

# Agriculture, Food, and Natural Resources: Exploration of Agriscience

Explain the evolution of agriculture. The student will be able to: 1

**01.01** Define agriculture. 1.01

---

**01.02** Identify and research opportunities in agriculture and its related fields through a Foundational SAE. 1.02

---

**01.03** Explain how commodities have diversified in Florida. 1.03

---

Apply knowledge and skills in plant sciences. The student will be able to: 2

**02.01** Produce an agricultural plant. 2.01

---

**02.02** Discuss the technology involved in the development of improved crops. 2.02

---

**02.03** Identify agribusinesses that provide supplies and services to plant science industries in the state.. 2.03

---

**02.04** Identify the recommended uses and safety precautions from a pesticide label. 2.04

---

**02.05** Discuss basic landscape design. 2.05

---

**02.06** Identify pests, pathogens, parasites, and predators of horticultural and agronomic crops. 2.06

---

**02.07** Describe the major components of soil. 2.07

---

**02.08** Demonstrate how to read a fertilizer label 2.08

---

**02.09** Describe various forms of fertilizer and proper application method. 2.09

---

Apply knowledge and skills in Forestry. The student will be able to: 3

**03.01** Identify the major forest regions of the United States and Florida. 3.01

---

**03.02** Describe the importance of forests and forest products. 3.02

---

**03.03** Describe how trees grow, reproduce, and components of forest health. 3.02

---

**03.04** Describe tools and techniques common to the forest industry. 3.04

---

**03.05** Identify pests, pathogens, parasites, and predators of forests. 3.05

---

**Apply knowledge and skills in animal sciences. The student will be able to:** 4

**04.01** Describe the differences between animal welfare and animal rights. 4.01

---

**04.02** Discuss the technology involved in the development of improved animal products. 4.02

---

**04.03** Identify important breeds of livestock. 4.03

---

**04.04** Identify agribusinesses that provide supplies and services to animal science industries in the state. 4.04

---

**04.05** Describe the uses of livestock and their products. 4.05

---

**Demonstrate knowledge and skills in food science. The student will be able to:** 5

**05.01** Demonstrate the proper handling and storage of food products from farm to plate. 5.01

---

**05.02** Describe and demonstrate at least one method of food preservation. 5.02

---

**05.03** Conduct a food taste test. 5.03

---

**05.04** Produce and market a food product. 5.04

---

**05.05** Read, interpret, and develop a food label. 5.05

---

**05.06** Describe the components of a balance diet. 5.06

---

**05.07** Identify and compare USDA standards and grades for agricultural products. 5.07

---

**Apply knowledge and skills in biotechnology. The student will be able to:** 6

**06.01** Define biotechnology. 6.01

---

**06.02** Discuss current and future uses of genetic engineering. 6.02

---

**06.03** Identify issues associated with biotechnology. 6.03

---

**06.04** Explain the history of genetic engineering and biotechnology in agriculture. 6.04

---

**Apply knowledge and skills in agricultural processing and marketing. The student will be able to:** 7

**07.01** Identify processing and packaging techniques used in agriculture. 7.01

---

**07.02** Discuss the difference in marketing strategies between perishable and nonperishable commodities. 7.02

---

**07.03** Describe how processing, packaging, and marketing affects the price of an item. 7.03

---

**07.04** Recognize misleading advertising. 7.04

---

---

**07.05** Describe how competition benefits the consumer. 7.05

---

**Apply knowledge and skills in natural resources. The student will be able to:** 8

**08.0** Identify methods or practices of the conservation natural resources. 8.01

---

**08.0** Demonstrate a method or practice of conservation. 8.02

---

**08.03** Identify major ecosystems in Florida. 8.03

---

**08.04** Discuss the importance of the ecosystems to agriculture, society and each other. 8.04

---

**08.05** Define Best Management Practices (BMPs) and explain their benefits to agriculture. 8.05

---

**Apply leadership and communication skills. The student will be able to:** 9

**09.01** Discuss the establishment and history of the FFA organization. 9.01

---

**09.02** Identify the characteristics and responsibilities of organizational leaders. 9.02

---

**09.03** Identify parliamentary procedure skills during a business meeting. 9.03

---

**09.04** Demonstrate effective communication skills through delivery of a speech or conducting a demonstration. 9.04

---

**09.05** Identify communication skills necessary for effective leadership. 9.05

---

**09.06** Identify state and community organizations associated with agricultural promotion. 9.06

---

**Integrate the use of science, mathematics, reading, geography, history, writing, and communication in agriscience and technology. The student will be able to:** 10

**10.01** Apply basic mathematics operations to solve agricultural problems. 10.01

---

**10.02** Correctly use measuring devices and utilize measurements to solve agricultural problems. 10.02

---

**10.0** Apply the scientific method to solve an agricultural problem. 10.03

---

**10.04** Prepare written and/or oral materials using correct English grammar. 10.04

---

**10.05** Identify the main idea in oral presentations and/or written materials. 10.05

---

**10.06** Locate, organize, and interpret information from a variety of agricultural sources. 10.06

---