

GRADE 10 VETERINARY SCIENCE CURRICULUM



Grade Level(s): 10

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Course Description: Grade 10 Veterinary Science focuses on career based skills and knowledge. Students will focus on topics such as taxonomy, animal handling and restraint, medical terminology, physical exams, small animal nutrition, tools used in the animal lab, animal grooming and care, animal health and disease. *Credit Type: STEM .5 credit*

Year At A Glance

Unit Title	Overarching Essential Question	Overarching Enduring Understanding	<u>Vision of A Learner “I Can” Statements</u>
Animal Identification, Terminology, and Ownership	How can I be a responsible pet owner, and select an appropriate animal for my lifestyle?	Different animal breeds and species have different qualities that make them suited for different purposes and lifestyles. The selection of an appropriate animal and understanding the responsibilities of a pet owner are necessary for proper pet ownership.	TCC1, DE1
Animal Restraint	How can I humanely restrain an animal to keep myself, the animal, and others in the room safe?	Different species and breeds of animals require different types of humane restraint in order to perform different procedures on the animal, while keeping the animal and handlers safe and as comfortable as possible.	TCC4, CCE2
Small Animal Grooming and Care	How can I select an appropriate grooming procedure for an animal?	Different species and breeds of animals require different grooming procedures and tools. It is important to be able to maintain and use these tools properly to safely groom the animal, maintain the equipment, and keep the animal healthy and attractive.	TCC4, CCE2, CCE4, TI1, AA1
Small Animal Health and Disease Management	How can I evaluate the health of an animal, and identify, communicate, and treat types of diseases that occur?	There are procedures to determine the status of and maintain the overall health of an animal, as well as the health of individual body systems. There are specific methodologies and terminology for accurate identification of disease types and symptoms, and	TCC1, TCC3, CCE3, TI2



		multiple methods of treatment for those diseases based on disease type and symptoms, and the disease prognosis.	
Small Animal Nutrition	How can I evaluate the nutritional health of an animal and evaluate components of the animal's diet?	Nutritional health of an animal has direct effects on the health of all other body systems. Evaluation of the ingredients of the diet is correlated to the quality of the diet. Understanding the process of digestion will enable students to determine the digestibility, absorption, and usability of the nutrients in the diet.	TCC3, TCC4, CCE2, TI2, AA1



Unit 1 - Animal Terminology, Identification, and Ownership

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:

Connecticut Agriculture, Food, and Natural Resources Content Frameworks

- **AS.01.01.-** Evaluate the development and implications of animal origin, domestication, and distribution on production practices and the environment.
- **AS.01.03.-** Analyze and apply laws and sustainable practices to animal agriculture from a global perspective.
- **AS.04.02.-** Apply scientific principles to select and care for breeding animals.
- **AS.06.01.-** Classify animals according to taxonomic classification systems and use.
- **AS.06.02.-** Apply principles of comparative anatomy and physiology to uses within various animal systems.
- **AS.02.02.01.b.-** Utilize tools, technology, and equipment to perform animal husbandry and welfare tasks.

Common Core State Standards

- **CCSS.ELA-LITERACY.L.9-10.6-** Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)

- I can ask purposeful, insightful questions to find a variety of innovative solutions. **TCC1**
- I can seek, listen to, and understand multiple perspectives. **DE1**
- I can strengthen weaknesses through purposeful strategies, practice and effort. **P2**

Understandings: Students will understand that...

- There is a variety of breeds and species of small animals to select for different purposes because they have unique qualities and traits
- Different animal breeds and species require different amounts and types of care and attention which makes them appropriate for a variety of lifestyles

Essential Questions:

- Why are there so many different breeds of animals, and what are their specific qualities?
- How do I select a companion animal that is appropriate for my lifestyle and needs?
- How do I use tools in the industry safely and properly?
- What laws and guidelines should I follow to ensure the health

