Middle-level CTE Learning Experience Title: Working Safely with Animals Educator: Steve Perry, Retired Assistant Principal Agriculture, John Bowne H.S. Length of Lesson: 8 days (40 minute periods) Grade Level: 8	CTE Area: Agriculture CTE Theme: Health, Safety and Wellness CTE Content: Animals in the Agriculture Industry Date Created: 4/15/20

PLANNING	
Curriculum Goal	Students work in teams to devise safety plans for working with an animal species using information based on the animal's typical behavior and responses. Teams create digital or hardcopy posters on the safe and proper handling of an animal of their choice. Teams present their posters to the class and respond to questions posed by their classmates.
Essential Question(s)	What knowledge and skills are needed for individuals to consistently promote and practice safe and healthy behaviors that encourage wellness in home, school, workplace and community setting? What knowledge and skills are necessary to demonstrate introductory understanding of the development, management and care of animals in the agriculture industry?
National Standards	Common Career Technical Core Standards https://www.careertech.org/career-ready-practices Career Ready Practices 1. Act as a responsible and contributing citizen and employee 2. Apply appropriate and academic and technical skills 3. Attend to personal health and financial well-being 4. Communicate clearly and effectively and with reason 5. Consider environmental, social, and economic impacts of decisions 7. Employ valid and reliable research strategies 8. Utilize critical thinking to make sense of problems and persevere in solving them 9. Model integrity, ethical leadership, and effective management 10. Plan education and career paths aligned to personal goals 11. Use technology to enhance productivity National Agricultural Education Standards https://thecouncil.ffa.org/afnr AS.02. Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare AS.05. Evaluate environmental factors affecting animal performance and implement procedures for enhancing animal performance and animal health AS.06. Classify, evaluate, and select animals based on anatomical and physiological characteristics CS.03. Examine and summarize the importance of health, safety and environmental management systems in AFNR workplaces FPP.01. Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities

	PST.02.02 Operate machinery and equipment whileobserving all safety precautions in AFNR settings CRP.03. Attend to personal health and financial well-being
NYS Standards	New York State Career Development and Occupational Studies (CDOS) Standards Intermediate Level http://www.p12.nysed.gov/cte/ Standard 1: Career Development Students will be knowledgeable about the world of work, explore career options, and relate personal skills, aptitudes, and abilities to future career decisions Standard 2: Integrated Learning Students will demonstrate how academic knowledge and skills are applied in the workplace and other settings Standard 3a: Universal Foundation Skills Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace
Learning Objectives	Health, Safety and Wellness 1. Health Practices Students will a) Define physical health, social health and mental/emotional health and describe how they interact as dimensions of overall wellness b) Describe how personal health behaviors and practices impact an individual's body systems c) Identify personal health practices that promote overall good health d) Explain how overall good health reduces an individual's risks for developing health issues f) Describe how an individual's health status impacts performance of tasks at home, at school and in workplace and community settings g) List and explain strategies employers have instituted to promote health practices by employees in the workplace 2. Disease Prevention Students will a) Understand and be able to describe how behavioral choices can reduce the risk of contracting and spreading illness at home, at school, in the workplace and in the community b) Demonstrate the use of prevention measures such as handwashing, sanitation and waste disposal, proper food handling and storage and environmental controls to reduce disease risk c) Discuss how stress and poor emotional health can adversely affect the immune system 3. Personal Safety Students will a) Explain how consistently practicing safe behaviors reduces the potential for, incidence of and severity of injuries

<table>
<tr><td></td><td colspan="2">b) Tell why a particular behavior may be unsafe and how it could be amended to prevent injury
c) Summarize common causes of intentional and unintentional injury and describe associated prevention strategies
d) Explain how an orderly environment promotes reduction of accidents and injury

