



AGRICULTURE ASSOCIATE CERTIFICATION STUDY GUIDE

The Agriculture Associate Certification, a general agriculture program, certifies that individuals have knowledge and skills in the areas of agricultural history and the global impact of agriculture; career opportunities; scientific and research concepts; biological and physical science principles; environmental principles; agriscience safety; principles of leadership; and agribusiness, employability, and human relations skills in agriscience.

The certification standards for the Agriculture Associate exam are based on the standards and benchmarks taught in the Florida's Agriscience Foundations program at the secondary level. Each standard is weighted based on industry needs and feedback and are noted below. The number of questions per standard is determined by the industry weight. A complete listing of Florida's Agriscience Foundations standards and corresponding benchmarks are available from the Florida Department of Education.

Standard	Description	Resource	Weight
1	Describe the history of agriculture and its influence on the global economy	Agriscience Fundamentals & Applications, 5th Edition: Unit 1, Unit 2 & Unit 4	6%
2	Practice agriscience safety skills and procedures	Agricultural Mechanics Fundamentals & Applications, 6th Edition: Unit 4 & Unit 5 Agriscience Fundamentals & Applications, 5th Edition: Unit 14 & Unit 32	10%
3	Apply scientific and technological principles to agriscience issues	Agriscience Fundamentals & Applications, 5th Edition: Unit 3, Unit 15, Unit 16 & Unit 28	10%
4	Apply environmental principles to the agricultural industry	Agriscience Fundamentals & Applications, 5th Edition: Unit 7, Unit 8, Unit 9, Unit 10 & Unit 11	12%
5	Investigate and utilize basic scientific skills and principles in plant science	Agriscience Fundamentals & Applications, 5th Edition: Unit 13, Unit 14, Unit 15, Unit 16, Unit 17, Unit 19, Unit 21 & Unit 22	12%
6	Investigate and utilize basic scientific skills and principles in animal science	Agriscience Fundamentals & Applications, 5th Edition: Unit 26, Unit 27, Unit 28, Unit 29, Unit 30 & Unit 31	12%
7	Demonstrate the use of agriscience tools, equipment, and instruments	Agricultural Mechanics Fundamentals & Applications, 6th Edition: Unit 7, Unit 8, Unit 30, Unit 31, Unit 39	10%
8	Demonstrate agribusiness, employability and human relation skills	Agriscience Fundamentals & Applications, 5th Edition: Unit 5 & Unit 6	10%
9	Apply leadership and citizenship skills	Agriscience Fundamentals & Applications, 5th Edition: Unit 6	8%
10	Discuss components of food safety and handling practices in agriculture	Agriscience Fundamentals & Applications, 5th Edition: Unit 32 & 33 6 Preventive Maintenance Practices to Achieve Food Safety (PDF file) Protecting the Hands that Feed: A Look at Personal Protective Equipment (PDF file) Food Labeling: Safety, Sustainability, and Cost Savings (article) Basics for Handling Food Safely (PDF file) Egg Products and Food Safety (PDF file) Meat and Poultry Packaging Materials (PDF file) How Temperatures Affect Food (PDF file) Food Product Dating (PDF file) Shell Eggs from Farm to Table (PDF file) UF/IFAS: Genetically Modified Food (PDF file)	10%

AGRISCIENCE FOUNDATIONS

STANDARD 1

3 QUESTIONS

Students should be familiar with the history of agriculture including but not limited to technological advancements.

Sample Question: What metal revolutionized agriculture?

Students should know the impact that agriculture has on the local, state, national and global economy.

- This includes statistics related to the number of farmers, how much food farmers produce, careers in agriculture, etc.

Sample Question: For every dollar spent on food, what percent of that dollar is returned to the producer?

STANDARD 2

5 QUESTIONS

Students should be able to identify potential accidents in agriculture and know how to prevent accidents through the use of personal safety equipment and clothing.

Sample Question: When discharging a fire extinguisher, how far away should you be positioned from the fire?

Students should know basic pesticide safety information including how to read a Material Safety Data Sheet (MSDS) and how to properly dispose of hazardous waste materials.

