.**
    - operating a welder and cutting torch
- </ul> CS.08.01.02.A
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- a. Use the appropriate procedures for the use and operation of specific tools and equipment.**
    - operating a welder and cutting torch
- CS.08.02.01.A
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- b. Distinguish welding processes, positions and materials preparation.**
    - welding methods and equipment
    - striking an arc
    - running a bead
    - cutting equipment, gasses and process
- PST.04.04.07.B