Animals in the Agriculture Industry
2. Conditions and Practices for Animal Care
Students will
a) Describe indicators of animal well-being, such as animal behavior, physiology, longevity and reproduction
c) Analyze nutritional needs of animal species
d) Differentiate between the types of facilities needed to house animal species safely and efficiently
e) Evaluate safety procedures for working with animal species based on animal behavior and responses
f) Explain the implications of animal welfare and animal rights in the care and maintenance of animals</td></tr>
<tr><td>Vocabulary</td><td>Academic
Health, Disease, Irritable, Listless, Nutrient</td><td>Content
Zoonosis, Zoonotic, Symptom, Normal, Abnormal, Lame, Restraint, Handle</td></tr>
<tr><td>Materials and Resources</td><td colspan="2">Agriscience notebooks (Day 1)
Poster Paper, Markers (Day 1)
Feed Tags (Day 2,3)
Understanding Nutrients and Their Importance.ppt (Day 2,3)
https://Communities.naae.org/thread/4170
Course AG-APM-01.432 Agriculture Production and Management Unit 7, Lesson 2 (Day 2, 3)
https://Studyres.com/doc/3380603/ag-apm-01.432-07.2-digestive-system-and-absorption-of-food
Housing and Space Guidelines for Livestock (Day 4)
www.extension.unh.edu/resources/files/Resource000471_Rep493.pdf
What are the different types of animal housing? (Day 4)
https://animalsmart.org/animal-health-animal-welfare-/types-of-animal-housing
Laptops/Computers (Days 5,6)
Safe Handling of Animals of Different Species - suggested research sites(Day 5, 6)
https://web.jhu.edu/animalcare/procedures/restraint.html
https://ouv.vt.edu/content/dam/ouv_vt_edu/sops/large-animal/sop-bovine-restraint.pdf
https://animalhandling101.fandom.com/wiki/Restrain_cattle
https://slideshare.net/MuxLm/animal-handling-restrain
https://slideplayer.com/slide/8074161
http://www.nzdl.org/gsdlmod?e=d-00000-00---off-0hdl--00-0----0-10-0---0---0direct-10---4-------0-1l--11-en-50---20-about---00-0-1-00-0--4----0-0-11-10-0utfZz-8-00&cl=CL2.16.2&d=HASH013daca35bfd469dc4189210.2&x=1</td></tr>
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	https://extension.psu.edu/restraint-and-treatment-facilities-for-dairy-animals https://vmcli.com/continuing-education/proper-animal-handling-restraint https://highlandcattleusa.org/content/Simple%20Cattle%Handling%20Techniques.pdf https://veterinarymedicinetips.weebly.com/handling-and-restraint.html https://animalbiosciences.uoguelph.ca/~gking/Ag_2350/handling.htm https://farmhealthonline.com/wp-content/uploads/2016/06/HowToHandleAndRestrainSheep.pdf https://thiel.edu/assets/documents/academics/iacuc/IACUC-handling-and-restraint-of-small-laboratory-animals.pdf https://lafeber.com/vet/lizard-handling-restraint https://lafeber.com/vet/snake-handling-and-restraint https://lllreptile.com/articles/108-handling-reptiles https://whiteroseequestrian.com/correctly-handling-horses https://livestocktrail.illinois.edu/horsenet/paperDisplay.cfm?ContentID=1246 Preventing Zoonotic Diseases (Day 8) https://research.illinois.edu/regulatory-compliance-safety/preventing-zoonotic-diseases Types of Zoonotic Diseases (Day 8) https://medicalnewsdaytoday.com/articles/320618 Welfare vs. Rights (Day 8) https://animalwelfarecouncil.org/?page_id=16		
INSTRUCTION	What will the teacher do?	What will the students do?	How much time for each activity?
Pre-assessment	DAY 1 Teacher asks “who’s feeling healthy?” Teacher then asks “of those of you who raised your hands, describe to the class exactly how you look and feel when you are healthy?” Teacher indicates that over the next several days we, as a class, will be exploring signs of animal health and what it takes to keep our animals healthy. Teacher further indicates that, in fact,these very same things we will be exploring about animals are very much true about keeping us healthy as well.	DAY 1 Students respond by a show of hands. Students respond by indicating traits of health. Students take out their Agriscience notebooks.	DAY 1: 40 mins 5 mins