Sample Question: What is another term for the trade name of a pesticide?

STANDARD 3

5 QUESTIONS

Students should be able to use common laboratory equipment and employ scientific measurement skills.

Sample Question: Approximately how many grams are equal to one pound?

Students should be able to identify the parts and functions of plant and animal cells as well as describe the phases of cell reproduction.

Sample Question: What is mitosis?

Students should be able to carry out agriscience research including interpreting, analyzing and reporting data.

Sample Question: What are the steps of the Scientific Method?

Students should be familiar with DNA, genetic applications in agriscience and advances in biotechnology.

Sample Question: What type of breeding involves choosing specific parents to desirable characteristics in the offspring?

STANDARD 4**6 QUESTIONS**

Students should know how different climatic and geological activity influences agriculture.

Sample Question: The buildup of heat caused by radiant energy being trapped in the earth's atmosphere is known as what?

Students should be able to describe ecosystems and environmental resources related to agriculture production.

Sample Question: Air is what percent oxygen?

Students should be able to identify regulatory agencies, apply Best Management Practices and conservation practices related to agriculture and natural resources.

Sample Question: What is meant by crop rotation?

STANDARD 5**6 QUESTIONS**

Students should know the following concepts related plant science/growth:

- Plant categories
- Plant parts
- Photosynthesis
- Respiration
- Reproduction
- Nutrients required for growth

Sample Question: What is the series of processes in which light energy is converted into simple sugar called?

Students should be able to analyze a fertilizer label.

Sample Question: What do the three numbers found on a fertilizer label represent?

Students should be familiar agricultural pests and pest control solutions.

Sample Question: What type of pesticide is used to kill insects?

STANDARD 6**6 QUESTIONS**

Students should know the following concepts related animal science:

- Animal categories (use, type, breed, scientific classification)
- Terminology
- Internal & External anatomy
- Animal management
- Animal health
- Animal safety

Sample Question: What is the name of the class of animals that have a stomach with four compartments?

Sample Question: Where is an intramuscular injection made?

Students should be aware of animal welfare issues.

Sample Question: What is the difference between animal welfare and animal rights?

Students should know the food, fiber and by-products provided by animals.

Sample Question: What are some common by-products of the animal industry?

STANDARD 7

5 QUESTIONS

Students should be able select, service and maintain and use agriscience tools, equipment and instruments.

Sample Question: When gripping wood, metal or plastic what type of tool would you use?

Students should know various physical science principals as applied in mechanical applications including but not limited to:

- levers
- pulleys
- hydraulics
- internal combustion

Sample Question: A round device attached to a shaft and driven by a belt is know as what?

Students should be able to solve mathematical problem in agriscience including but not limited to:

- distance
- area
- volume
- proportion
- percentage

Sample Question: What is the U.S. standard unit of measurement when measuring the length of a piece of wood?

STANDARD 8

5 QUESTIONS

Students should know how to develop, implement and maintain an SAE including using a record keeping system.

Sample Question: A student who's Supervised Agricultural Experience (SAE) involves owning their own herd of cattle has what type of SAE?

Students should have an understanding of oral communication, written communication nonverbal communication and good listening skills.

Sample Question: What are the three parts of a speech?

STANDARD 9

4 QUESTIONS

Students should be able to identify and describe leadership characteristics and opportunities to acquire leadership skills.

Sample Question: What is another word for integrity?

Students should be able to conduct meetings using correct parliamentary procedure.

Sample Question: What does two taps of the gavel mean?

Students should be aware of opportunities available through the National FFA Organization.

Sample Question: What is the highest degree that the FFA can bestow upon a member?

STANDARD 10

5 QUESTIONS

Students should be familiar with food safety and handling practices including, but not limited to:

- Personal Protective Equipment including types and uses
- Common food safety practices including hygiene practices
- Safe handling of food products including eggs, meats, frozen foods, canned foods, and vacuumed packed foods (includes methods of processing, preserving and storing)
- GMO food labeling and consumer concerns
- Common food borne illnesses

Sample Questions: Why are imported fruits and vegetables often subjected to radiation when they enter the United States? Which food preservation technique removes moisture by using heat?