



**1.0 Examine the history of AFNR production at the local, national, and global level. Students who demonstrate learning can:**

- 1.01 Analyze and describe the impact of AFNR industries on local, state, national, and global economies.
- 1.02 Investigate and summarize historical developments, inventions, or events that have impacted AFNR production systems.
- 1.03 Examine and analyze historical and current economic or production data and trends and determine their impact on local, state, national, and global AFNR systems.

**2.0 Employ scientific reasoning to make informed decisions in AFNR systems. Students who demonstrate learning can:**

- 2.01 Design and complete an experiment using the scientific method.
  - SC.912.N.1.1, SC.912.N.1.2, SC.912.N.1.7
- 2.02 Employ scientific measuring skills.
- 2.03 Demonstrate safe and effective use of common laboratory equipment.
- 2.04 Analyze, interpret, and report data from research.
  - SC.912.N.1.3, SC.912.N.1.4, SC.912.N.1.5, SC.912.CS-PC.3.1, SC.912.CS-PC.3.2, SC.912.CS-PC.3.3, SC.912.CS-PC.3.4
- 2.05 Utilize data to make an informed choice concerning AFNR systems.
  - SC.912.N.1.6, SC.912.N.2.2, SC.912.N.2.3, SC.912.N.4.1
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**3.0 Apply scientific skills and principles in natural resources: Students who demonstrate learning can:**

- 3.01 Describe the environmental resources (soil, water, air) necessary for agricultural production.
  - SC.912.L.17.10
- 3.02 Classify resources used in AFNR systems as renewable or nonrenewable.
  - SC.912.L.17.19
- 3.03 Discuss the management of renewable vs. non-renewable natural resources.
- 3.04 Describe various Florida ecosystems as they relate to the agricultural industry.
  - SC.912.L.17.4



- 3.05 Examine the effects of environmental regulations on ANFR industries.
  - SC.912.L.17.5
- 3.06 Research Best Management Practices that sustain the natural environment.
  - SC.912.L.17.13, SC.912.L.17.16, SC.912.L.17.20
- 3.07 Examine how land use decisions (development, conservation, agricultural production etc.) impact the environment.
  - SC.912.L.17.6, SC.912.L.17.8, SC.912.L.17.11, SC.912.L.17.12
- 3.08 Explore employment and entrepreneurship opportunities and identify potential paths to careers in natural resources.
  - SC.912.CS-PC.3.13

**4.0 Apply scientific skills and principles in plant science. Students who demonstrate learning can:**

- 4.01 Describe and differentiate between plant industry sectors (floriculture, nursery, forestry etc.).
- 4.02 Examine products and by-products produced commercially in plant industries.
- 4.03 Distinguish cellular processes in plant science including photosynthesis, respiration, transpiration.
  - SC.912.L.14.3, SC.912.L.18.7, SC.912.L.18.9
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- 4.04 Categorize plants based on specific characteristics according to industry and scientific standards.
- 4.05 Investigate and compare methods of plant reproduction.
  - SC.912.L.14.8; SC.912.L.14.53
- 4.06 Identify nutrient requirements for optimal plant growth, their functions within plants, and nutrient sources.
- 4.07 Manage plant production facilities, equipment, and supplies with a safety mindset.
- 4.08 Evaluate advances in plant related biotechnology that impact consumers and production.
  - SC.912.L.16.10
- 4.09 Explore employment and entrepreneurship opportunities and identify potential paths to careers in plant science.

**5.0 Apply scientific skills and principles in animal science. Students who demonstrate learning can:**



- 5.01 Distinguish correct terminologies for livestock species and conditions (e.g. - age, sex, use, etc.) within those species.
- 5.02 Recognize commercially important livestock variations distinguishable in breed characteristics (e.g. - cattle, swine, sheep, goats, poultry, etc.).
- 5.03 Examine production and consumption trends of commercially important livestock species.
- 5.04 Model safe animal handling practices using proper safety procedures.
- 5.05 Examine products and by-products produced by commercially important livestock species.
- 5.06 Identify methods of proper disposal of animal waste materials and biohazards.
  - SC.912.L.17.14
- 5.07 Evaluate advances in animal biotechnology that impact consumer and production decisions (e.g. - cloning, selective breeding, pharmaceuticals, etc.).
- 5.08 Apply genetic principles to improve animal husbandry practices.
  - SC.912.L.16.1, SC.912.L.16.3, SC.912.L.16.9,
- 5.09 Compare and contrast animal welfare issues.
- 5.10 Manage animal facilities, equipment and supplies with a safety mindset.
- 5.11 Explore employment and entrepreneurship opportunities and identify potential paths to careers in animal science.

**6.0 Apply scientific skills and principles in food science. Students who demonstrate learning can:**

- 6.01 Evaluate the relationship between food markets and consumer trends.
- 6.02 Examine the impact of consumer demands on food production, processing, and storage.
- 6.03 Evaluate advances in biotechnology that impact agriculture.
  - SC.912.L.15.15
- 6.04 Analyze the impact of marketing and labeling of food products on consumer behavior.
- 6.05 Perform safe handling practices in the preparation of food.
- 6.06 Explore employment and entrepreneurship opportunities and identify potential paths to careers in food science.



**7.0 Apply scientific skills and principles in power, structure, and technical systems: Students who demonstrate learning can:**

- 7.01 Analyze trends and emerging technological advances in power, structure, and technical systems.
- 7.02 Select the appropriate tool for construction, repair, and maintenance of power, structure, and technical systems.
- 7.03 Demonstrate safe use of common tools used for construction, repair, and maintenance of power, structure, and technical systems.
- 7.04 Utilize commonly used technologies in AFNR systems to solve problems in AFNR systems.
- 7.05 Manage power, structure, and technical systems facilities, equipment and supplies with a safety mindset.
- 7.06 Explore employment and entrepreneurship opportunities in power, structure, and technical systems.

**8.0 Explore AFNR professional development organizations. Students who demonstrate learning can:**

- 8.01 Identify the opportunities for leadership development available through the National FFA Organization, and other agricultural groups.
- 8.02 Explore the history of the National FFA Organization.
- 8.03 Participate in a business meeting using Robert's Rules of Order.
- 8.04 Model leadership characteristics.
- 8.05 Develop a plan for personal and professional growth in an agricultural organization by reviewing their mission statement, constitution and by-laws, and program of activities.