Do-now/Hook	Teacher places students into groups of 4. Students are instructed to take 2 pieces of chart paper and two markers for each group. Students are then instructed to select two recorders for each group. Teacher instructs students to put the heading" Normal Signs/Symptoms" on one paper and "Abnormal Signs/Symptoms" on the other paper. Teacher explains that students are to discuss what they believe normal animal behavior and appearance should look like. The recorder for that chart should write down their group's responses. Teacher explains that students should discuss what they believe abnormal animal behavior and appearance would look like. The recorder for that chart records students' responses. Teacher asks one of the two members of the group that was not a recorder to share their "normal appearances and behaviors with the class. Teacher asks the remaining student to share the groups "abnormal" appearances and behaviors with the class.	Students break out into their groups. Students create the two charts as instructed. Students discuss their responses and the recorder records them on the "normal" chart paper. Students discuss their responses and the recorder records them on the "abnormal" chart paper. Student non-recorder shares the groups list of "normal" behaviors and appearances with the class. Student shares the groups' list of "abnormal" behaviors and appearances with the class.	25 mins

Procedure for Instruction/ Learning Activities	Teacher leads a summary discussion on Symptoms and Behaviors of Healthy and Unhealthy Animals: - signs of healthy animals 1. clear, bright and alert eyes 2. smooth, shiny coats 3. proper weight 4. alert and responsive 5. stays with herd/group 6. skin free of wounds - signs of unhealthy animals 1. irritable 2. listless 3. lame 4. elevated temperature 5. improper weight 6. eyes not bright and alert 7. rough coat	Students take notes in their Agriscience notebooks.	10 min
	DAY 2 and 3	DAY 2 and 3	DAY 2 and 3: 80 mins
	Teacher instructs students to return to the same groups they were in the last lesson.	Students return to their groups from the previous lesson.	20 mins
	Teacher hands out several different feed tags/labels from various animal feeds to each group and instructs the students to review each label/tag and attempt to place each ingredient into an essential nutrient group: - Water - Carbohydrate - Lipid/Fat -Protein - Minerals - Vitamins	Students review each feed tag/label and list the ingredient on each and next to the ingredient indicate the nutrient group it belongs to.	

	List the ingredient and next to it list the nutrient group. Teacher informs students not to be too concerned if they are unsure of their answers as this is what we will be learning about today and tomorrow. Teacher has students offer some of their decisions to the class and explain why they chose the nutrient group they did for each ingredient discussed. Teacher leads a discussion on Essential Nutrients. Explains that just like for humans, nutrients required to keep animals healthy, provide for growth and maintenance, support gestation, nursing and older age are called essential nutrients. - Water - Carbohydrates - Lipids or Fats - Proteins - Minerals - Vitamins Teacher indicates that we will take a look at each essential nutrient and discuss its function and some examples of each. Teacher further indicates that students should divide their paper in thirds and place the following headings on top of each column: - Nutrient Group	Students offer their responses to the ingredient nutrient group placements and explain their decisions. Students take out their Agriscience notebooks and take notes. Students create three column in their Agriscience notebooks as indicated by their teacher.	60 mins

	- Function - Sources Teacher utilizes student input to develop the following regarding the functions of the various nutrient groups as well as examples of sources for each nutrient. Source: Understanding Nutrients and Their Importance.ppt https://Communities.naae.org/thread/4170 Source: Course AG-APM-01.432 Agriculture Production and Management Unit 7, Lesson 2 https://Studyres.com/doc/3380603/ag-apm-01.432-07.2-digestive-system-and-absorption-of-food DAY 4 Teacher asks the class, "who would like to share with us the type of home you live in?" Responses might be: -private house - apartment - condominium - trailer Teacher explains that in addition to us all living in different types of homes, we have also slept in different types of beds during our life, ie: cradle, crib, bunk bed, cot, etc.	Students offer their input in developing the functions of each of the nutrient groups as well as examples of each of the sources of the nutrient. DAY 4 Students share their housing situations with their classmates. Students take out their Agriscience notebooks.	DAY 4: 40 mins 40 mins