<ul style="list-style-type: none"> Using appropriate terminology will ensure that communication is efficient Ownership of an animal is a privilege and not a right, and responsible animal ownership requires adherence to laws and guidelines to ensure animal health and safety There are species and breed organizations that categorize animals and ensure that individual registered animals meet breed standards, so that potential owners can anticipate the animal they are obtaining 	<p>and safety of my companion animal?</p> <ul style="list-style-type: none"> How do people select animals to breed? What makes an animal breed a breed? How can I communicate using content specific terminology? How are animals conformed, and what are the similarities and differences between them?
<p>Students will know...</p> <ul style="list-style-type: none"> How to identify a variety of small animal breeds and species What is required legally and what recommendations should be followed in order to be a responsible pet owner 	<p>Students will be able to...</p> <ul style="list-style-type: none"> Locate parts of the animal Use directional terminology to communicate parts of the animal Utilize tools safely and effectively in the laboratory setting Select animals for breeding or for companionship based on the traits the animal exhibits and what is appropriate for a variety of
<p>Key Vocabulary: Conformation terminology, Animal breeds and species, Laws, Directional terminology, Breed, Breed standard, Conformation</p>	
<p>Assessment Evidence</p>	
<p>Performance Tasks:</p> <ul style="list-style-type: none"> Student ability to identify breeds, parts of the animal body, and directional terminology through photographs, videos, and demonstration. DE1 	<p>Other Evidence:</p> <ul style="list-style-type: none"> Individual American Kennel Club research project, to discover different breeds and traits of dogs as well as the groups they are classified under. DE1 Group animal breeding scenarios- In groups, students will receive a scenario of a need, and students will evaluate what breeds of dogs will be able to be combined to create a new hybrid to fit the need of the user. TCC1 Group animal ownership scenarios- In groups, students will evaluate lifestyles for potential pet owners and determine what type of pet will be most appropriate for their needs. TCC1
<p>Learning Plan</p>	
<p>Evaluate differences in animal breeds and how they are able to be classified based on those differences P2 Identify parts of the animal on live animals P2</p>	



Demonstrate directional terminology while utilizing veterinary tools **DE1**

Genetic dog breeding scenario **TCC1**

Evaluate owner lifestyles and determine an appropriate animal choice, and create a responsible ownership plan that adheres to laws and guidelines for that breed and species of companion animal **TCC1**

Content-based quiz on animal breeds, animal parts, and directional terminology **P2**

Teacher Resources: Teacher created materials, Live and artificial animal models, Veterinary tools

Unit 2 - Animal Restraint

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:

Connecticut Agriculture, Food, and Natural Resources Content Frameworks

- **AS.02.01.-** Demonstrate management techniques that ensure animal welfare

Common Core State Standards

- **CCSS.ELA-LITERACY.L.9-10.4-** Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
- **CCSS.ELA-LITERACY.SL.9-10.4-** Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)

- I can integrate my learning to adapt to experiences in the classroom, career, and life. **TCC4**
- I can seek, accept, and apply actionable feedback. **CCE2**
- I can demonstrate flexibility and acceptance of setbacks to reach success. **P3**
- I can evaluate different approaches and justify the best pathway to success. **AA1**

Understandings: Students will understand that...

- Proper and humane restraint methods will ensure safety of the animal, the handler, and all other parties involved in a procedure
- Different species and breeds of animals require different holds in order to be safe and effective
- Different holds are needed in order to perform different procedures, since different points of the animal must be accessed
- Many types of tools are available to assist in the restraint of animals, and different levels exist, including voice, physical, and

Essential Questions:

- How do I determine which restraint is necessary?
- What tools are available, and how do I determine which tool to use to help me restrain an animal?
- How do I ensure safety and comfort when restraining animals, for myself and for the animal.

