Introduction to Agriscience

Introduction to Agriscience is an exploratory course that provides Grade 7 students with an overview of the agriculture industry. Topics include career opportunities, safety, impact of agriculture, supervised agricultural experiences, leadership development, environmental science, animal science, plant science, technology and biotechnology, agribusiness, and woodworking.

Content standards for this course are not intended to serve as the entire curriculum. Teachers are encouraged to expand the curriculum beyond the limits of these content standards to accommodate specific community interests and utilize local resources. This course encourages critical thinking, use of the scientific method, integration of technology, development of student leadership skills, and application of knowledge and skills related to practical questions and problems. Safety concepts are integrated into instruction to the maximum extent possible.

Introduction to Agriscience may be taught as a 35-, 70-, or 140-hour course. It may be offered as a component of a rotation course allowing students to explore different career fields. If a course contains two 70-hour rotations, content standards 1, 2, 3, 5, 6, 10, 11, 13, 16, and 19 must be taught. If a course contains four 35-hour rotations, content standards 1, 2, 5, 6, 16, and 19 must be taught.

Career and technical student organizations are integral, cocurricular components of each career and technical education course. These organizations serve as a means to enhance classroom instruction while helping students develop leadership abilities, expand workplace-readiness skills, and broaden opportunities for personal and professional growth.

Career Opportunities

Students will:

1. Identify career opportunities within the agriculture industry.

Safety

2. Identify safety rules and procedures required for working with hand and power tools in agricultural operations.

Impact of Agriculture

3. Determine the impact of the agriculture industry on the economies of Alabama, the United States, and the world.
   - Describing major factors in world consumer preferences

4. Describe basic human needs, including food, clothing, and shelter.
   - Describing benefits of an abundant, inexpensive, and safe food supply produced by United States farmers for the American population
     Examples: abundance—independence from foreign food imports
               inexpensive—less income spent on food
               safe food supply—better overall health of populations
Supervised Agricultural Experience

5. Describe criteria for selecting a SAE.
   Examples: years in program, career interest, career advantages
   • Identifying requirements of a SAE, including manageability, availability of facilities, financing, and record keeping

Leadership Development

6. Demonstrate qualities of leadership, including cooperation, citizenship, and communication.
   Examples: cooperation—teamwork
citizenship—community service
communication—written and verbal skills

Environmental Science

7. Contrast sources of agricultural and nonagricultural pollution in water supplies.
   Examples: agricultural pollution—fertilizers, pesticides
   nonagricultural pollution—trash, industrial wastes

8. Differentiate renewable from nonrenewable natural resources.
   Examples: renewable—water, trees
   nonrenewable—fossil fuels

   Examples: soil—cover cropping, wind breaks, no-till farming, terracing
   water—creating water reservoirs
   wildlife—restocking, following governmental regulations

10. Explain benefits of forests and woodlands.
    Examples: aesthetics, recreation, building materials, wildlife, water, air purification

Animal Science

11. Compare structure, size, and scale of various breeds of domesticated animals.
    • Describing the importance of domesticated animals
    • Describing benefits of various breeds of domesticated animals

Plant Science

12. Explain the role of plants in the transfer of energy through food chains.

13. Describe the structure and function of seeds.
    • Describing proper handling, storage, and care of seeds
   • Identifying locally grown fruits and vegetables

15. Explain the impact of fertilizers and pesticides on plant growth.

**Technology and Biotechnology**

16. Analyze biotechnology to determine benefits to the agriculture industry.
    Examples: improved productivity, medical advancements, environmental benefits

17. Describe technology used in the agriculture industry.
    Examples: remote sensing, robotics, global positioning systems (GPS), geographical information systems (GIS), electronic reference sources, data management software

**Agribusiness**

18. Explain the importance of agribusiness marketing skills, including salesmanship, customer service, and advertising.

**Woodworking**

19. Interpret a woodworking project plan.
    • Identifying whole number and fractional designations on a standard ruler
    • Recognizing uses of basic woodworking tools and materials
    • Demonstrating techniques for sanding and finishing wood

*Alabama Course of Study: Career and Technical Education*