	Teacher further explains that just as is true for people, different species of animals may have different housing requirements with regard to their stage of life and of course the type of animal, however certain basic principles apply to all with regard to housing requirements. Teacher asks the class "can you think of what basic principles must be taken into account when designing housing for animals?" - dry - draft free - proper temperature - access to fresh water - escape proof - proper air quality - proper space - adequate clean food - lighting Source- Housing and Space Guidelines for Livestock www.extension.unh.edu/resources/files/Resource000471_Rep493.pdf Teacher ask the class "can you think of some different types of animal housing?" "how would they be similar/different?" Teacher reviews the various types of animal housings. Source: What are the different types of animal housing? https://animalsmart.org/animal-health-animal-welfare-/types-of-	Students begin to take notes in their Agriscience notebooks. Students offer housing essentials for animals. Students offer various types of housing facilities and indicate similarities and differences. Students continue to take notes in their Agriscience notebooks.	

	animal-housing DAY 5 and 6 Teacher explains to the class that today we will be taking a look at how to safely handle the various species of animals to prevent harm to you as well as to them. Teacher asks "can anyone tell me the difference between the terms handle and restrain with regard to animals?" - **Handling** may not involve immobilization. May be utilized for quick transfer, exercise, movement. **- Restraint** refers to immobilization. Restriction of movement. The specific amount of restraint used to control the animal is key to the safety of the person as well as the animal. Excessive restraint could cause the animal to resist, too little restraint can result in the handler or others being injured, or in the injury or escape of the animal. Teacher explains that while restraint/handling techniques will vary depending on the individual species, certain general "rules of thumb" should always be adhered to : 1. Stay calm, avoid loud noises and move slowly 2. Wear steel toed shoes	DAY 5 and 6 Student take out their Agriscience notebooks. Students offer responses to the difference between the terms handle and restrain. Students take notes in their Agriscience notebooks. Students continue to take notes in their Agriscience notebooks.	DAY 5 and 6: 80 mins 15 min

	3. Stay clear of rear legs 4. Approach large animals at the shoulders 5. Be extra cautious around mothers with young and intact males. Teacher further explains that there are three categories of restraint: - chemical - physical - mechanical Teacher introduces the **Animal Handling Safety Poster Projec**t. Working in teams of 4, students will select a species of animal(s) and construct a handling/restraining instructional safety poster, Power Point presentation or combination of both, to present to your classmates the class after next. Each presentation should contain the name of the species, proper handling techniques and proper restraining techniques. Try to include as many different options within the three categories (mechanical, physical, chemical) as possible. Teacher offers the following species for student groups to select, assuring for no overlaps of selections among groups. - laboratory animals - cows - sheep	Students continue to take notes in their Agriscience notebooks. Students gather poster papers, markers and tape in order to begin their poster projects. Student groups select their species choice for their posters.	65 min

	- goats - horses - pigs - chickens/turkeys - dogs/cats - reptiles/amphibians Teacher instructs students they can use their own websites or refer to the following ones: https://web.jhu.edu/animalcare/procedures/restraint.html https://ouv.vt.edu/content/dam/ouv_vt_edu/sops/large-animal/sop-bovine-restraint.pdf https://animalhandling101.fandom.com/wiki/Restrain_cattle https://slideshare.net/MuxLm/animal-handling-restrain https://slideplayer.com/slide/8074161 http://www.nzdl.org/gsdlmod?e=d-00000-00---off-0hdl--00-0----0-10-0---0---0direct-10---4-------0-1l--11-en-50---20-about---00-0-1-00-0--4----0-0-11-10-0utfZz-8-00&cl=CL2.16.2&d=HASH013daca35bfd469dc4189210.2&x=1 https://extension.psu.edu/restraint-and-treatment-facilities-for-dairy-animals https://vmcli.com/continuing-	Students begin their web searches and construction of their posters.	