chemical methods of restraint.	
<p>Students will know...</p> <ul style="list-style-type: none"> • The location of the cephalic, saphenous, and jugular vein- the three major venous sites • The three levels of restraint • The importance of safe and humane restraint methods 	<p>Students will be able to...</p> <ul style="list-style-type: none"> • Perform the following dog restraints: slip leash, basket muzzle, gauze muzzle, lateral recumbency, sternal recumbency, jugular venipuncture • Perform the following cat restraints: Removing a cat from a cage and placing in a cat bag, lateral recumbency, restraint for jugular venipuncture, carrying a cat, cat wrap • Perform the following rabbit restraints: Carry a rabbit, flip a rabbit, wrap rabbit • Restrain a variety of small animals that are housed in the animal facility • Catch and halter small ruminants
<p>Key Vocabulary: Lateral, Sternal, Recumbency, Restraint, Cephalic, Saphenous, Jugular, Physical, Chemical, Sedative</p>	
<p>Assessment Evidence</p>	
<p>Performance Tasks:</p> <ul style="list-style-type: none"> • Summative: Performance of all restraints CCE2 	<p>Other Evidence:</p> <ul style="list-style-type: none"> • Interim: Performance of all restraints CCE2
<p>Learning Plan</p>	
<p>Identify methods of restraint: Levels of restraint, safety AA1 Perform dog restraints: Lateral recumbency, Sternal recumbency, Lateral recumbency for saphenous venipuncture, Restraint for cephalic venipuncture CCE2 Perform cat restraints: Jugular restraint, Cat stretch CCE2 Perform rabbit restraints: Pick up and hold, flip CCE2 Perform other small animal restraints: Reptiles, additional small animal species in the small animal lab CCE2</p>	
<p>Teacher Resources: Teacher created materials, Rubrics from FFA Veterinary Science CDE, Live and artificial animal models, Restraint tools</p>	



Unit 3 - Small Animal Grooming and Care

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:

Connecticut Agriculture, Food, and Natural Resources Content Frameworks

- **AS.02.01.-** Demonstrate management techniques that ensure animal welfare.
- **AS.06.02.-** Apply principles of comparative anatomy and physiology to uses within various animal systems.
- **AS.07.01.-** Design programs to prevent animal diseases, parasites and other disorders and ensure animal welfare.
- **AS.07.02.-** Analyze biosecurity measures utilized to protect the welfare of animals on a local, state, national, and global level.

Common Core State Standards

- **CCSS.ELA-LITERACY.RI.11-12.7-** Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
- **CCSS.ELA-LITERACY.W.11-12.1d** Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- **CCSS.ELA-LITERACY.SL.9-10.4-** Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)

- I can ask purposeful, insightful questions to find a variety of innovative solutions. **TCC1**
- I can integrate my learning to adapt to experiences in the classroom, career, and life. **TCC4**
- I can seek, accept, and apply actionable feedback. **CCE2**
- I can lead group progress through active listening, questioning, and giving advice. **CCE3**
- I can implement a realistic plan and adapt when necessary to achieve my goals. **TI1**
- I can apply my strengths and anticipate challenges to reach my current and future goals. **TI4**
- I can strengthen weaknesses through purposeful strategies, practice and effort. **P2**
- I can demonstrate flexibility and acceptance of setbacks to reach success. **P3**

Understandings: Students will understand that...

- Grooming needs are different for different species, and specific tools must be chosen in order to achieve different grooming

Essential Questions:

- How do I determine an animal’s grooming needs based on their species and breed?

<ul style="list-style-type: none"> goals A variety of procedures are required for different body parts and species of animals, and care must be taken to ensure a complete and safe groom There is a wide variety of ways to diversify income avenues in the grooming industry 	<ul style="list-style-type: none"> How do I safely and effectively use and maintain grooming tools and equipment? How can I determine an animal's health, and what are my rights and abilities as a groomer in regards to animal health? How do I make a profit in the animal grooming industry?
<p>Students will know...</p> <ul style="list-style-type: none"> Grooming needs for different small animal breeds and species The uses for a variety of grooming equipment Basic maintenance needs of clippers and other grooming equipment The process for grooming a variety of small animals Common diseases and ailments that can be seen in the grooming salon That groomers cannot make a diagnosis, they can refer the client to a veterinarian 	<p>Students will be able to...</p> <ul style="list-style-type: none"> Identify and choose the appropriate grooming tool for the process that is required Use and maintain clippers Groom a dog from beginning to end, including bathing, trimming, oreifice care, and nail care Groom small animals based on their specific species needs Make dog bows Take and evaluate animal photography Evaluate an animal's health from a groomer's standpoint and how to refer the client to a veterinarian for a diagnosis Restrain an animal safely for the grooming process
<p>Key Vocabulary: Groomer, Physical Exam, Ailment, Condition, Behavior, Hypoallergenic, Coat, Grooming Tools, Diagnosis</p>	
<p>Assessment Evidence</p>	
<p>Performance Tasks:</p> <ul style="list-style-type: none"> Summative: Groom a dog in full and fill out a groomer's physical exam and visit form CCE2 	<p>Other Evidence:</p> <ul style="list-style-type: none"> Nail Trim laboratory CCE2 Bath and scissor/clipper trimming laboratory TI4 Clipper maintenance laboratory P2 Photography project TI1
<p>Learning Plan</p>	
<p>Perform a groomer's physical exam TCC1 TCC4 Procedure for grooming a dog from start to finish (including eyes, ears, mouth, nails, coat, etc.) TCC4 CCE2 CCE3 TI1 TI4</p>	



