

Lake Mills School District

Year at a Glance Scope and Sequence for Career & Technical Education

Overarching Goal of the Curricular Area: Through technical Skills and employability development, students are able to apply and relate academic knowledge to succeed.

Agriculture Survey Grades 9-12

Unit Theme	Unit Goal	Enduring Understandings For the Unit	Essential Questions For the Unit
Introduction to FFA	Students will apply the concepts of the FFA principles to SAE's (Supervised Agriculture Experiences), CDE's (Career Development Experiences) and LDE's (Leadership Development Experiences).	<p>Students will understand that FFA offers many opportunities and experiences.</p> <p>Students will understand that FFA involvement will aid in a successful career.</p>	How will your involvement in FFA help you toward your future career and life?
Wisconsin Agriculture	Students will create a presentation that demonstrates knowledge about Wisconsin Agriculture and Wisconsin Agricultural products.	<p>Students will understand that Wisconsin is a leader in many agricultural fields.</p> <p>Wisconsin's economy is greatly impacted by agriculture.</p>	<p>How do Wisconsin agricultural topics affect my life?</p> <p>How do these topics affect our state economy?</p> <p>How will our state's agricultural climate affect your future?</p>
Agriculture Careers	Students will self-assess their career interest and future education and training in an agricultural related field.	Students will understand that agriculture career opportunities are endless and varied.	<p>What are the various careers in agriculture?</p> <p>What will you need to do to prepare for an agricultural career?</p> <p>What will agricultural careers in the future look like?</p>
National Agriculture	Students will apply the concepts of research and discussion to current national agricultural topics.	Students will understand that agriculture affects many facets of our lives.	<p>How does national agricultural topics affect my life?</p> <p>How do these topics affect the national economy?</p> <p>How will this topic affect your future?</p>

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Agri-Science Grades 10-12

Unit Theme	Unit Goal	Enduring Understandings For the Unit	Essential Questions For the Unit
Food Science	Students will apply the concepts of food science to food manufacturing techniques that improve shelf life, food quality, and food safety.	<p>Students will understand that the food industry is very complex.</p> <p>Students will understand the importance of shelf life, food quality, and food safety.</p>	<p>Why are shelf life, food quality, and food safety important to both consumers and business?</p> <p>What science is involved in making specific food products? (Example: cheese, yogurt, milk, meats, potato chips, canning, fruit preservation etc.)</p>
Cells, DNA, and Biotechnology	Students will apply the concepts of cell structure, DNA, and Biotechnology to recent scientific advances in the agriculture industry.	<p>Students will understand the concepts of cell structure, DNA, and Biotechnology.</p> <p>Students will understand the role that biotechnology has played in recent advances in the agriculture industry.</p>	<p>What are key differences between plant and animal cells?</p> <p>What is DNA?</p> <p>What is Biotechnology and what are some recent advances in agriculture?</p>
Animal Anatomy and Physiology	Students will apply the concepts of anatomical systems and physiology to Animal Science.	Students will understand the concepts of anatomical systems (digestive, circulatory, respiratory, endocrine, skeletal, nervous) and how they are similar between animals and humans.	What are the key functions and components of the following systems (digestive, circulatory, respiratory, endocrine, skeletal, nervous) and why are they important?
Genetics, Reproduction, and Growth	Students will apply the concepts of genetics, reproduction, and growth to agriculture and recent scientific advances in the agriculture industry.	Students will understand the concepts of genetics, reproduction, and growth and the roles that they have played in recent advances in the agriculture industry.	<p>What are the key functions and components of the reproductive system?</p> <p>How can key concepts in genetics, reproduction, and growth be applied to real life examples in agriculture?</p>

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Vet Science/Companion Animals Grades 10-12