	education/proper-animal-handling-restraint https://highlandcattleusa.org/content/Simple%20Cattle%Handling%20Techniques.pdf https://veterinarymedicinetips.weebly.com/handling-and-restraint.html https://animalbiosciences.uoguelph.ca/~gking/Ag_2350/handling.htm https://farmhealthonline.com/wp-content/uploads/2016/06/HowToHandleAndRestrainSheep.pdf https://thiel.edu/assets/documents/academics/iacuc/IACUC-handling-and-restraint-of-small-laboratory-animals.pdf https://lafeber.com/vet/lizard-handling-restraint https://lafeber.com/vet/snake-handling-and-restraint https://lllreptile.com/articles/108-handling-reptiles https://whiteroseequestrian.com/correctly-handling-horses https://livestocktrail.illinois.edu/horsenet/paperDisplay.cfm?ContentID=1246		

	DAY 7 Teacher has student groups conduct their poster/ PowerPoint presentations. DAY 8 Teacher leads a review discussion on the previous days' poster presentations. "Last class, as a result of your wonderful presentations, we learned the importance of safely working with our animals to protect ourselves as well as the animals." Aside from preventing physical injury, what other things do we need to protect ourselves from when working with animals?" - Many diseases and ailments the affect humans can also affect domestic animals. Additionally each species has unique infectious diseases and hereditary disorders. - Diseases that are passed from animals to people are called **Zoonotic**diseases or **Zoonosis** Many organisms such as bacteria and virus that infect animals can also infect people, so we need to take precautions to protect ourselves from infection. Teacher asks "can you think of precautions we can take to protect ourselves from transferring diseases from animals to us?"	DAY 7 Student groups present their posters/Power Points to the class. DAY 8 Students offer responses to the question. Students take out their Agriscience notebooks. Students offer responses to the question.	DAY 7: 40 mins 40 mins DAY 8: 40 mins 25 mins

	- wash hands - vaccinate animals - avoid touching your face while working with animals - do not intermingle animal species. - practice proper handling and restraining. - proper sanitation - proper housing Source: Preventing Zoonotic Diseases https://research.illinois.edu/regulatory-compliance-safety/preventing-zoonotic-diseases Teacher asks "can you think of any diseases we can catch from animals?" Source: Types of Zoonotic Diseases https://medicalnewsdaytoday.com/articles/320618 Teacher leads an open discussion with students on the distinction between **Animal Welfare and Animal Rights**and how they feel about each. Source: Welfare vs. Rights https://animalwelfarecouncil.org/?page_id=16	Students respond with diseases we can catch from animals. Students offer their opinions with regard to the definition of the terms Animal Rights and Animal Welfare and how they feel about each	15 mins
Differentiation	Students will be grouped by their abilities and interests. Teacher will provide scaffolded support where needed. Students who have physical disabilities will be accommodated for. Students who are meeting all of the expectations will be challenged to go above and beyond.		
Closure	A final class discussion regarding the similarities between animal health and human health can be had with the class focusing		

	on the essentials necessary for both humans and animals to remain healthy and well.
ASSESSMENT	
College, Career, and Life Readiness Skills	Based on Middle-level Life/Career Rubrics available at: https://nyctecenter.org/middle-level-life-career-rubric-database/rubrics?start=0

Theme Definition	**Exemplary**	**Proficient**	**Developing**	**Beginning**
Follows Procedures	Consistently and conscientiously follows all established procedures, avoids taking shortcuts or ignoring rules.	Follows all established procedures, avoids taking shortcuts or ignoring rules.	Usually follows established procedures.	Is unaware of and/or ignores procedures.
Maintains Health	Seamlessly manages health (e.g., sets fitness goals, eats healthfully, responsible drug use) with clear insight on its effect on work-related tasks.	Manages health (e.g., sets fitness goals, eats healthfully, responsible drug use) and understands its effect on work-related tasks.	Minimally manages health, with some effect on negative work-related tasks.	Fails to manage health, with resulting negative effect on work-related tasks.
Practices Workplace Safety	Consistently selects and safely uses technological resources (e.g., equipment, machines, tools, electronics) to accomplish work efficiently and productively.	Selects and safely uses technological resources (e.g., equipment, machines, tools, electronics) to accomplish work productively.	Requires reminders to select and safely use technological resources (e.g., equipment, machines, tools, electronics) to accomplish work.	Often disregards safety standards and instructor and manufacturer guidelines.