Middle School Agriculture Education Standards

Academic

A1 Utilize effective verbal and non-verbal communication skills
A2 Participate in conversation, discussion and group presentations
A3 Locate and interpret written information
A4 Identify relevant details, facts and specifications
A5 Record information accurately and completely
A6 Demonstrate competence in organizing, writing and editing using correct vocabulary, spelling, grammar and punctuation
A7 Demonstrate the ability to write clearly and concisely
A8 Implement effective decision-making skills
A9 Perform basic and higher-level math operations (e.g., addition, subtraction, multiplication, division, decimals, fractions, units of conversion, averaging, percentage, proportion, ratios)
A10 Use tables, graphs, diagrams and charts to obtain or convey information
A11 Identify the components of a budget and how one is created
A12 Set personal financial goals and develop a plan for achieving them
A13 Identify and apply Internet security practices (e.g., password security, login, logout, log off, lock computer)
A14 Use technology appropriately to a enhance task
A15 Demonstrate appropriate etiquette when using e-communications (e.g., cell phone, e-mail, conference calls)

Employability

E1 Demonstrate positive work ethic when completing new tasks
E2 Abide by workplace policies and procedures
E3 Demonstrate honesty and reliability
E4 Demonstrate ethical characteristics and behaviors
E5 Demonstrate polite and respectful behavior toward others
E6 Demonstrate personal accountability in the workplace
E7 Demonstrate pride in work
E8 Demonstrate ability to stay on task to produce high quality deliverables on time
E9 Explain the importance of respect for feelings, values and beliefs of others
E10 Identify strategies to bridge cultural/generational differences and use differing perspectives to increase overall quality of work
E11 Recognize the challenges and advantages of diversity in the workplace
E12 Demonstrate effective team skills and evaluate their importance in the workplace (e.g., setting goals, listening, following directions, questioning, dividing work)

E13 Contribute new ideas while valuing different ideas and opinions
E14 Implement conflict resolution strategies and problem-solving skills
E15 Recognize the importance of securing and maintaining an age appropriate job and pursuing a potential career
E16 Define jobs associated with a specific career path or profession
E17 Seek and capitalize on self-improvement opportunities
E18 Accept and provide constructive criticism

Agribiotechnology Systems

OA1 Define biotechnology and explore the historical impact it has had on agriculture
OA2 Investigate current applications of biotechnology in agriculture
OA3 Assess the future impact agricultural biotechnology could have on world populations
OA4 Operate basic laboratory equipment and measurement devices (e.g., microscope, graduated cylinder)

Agribusiness Systems

OB1 Evaluate how mission statements guide business goals, objectives and resource allocation
OB2 Formulate individual/business goals and objectives
OB3 Analyze how communication technology (e.g., social media, print news, television) impacts public perception of the agriculture industry
OB4 Identify methods of keeping accurate records for a business
OB5 Define the different types of ownership/business structures in a capitalistic economic system (e.g., corporations, cooperatives, partnerships, sole proprietorships)
OB6 Discuss how the laws of supply and demand and the factors of buyer motivation impact the sales process
OB7 Identify the 4 P's (i.e., product, place, price, promotion) used in a marketing plan for an agricultural product

Agricultural Power, Structural, and Technical Systems

OC1 Discuss types of renewable and non-renewable energy (e.g., solar, wind, hydro, fossil fuels)
OC2 Discuss the importance and function of safety systems on tools and equipment
OC3 Demonstrate safe practices in the operation of power units and equipment
OC4 Demonstrate proper use of measurement and layout tools
OC5 Identify materials and tools in service, construction, and fabrication
OC6 Identify the importance and use of technological systems in agriculture, food and natural resources (e.g., GPS, drones, robotics)

Animal Science Systems

OD1 Discuss how the production of agriculture commodities is related to geographic factors

OD2 Describe characteristics of effective animal care facilities
OD3 Recommend safe handling techniques and equipment when working with production and companion animals
OD4 Classify animals according to species-specific terminology related to age and gender.
OD5 Differentiate major animal breeds within the industry and their production strengths
OD6 Evaluate desirable anatomical and physiological characteristics of animals within and between species
OD7 Evaluate preventative measures for controlling and limiting the spread of diseases, parasites and disorders among animals

Environmental Science/Natural Resources Systems

OE1 Discuss how agricultural practices positively and negatively impact the environment and natural resources
OE2 Describe ways in which pollution can be managed and prevented
OE3 Identify characteristics of a healthy wildlife habitat
OE4 Diagram various cycles found in natural resources (e.g., carbon, nitrogen, oxygen, water) and their processes.
OE5 Identify products obtained from wildlife species
OE6 Describe renewable and nonrenewable natural resources

Food Science and Processing Systems

OF1 Discuss the history and describe /explain the components (e.g., processing, distribution, byproducts) of the food products and processing industry
OF2 Describe agricultural practices that ensure a safe and reliable food supply
OF3 Explain the importance of food labeling including allergies to the consumer
OF4 Identify and describe methods to evaluate foods based on industry standards (e.g., triangle testing, mouthfeel, sensory testing)
OF5 Identify wholesale and retail cuts of production species

Horticulture and Plant Science Systems

OG1 Differentiate and compare various types of growing media
OG2 Determine the optimal conditions required for plant growth and germination
OG3 Explain various ways plants can be classified (e.g., deciduous, evergreen, woody, herbaceous)
OG4 Identify and describe the functions of the major plant parts
OG5 Analyze the life cycle of plant growth/development from seed to seed (e.g., annual, biennial, perennial)
OG6 Explain requirements necessary for photosynthesis to occur and identify the products and byproducts of photosynthesis
OG7 Describe various propagation methods (e.g., stem, leaf, stolonizing, grafting) based on current industry standards
OG8 Discuss the applications of art and design in agriculture/horticulture