Differences in grooming needs depending on species, breed, age, illness, etc. **TCC1**

Grooming tool and clipper identification, use, and maintenance **P2**

Methods for grooming small animals **TCC4 CCE2 CCE3 TI1**

Making a grooming bow, pet photography and adding value to the services provided **TCC4 CCE2 CCE3 TI1 TI4**

Teacher Resources: Grooming tools, Teacher created resources, Artificial animal legs and fur, Bow making materials, Cell phone cameras, Artificial and live animal models, artificial animal paws

Unit 4 - Small Animal Health and Disease Management

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:

Connecticut Agriculture, Food, and Natural Resources Content Frameworks

- **AS.02.01.-** Demonstrate management techniques that ensure animal welfare
- **AS.07.01.-** Design programs to prevent animal diseases, parasites, and other disorders and ensure animal welfare

Common Core State Standards

- **CCSS.ELA-LITERACY.RI.11-12.7-** Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
- **CCSS.ELA-LITERACY.W.11-12.1d** Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- **CCSS.ELA-LITERACY.SL.9-10.4-** Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)

- I can ask purposeful, insightful questions to find a variety of innovative solutions. **TCC1**
- I can analyze data and resources from multiple perspectives. **TCC2**
- I can integrate relevant information to produce multiple valid solutions. **TCC3**
- I can integrate my learning to adapt to experiences in the classroom, career, and life. **TCC4**
- I can seek, accept, and apply actionable feedback. **CCE2**
- I can lead group progress through active listening, questioning, and giving advice. **CCE3**
- I can express ideas in a variety of ways, according to context, purpose, and audience. **CCE4**
- I can seek, listen to, and understand multiple perspectives. **DE1**
- I can be inclusive and help others in need. **DE4**
- I can organize time to set goals and devise plans. **T11**
- I can find and apply resources to identify solutions and manage projects. **T12**
- I can ask questions to direct learning and self-advocate. **T13**
- I believe that individuals can strengthen weaknesses through purposeful strategies, practice, and effort. **P2**
- I can demonstrate flexibility and acceptance of setbacks to reach success. **P3**

- I can engage in responsible risk-taking to grow and achieve. **P4**
- I can evaluate different approaches and justify the best pathway to success. **AA1**
- I can reflect on prior experiences to recall successful pathways and strategies. **AA2**
- I can cope with unanticipated changes and maintain a productive attitude. **AA3**

Understandings: Students will understand that...

- Accurate qualitative and quantitative evidence needs to be collected from multiple areas of the animal to determine the state of health that an animal is in
- There are a variety of methods that can be used to evaluate the health of an animal
- There are a variety of tools that need to be able to be identified and used properly in order to help maintain the health of animals.
- Small animals can contract diseases that are species and animal specific, as well as zoonotic. There are a variety of ways that these diseases are treated and prevented, and a variety of types of medications that can be administered at the veterinary office and at home.
- Appropriate preventative measures are effective in maintaining the health of an animal.
- The veterinary field uses specific terminology in order to ensure that information is communicated accurately and effectively.
- Being able to identify scenarios in which it is necessary to be able to administer CPR and basic first aid is important

Essential Questions:

- What materials do I need and what methods do I use in order to evaluate the health of an animal?
- What is the procedure for giving a physical exam to an animal, and what other information do I need to collect in order to make a diagnosis?
- What types of diseases are common in small animals and how can I prevent and treat them?
- What types of medication will I see in the animal field and how do I properly administer them?
- How do I prevent my animal from contracting any diseases or illnesses?
- How do I identify scenarios in which first aid is needed, and how do I apply such first aid procedures such as wound care and CPR?
- How do I identify common tools in the field, and how do I use them properly?

