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CTE Standards Unpacking
Middle School AFNR

Course: Middle School AFNR
Course Description: Middle School Agriculture, Food and Natural Resources allows students to study a variety of agricultural topics throughout the six Agriculture, Food, and Natural Resources pathways. It serves as an introduction to much of the coursework included within the AFNR cluster. Middle school courses are different across the state, regarding the grade levels and length of time of the course. The following standards should be covered to meet the needs of the program. Additional topics can be covered to meet the demands of specific time grade levels and time frames. Students are encouraged to explore opportunities within the national FFA organization and develop a supervised agricultural experience program. Application of clinical and leadership skills are provided by participating in FFA activities, conferences, and skills competitions such as the Career Development Events and proficiency awards. Classroom and laboratory content may be enhanced by utilizing appropriate equipment and technology. Algebra, Biology, English and human relations skills will be reinforced in the course.
Career Cluster: Agriculture, Food and Natural Resources
Prerequisites: None
Program of Study Application: Middle School Agriculture, Food & Natural Resources is a cluster course in the Agriculture, Food and Natural Resources Cluster. Middle School Agriculture, Food & Natural Resources would be preceded by a Foundation Course and will prepare a student to enter a pathway course in any of the Agriculture, Food & Natural Resources pathways.

<table>
<tr><td colspan="3">INDICATOR #MSA 1: Establish an understanding of the three main parts of the agricultural education program.</td></tr>
<tr><td colspan="3">SUB-INDICATOR 1.1 (Webb Level: 1 Recall): Define Supervised Agricultural Experience Program.</td></tr>
<tr><td colspan="3">SUB-INDICATOR 1.2 (Webb Level: 1 Recall): Explore opportunities in the National FFA Organization.</td></tr>
<tr><td colspan="3">SUB-INDICATOR 1.3 (Webb Level: 1 Recall): Demonstrate an understanding of Agricultural Education.</td></tr>
<tr><td>Knowledge (Factual):
-Define SAE

-Determine how FFA develops leadership skills, personal growth, and career development

-FFA Proficiency award area(s)</td><td>Understand (Conceptual):
-Understand the characteristics of a good SAE and responsibilities involved

-Understand the difference between the five FFA degrees
-Understand the</td><td>Do (Application):
-Explore entrepreneurship, placement, research and directed lab SAE opportunities

-Try mock career development events in class</td></tr>
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-Identify the components that make up the three part circle model of Agricultural Education; including Classroom/Laboratory Instruction, FFA, and Supervised Agriculture Experience	relationships between classroom instruction, FFA, and SAE	-Interview a state FFA officer

Benchmarks:
Students will be assessed on their ability to:

- Create and write plans for an SAE.
- Compete in a major local, state, or national career development event.
- Summarize important dates in FFA history.
- Create a newspaper about FFA and its mission.

Academic Connections

ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard):	**Sample Performance Task Aligned to the Academic Standard(s):**
English: 1)6-8.W.6 - Using technology to research	-Research five proficiency areas and SAE project ideas using information from FFA.org
2) 6-8.SL.1 - Collaborative discussion	-Interactively debate a main motion in a parliamentary procedure demonstration.
3) 6-8.SL.2 - Presenting information	-Recite and explain the meaning of the FFA Creed.

INDICATOR #MSA 2: Express the importance of agriculture in daily life.
SUB-INDICATOR 2.1 (Webb Level: 1 Recall): Give examples of how the agriculture industry provides basic human needs (food, clothing, shelter).
SUB-INDICATOR 2.2 (Webb Level: 3 Strategic Thinking): Discuss how the skills needed for agricultural work have evolved.
SUB-INDICATOR 2.3 (Webb Level: 2 Skill/Concept): Summarize the importance of agriculture to South Dakota's economy.

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Knowledge (Factual):	**Understand (Conceptual):**	**Do (Application):**
-Define quality of life -History of agriculture -Identify important agriculture commodities in South Dakota -Identify agricultural by-products	-Reflect modern agriculture's role in basic human nutrition -How agriculture impacted civilization	-Collect and display agricultural products used to provide food, clothing, and human shelter -Research the economic impact of agriculture

Benchmarks:
Students will be assessed on their ability to:

- Mapping commodities located in the different regions of South Dakota.
- Create a By-Product Poster.
- Around the World Agriculture Project.
- Design a presentation on past, present, and future agricultural advancements in machinery, biotechnology, GMO's, cloning, the livestock industry, and plant science.

Academic Connections

ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard):	**Sample Performance Task Aligned to the Academic Standard(s):**
English: 1) 6-8 SL.4 - Presenting information 2) 6-8 W.6 – Use technology, including the internet, to produce an individual writing product.	-Give a presentation about agriculture commodities. -Research and map commodities within South Dakota.