Unit Theme	Unit Goal	Enduring Understandings For the Unit	Essential Questions For the Unit
Introduction to Small Animal Care	Students will apply the concepts of small animal care to demonstrate knowledge on the companion animal industry, safety to handlers and the animals, and decision making in pet selection.	<p>Students will understand the economic impact of the small animal industry.</p> <p>Students will understand safe handling practices of small animals and the risks associated with them.</p> <p>Students will understand a planning and decision making process in pet selection.</p>	<p>What are the risks associated with owning and handling companion animals?</p> <p>What are some general safety guidelines for owning and handling companion animals?</p> <p>What questions should I ask and what do I need to plan for before deciding to purchase or select a pet?</p>
Breeds and Management	Students will apply the concepts of companion animal management to demonstrate knowledge on classifications, breeds, feeding, grooming, care, and reproduction for dogs, cats, rabbits, hamsters, gerbils, guinea pigs, chinchillas, amphibians, reptiles, avian, and fish.	Students will understand the concepts of management and care for dogs, cats, rabbits, hamsters, gerbils, guinea pigs, chinchillas, amphibians, reptiles, avian, fish etc. in regards to classifications, breeds, feeding, grooming, care, and reproduction.	<p>What are the breeds, classifications, and types of dogs, cats, rabbits, guinea pigs, reptiles, avian, fish, etc.?</p> <p>What are the basic fundamentals of feeding, exercise, grooming, care, and reproduction with dogs, cats, rabbits, guinea pigs, reptiles, amphibians, avian, fish, etc.?</p> <p>What are the veterinary recommendations, proper health care treatment, and common diseases of small animals?</p>
Animal Issues	Students will apply the concepts of research and discussion to current issues and topics relating to animal issues, animal research, and animal behavior.	<p>Students will understand the current issues and debate in regards to animal rights vs. animal welfare.</p> <p>Students will understand the role and purpose of animal shelters.</p> <p>Students will understand the concepts of obedience training.</p>	<p>What is the intended purpose of obedience training?</p> <p>What is the role and purpose of animal shelters?</p> <p>What are the different views and opinions in the animal rights vs. animal welfare debate?</p> <p>What are the different views and opinions in the animal research debate?</p>
Careers in Vet Science and	Students will self-assess their career interest and future education and training in the fields of	Students will understand that career opportunities in the fields of veterinary care, veterinary medicine, and	What are the various careers in the small animal care industry and veterinary medicine fields?

Companion Animals	veterinary care and medicine, and the animal care industry.	companion animal care are endless and varied. Students will understand that FFA career development events and leadership development events can prepare them for careers with small animals.	How will involvement in FFA help you toward your future career and life?
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Large Animals and Meat Science Grades 10-12

Unit Theme	Unit Goal	Enduring Understandings For the Unit	Essential Questions For the Unit
Sheep	Students will apply concepts of flock management for quality and profitability.	Students will understand the concepts of profitable and quality flock management.	What are the characteristics of a successful flock? What determines the quality and profitability of a flock?
Dairy	Students will apply concepts of dairy management for quality and profitability.	Students will understand the concepts of profitable and quality dairy management.	What are the characteristics of a successful dairy herd? What determines the quality and profitability of a dairy herd?
Equine	Students will apply concepts of equine management for quality and profitability.	Students will understand the concepts of profitable and quality equine management.	What are the characteristics of a successful equine enterprise? What determines the quality and profitability of an equine enterprise?
Swine	Students will apply concepts of swine management for quality and profitability.	Students will understand the concepts of profitable and quality swine management.	What are the characteristics of a successful swine operation? What determines the quality and profitability of a swine operation?
Beef	Students will apply concepts of beef herd management for quality and profitability.	Students will understand the concepts of profitable and quality beef herd management.	What are the characteristics of a successful beef herd? What determines the quality and profitability of a beef herd?
Exotic Animals	Students will apply concepts of herd management for quality and profitability.	Students will understand the concepts of profitable and quality herd management.	What are the characteristics of a successful herd? What determines the quality and profitability of a herd?

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Agriculture Business/Farm Management Grades 10-12

Unit Theme	Unit Goal	Enduring Understandings For the Unit	Essential Questions For the Unit
Types of Business Structures	Students will apply the concepts of various business structures in the agricultural industry for efficiency and profitability.	<p>Students will understand the concepts of various business structures in the agricultural industry for efficiency and profitability.</p> <p>Students will understand the differences between sole proprietorships, partnerships, cooperatives, corporations, and franchises.</p>	<p>What are differences between the business structures of sole proprietorships, partnerships, cooperatives, corporations, and franchises?</p> <p>What are the characteristics of a successful business in the agricultural industry?</p>
Starting and Establishing a Business	Students will create a presentation that demonstrates knowledge about successfully planning for the purpose of starting, establishing, and managing an agriculture business.	<p>Students will understand the importance of goal setting and planning in advance before starting a business endeavor.</p> <p>Students will understand the purpose of and how to create mission statements, SMART goals, and SWOT analysis.</p> <p>Students will understand the importance of personal finances and financial planning.</p> <p>Students will understand the importance of insurance and agricultural laws that impact business operations.</p>	<p>What does a successful business plan look like?</p> <p>What are important fundamentals of financial planning?</p> <p>What are the purpose of mission statements, SMART goals, and SWOT analysis activities?</p>
Hiring and Managing Employees	Students will apply the concepts of successful interviewing techniques and skills, resume writing, hiring practices, and leadership and managing styles for career success in agricultural business.	<p>Students will understand how to prepare for a job interview as both an employee candidate and interviewer.</p> <p>Students will understand how to prepare a resume, cover letter, and job application form.</p>	<p>What should a professional resume, cover letter, and job application look like?</p> <p>What types of questions should I expect to hear in a job interview?</p> <p>What types of competencies or employability skills should I be looking for when trying to hire potential employees?</p>
Agricultural Commodities-Marketing and Sales	Students will apply the concepts of basic economics, trading and marketing agricultural	Students will understand the concepts of depreciation, fixed and variable costs, and macro vs. micro economics.	<p>How are agricultural commodities traded?</p> <p>What is a future's market?</p>