INDICATOR #MSA 3: **Examine agriculture industries of the past, present, and future.**
SUB-INDICATOR 3.1 (Webb Level: 2 Skill/Concept): Appraise fundamentals of the agriculture industry and its impact on the world.
SUB-INDICATOR 3.2 (Webb Level: 1 Recall): Explore the animal science industry including large and/or small animals.
SUB-INDICATOR 3.3 (Webb Level: 1 Recall): Explore the plant science industry including agronomic and/or horticultural crops.

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Knowledge (Factual):	**Understand (Conceptual):**	**Do (Application):**
-Identify South Dakota agricultural products and how they rank in the United States -Define livestock terminology -Classify the common breeds of large animals in each species -Classify the common breeds of small companion animals -Define plant structures -Describe physiological functions of plants -Describe germination process and conditions -Identify the environmental factors that influence and optimize plant growth	-Understand the global impact of advancements in agriculture	-Map out the six US production regions and what they raise -Debate our exportation of products to other countries -Conduct an experiment manipulating environmental factors -Select animals for production or use of each species

Benchmarks:

Students will be assessed on their ability to:

- Illustrate types of animal production setups and facility needs of various animals.
- Compete in livestock, dairy cattle, or horse judging career development events.
- Select plants to be used in a genetic engineering and biotechnology experiment.
- Compete in Land and/or Range Contest.
- Compete in Range Plant ID.
- Plant Systems agriscience project on the National Level.

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Academic Connections	
ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard):	**Sample Performance Task Aligned to the Academic Standard(s):**
Science: MS-LS1-4 – Animal behaviors and plant structures affect reproduction	-Select animals or plants for production agriculture.
English: 9-12 SL.1 - Participate in collaborative discussion	-Debate our exportation of products to other countries.

INDICATOR #MSA 4: **Use basic principles of agricultural systems technology.**

SUB-INDICATOR 4.1 (Webb Level: 2 Skill/Concept): Identify and demonstrate safe use of shop equipment.

Knowledge (Factual):	**Understand (Conceptual):**	**Do (Application):**
-Identify and know the use of tools -Shop safety -Fire extinguisher -Identify safety symbols, colors, and stations -Basic first-aid knowledge	-Select tools for given purposes -How to read a tape measure -Safety around tools and equipment	-Safely use tools and equipment -Use measuring tools with accuracy -Use a tape to measure objects around the school

Benchmarks:

Students will be assessed on their ability to:

- Design and construct a project.
- Create a model of an inch and label all measurements.
- Create a shop safety brochure.
- Create a clean-up system to use during this class.

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Academic Connections	
ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard): Math: HSN.Q.A.3 - Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	**Sample Performance Task Aligned to the Academic Standard(s):** -Create a wood or metal project, using proper units of measurement as you work with basic materials.

INDICATOR #MSA 5: **Develop employability skills related to the AFNR Cluster.**		
SUB-INDICATOR 5.1 (Webb Level: 2 Skill/Concept): Develop soft skills to enhance employability.		
Knowledge (Factual): -Identify Agriculture, Food, and Natural Resource careers -Proper communication etiquette -Proper interview apparel -How to give a proper hand shake -Professional dress	**Understand (Conceptual):** -Understand AFNR career pathways -Understand AFNR career educational requirements -Importance of employability skills in careers -Job interview skills	**Do (Application):** -Plan and execute a task (team building activity) -Compose a cover letter, resume, and follow-up letter -Job shadow -Tour industries -Write e-mails to industry professionals

Benchmarks:
Students will be assessed on their ability to:

- Participate in a job interview.
- Compose a cover letter and resume.
- Develop questions for an industry tour.

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Academic Connections	
ELA Literacy and/or Math Standard (if applicable, Science and/or Social Studies Standard): English: 9-12 W.2 – Write to inform	**Sample Performance Task Aligned to the Academic Standard(s):** -Compose a cover letter, resume, and follow-up letter.

Additional Resources

- FFA Student Handbook
- FFA Official Manual
- FFA.org
    - Under Educator Resources, FFA section
    - Under Chapter Resource tab
    - Under Awards tab (Proficiency Awards)
    - Under Educator Resources, Supervised Agricultural Experience section
- Youtube Videos : FFA National Proficiency Award Winners
- Youtube Videos: SAE Experience It!
- My Journey Curriculum through National FFA Organization: https://www.ffa.org/my-journey
- Robert's Rule of Order
- Parliamentary Procedure Made Easy textbook
- Cengage-Leadership: Personal Development and Career Success textbook
- Communities of Practice: FFA (https://communities.naae.org/community/ffa)
- Agexplorer.com
- SAE Ideas button on each pathway webpage
- The AET: http://www.theaet.com/
- SAE Ideas Card Set (FFA Store)
- My Journey Curriculum through National FFA Organization: https://www.ffa.org/my-journey
- National FFA Proficiency Handbook: https://www.ffa.org/sitecollectiondocuments/prof_handbook.pdf
- Communities of Practice: Experiential Learning (SAE): https://communities.naae.org/community/experiential-learning
- Renewable Fuels Lesson Plans and Student Module Course (Educator Resources through National FFA Organization)
- Delmar Management Our Natural Resources textbook
- MyCAERT Curriculum
- Theodore Roosevelt: Conserving America's Future Youtube Video
- Communities of Practice: Natural Resources: https://communities.naae.org/community/instruction/naturalresources
- Curriculum for Agricultural Science Education: Natural Resources and Ecology
- Natural Resource lessons (Middle School Food and Agricultural Literacy Curriculum: Educators Resources in ffa.org)

- Communities of Practice: Natural Resources: https://communities.naae.org/community/instruction/naturalresources
- Communities of Practice: Animal Science: https://communities.naae.org/community/instruction/animalscience
- Animal Science lessons (Middle School Food and Agricultural Literacy Curriculum: Educators Resources in ffa.org)
- Curriculum for Agricultural Science Education: Principles of Agricultural Science-Animal
- Curriculum for Agricultural Science Education: Animal and Plant Biotechnology
- Introduction to Biotechnology: An Agricultural Revolution by Ray V. Herren (Thomson-Delmar Learning)
- Plant Science lessons (Middle School Food and Agricultural Literacy Curriculum: Educators Resources in ffa.org)
- Agricultural Science and Technology lessons (Middle School Food and Agricultural Literacy Curriculum: Educators Resources in ffa.org)
- Cengage Introduction to Agronomy, Food, Crops, and Environment textbook
- Plant & Soil Science: Fundamentals and Applications by Rick Parker (Delmar Cengage Learning)
- Principles of Agriculture, Food, and Natural Resources by Rayfield, Smith, Park, and Croom (Goodheart-Wilcox Publisher)
- Curriculum for Agricultural Science Education: Principles of Agricultural Science-Plant
- Curriculum for Agricultural Science Education: Animal and Plant Biotechnology
- Unleashing a Decade of Innovation in Plant Science: A Vision for 2015-2025 (www.plantsummit.files.wordpress.com)
- South Dakota Soybean Interactive Curriculum: http://www.vivayicsolutions.com/063-SDSoy&PC/16-01SoyInteractive/Gold/story_html5.html
- Communities of Practice: Horticulture/Greenhouse Management (https://communities.naae.org/community/instruction/horticulture)
- Communities of Practice: Floral Design (https://communities.naae.org/community/instruction/floraldesign)
- Communities of Practice: Ag. Economics: https://communities.naae.org/community/instruction/econ
- Agricultural Risk Management Instructional Materials (Educator Resources through National FFA Organization)
- AgriEntrepreneurship (Educator Resources through National FFA Organization)
- Financial Planning and Management (Educator Resources through National FFA Organization)
- Agricultural Issues lessons (Middle School Food and Agricultural Literacy Curriculum: Educators Resources in ffa.org)
- Farm and Ranch Business Management Book (Shop ffa.org)
- Farm and Ranch Business Management Student Guide (Shop ffa.org)
- Cengage Agribusiness Fundamentals and Applications textbook
- Communities of Practice: Ag. Economics (https://communities.naae.org/community/instruction/econ)
- ServSafe Food Handler Certification Training

- Delmar *Introduction to Food Science* textbook
- Communities of Practice-Food Science: https://communities.naae.org/community/instruction/agriscience/foodscience
- Dairy Foods Curriculum by Sheri L. Kahnke and Dr. Robert Baer
- Food Safety and Nutrition Education Curriculum: http://www.teachfoodscience.org/curriculum.asp
- Food Science for Kids of All Ages!: Resources for Teachers: http://foodscience.psu.edu/youth/educators
- Curriculum of Agricultural Science Education Food Science and Safety
- Institute Food Technologists: http://www.ift.org/knowledge-center/learn-about-food-science/k12-outreach.aspx
- Food Safety Scientist: http://igrow.org/healthy-families/food-safety/food-safety-scientist/
- Introduction to Food Science Curriculum (Educator Resources through National FFA Organization)
- Food Science lessons (Middle School Food and Agricultural Literacy Curriculum: Educators Resources in ffa.org)
- Food Products and Processing Systems National FFA Agriscience Fair Project
- Welding Connects Your World (Educator Resources through National FFA Organization)
- Curriculum for Agricultural Science Education: Agricultural Power and Technology
- Communities of Practice-Ag Mechanics: https://communities.naae.org/community/instruction/mechanics
- Introduction to Agricultural Science lessons (Middle School Food and Agricultural Literacy Curriculum: Educators Resources in ffa.org)
- Careers in Agricultural Science (Middle School Food and Agricultural Literacy Curriculum: Educators Resources in ffa.org)
- LifeKnowledge lessons (Educators Resources in ffa.org)
- Today's Challenges; Today's Leaders: Focusing on Diversity, Hunger, Advocacy and Sustainability (Educators Resources in ffa.org)
- Professional Growth Handbook (Educators Resources in ffa.org)
- Communities of Practice-Ag. Communications/Leadership: https://communities.naae.org/community/instruction/agcomm
- Cengage-Leadership: Personal Development and Career Success textbook