	<p>products and commodities, as well as agricultural sales, while using real world market and product examples.</p>	<p>Students will understand the concepts of trading agricultural commodities and marketing ag products.</p>	<p>What is the difference between a fixed cost and a variable cost?</p> <p>What skills and techniques should an effective agricultural sales and marketing be proficient in?</p> <p>How does one create a marketing plan?</p>
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Wildlife/Natural Resources Grades 10-12

Unit Theme	Unit Goal	Enduring Understandings For the Unit	Essential Questions For the Unit
Ecosystems & National Parks	Students will apply the concepts of ecosystems to research a national park of his/her choice and create a presentation to share with the class.	Students will understand and appreciate the importance and uniqueness of National Parks. Students will understand the diversity of ecosystems throughout the United States.	Why is the National Park system unique and important? What types of ecosystems exist in the United States?
Soil, Land, & Water Resources	Students will apply conservation and sustainability measures to protect soil, land, and water resources.	Students will understand the importance of being good stewards of our soil, land, and water resources. Students will understand the concepts of different types of soil and how topography impacts them.	What types of practices threaten our soil, land, and water resources? Why is it important to protect our soil, land, and water resources?
Wisconsin Wildlife and Fish	Students will apply conservation and sustainability measures to protect wildlife and fish resources in Wisconsin.	Students will understand the importance of being good stewards of our wildlife and fish resources in Wisconsin. Students will understand the importance of wildlife and fish resources to Wisconsin's economy.	Why is it important to manage and protect the wildlife and fish resources in Wisconsin? What practices threaten our wildlife and fish resources in Wisconsin?
Environmental Science & Energy	Students will apply conservation and sustainability measures to protect energy resources and the environment.	Students will understand the importance of being good stewards to our energy resources and the environment. Students will understand the significance of alternative energy resources in the future.	Why is it important to protect the environment and our energy resources? What practices threaten our energy resources and the environment?
Recreational Resources and Forestry	Students will apply conservation and sustainability measures to protect forests and recreational resources.	Students will understand the importance of being good stewards to our forests. Students will understand the importance of recreational resources to the economy.	Why is it important to protect our forests? How are recreational resources important to the economy?

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Horticulture/Landscaping Grades 10-12

Unit Theme	Unit Goal	Enduring Understandings For the Unit	Essential Questions For the Unit
Landscape Design	Students will apply the concepts of landscape design to complete both a realistic/hands-on landscape project and a 3D design.	Students will understand the many factors that both home owners and project managers must each consider when deciding on a landscape plan.	<p>What factors must I consider when deciding on a landscape design for my property?</p> <p>What factors must I consider if I were a landscape project manager trying to work with a potential customer on a landscape design?</p>
Landscape Maintenance	Students will apply landscape maintenance concepts to coincide with Wisconsin's seasonal weather and climate.	Students will understand the winter, spring, summer, and fall needs and methods for maintaining a landscape in Wisconsin.	<p>What are the proper methods for pruning trees, shrubs, and flowers?</p> <p>How do you properly prepare a site for spring?</p> <p>How do you properly winterize a landscape?</p> <p>What factors need to be considered for summer maintenance of a landscape?</p>
Gardening	Students will apply concepts of seed selection, plant needs, and project planning goals to plant a garden.	<p>Students will understand that gardens can be very diverse based on the owner's plans and goals.</p> <p>Students will understand the needs and methods for maintaining a garden.</p>	<p>What do you need to do to prepare for planting a garden?</p> <p>What factors do you need to consider when planting a garden?</p> <p>What type of maintenance needs are necessary to grow and maintain a successful garden?</p>
Greenhouse Management and Horticulture Sales	Students will apply concepts of greenhouse management and horticulture sales for plant quality and profitability.	<p>Students will understand that there are many different career opportunities in the greenhouse and horticulture field.</p> <p>Students will understand the business concepts of profitable greenhouses and plant sales.</p>	<p>What are the different career opportunities in the greenhouse and horticulture industries?</p> <p>What do you need to do to prepare for a career in the greenhouse and horticulture industry?</p> <p>What will careers in the future look like in the horticulture and greenhouse industry?</p>
Plant Care and Management	Students will apply concepts of plant anatomy and functions to identify, troubleshoot, and	Students will understand the proper methods of watering, fertilizing, and caring for different types of plants.	<p>What are the different parts of a plant and their key functions?</p> <p>What are key differences between annuals and perennials?</p>

	safely care for plant concerns and needs.	Students will understand the various parts and functions of plants.	What are the proper methods of watering, fertilizing, and caring for plants? What steps should one take when recognizing and troubleshooting health issues with plants?
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