Students will know...

- How to perform a physical exam using the SOAP method and the order in which the exam should be done so as not to miss any areas
- How to assess animal vital signs and the animal's body and determine if they are within the normal ranges
- Symptoms, prevention, and treatment for a variety of common animal diseases
- What needs to be done for preventative medicine for a variety of small animal species
- How to administer types of medication they may need to give

Students will be able to...

- Evaluate an animal's signalment and history, and put it into the appropriate SOAP format
- Perform a 12 point animal physical exam
- Take animal vital signs using a stethoscope, thermometer, and eyes
- Convert to breaths or beats per minute
- Ask appropriate questions to perform a differential diagnosis
- Administer oral, aural, topical, and ophthalmic medication
- Put together a needle and syringe, draw up liquid medication, and administer an intramuscular and a subcutaneous



<p>their animal at home</p> <ul style="list-style-type: none"> • Abbreviations, prefixes, suffixes, and root words that are commonly used in the veterinary industry, and how veterinary terminology is used to communicate in the industry • How to perform a basic version of CPR • How to identify types of wounds and provide simple first aid • How to identify different types of equipment that are used in the veterinary field and how to use them safely 	<p>medication</p> <ul style="list-style-type: none"> • Create a plan for preventative medicine for a variety of small animal species • Break down and put together prefixes, suffixes, and root words and utilize abbreviations commonly used in the veterinary field • Perform a basic version of animal CPR • Identify a wound type and provide appropriate simple first aid • Identify and safely use tools in the veterinary lab for their appropriate purpose • Prepare and take apart a surgery pack for use
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Key Vocabulary: Health, Disease, Assessment, Physical Examination, Subjective, Objective, Vital Signs, TPR (Temperature, Pulse, Respiration), Symptom, Treatment, Prognosis, Prevention, Oral, Aural, Topical, Ophthalmic, Injection, Subcutaneous, Intramuscular, Intravenous, Vaccination, Preventative Medicine, Prefix, Suffix, Root Word, Abbreviation, List of veterinary terminology, List of veterinary tools, CPR (Cardiopulmonary Resuscitation), Wound, Laceration, Incision, Abrasion, Puncture, Contusion, Prescription, Surgery Pack, Sterilization

Assessment Evidence

<p>Performance Tasks:</p> <ul style="list-style-type: none"> • Summative: Physical Exam Practicum CCE2 • Interim: Animal Mock Surgery TCC4 • Summative: Animal Health Practicum AA1 	<p>Other Evidence:</p> <ul style="list-style-type: none"> • Animal Physical Exam Record DE1 • Animal Disease Tree Project T12 • Animal Health Brochure Project CCE4 • Vocabulary Word Builder Activity CCE4 • Medication Administration Activities P3
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Learning Plan

Components of the physical exam readings, mnemonic device, and practice **TCC2, CCE3**
 Writing SOAP documents to organize information according to industry standards **TCC2, CCE3**
 Use a stethoscope and thermometer to assist in evaluating an animal's vital signs **TCC4**
 Evaluate a variety of animal diseases symptoms to create a differential diagnosis tree **TCC2, TCC3, AA1**
 Research and practice administration routes (oral, aural, topical, ophthalmic) of common medications for small animals at home **TCC3, TCC4, CCE2, AA2**
 Create a plan for small animal preventative healthcare **TCC2, TCC4, CCE4, T11, T12**
 Word builder and other activities to use prefixes, suffixes, root words, and abbreviations commonly used in the field **TCC3, CCE3, T13**
 Basic theory and performance of animal CPR **TCC4, CCE2, DE4, AA3**
 Identify five types of common wounds and apply first aid and basic bandaging techniques **TCC4, CCE2, DE4, AA3**



Be able to use and identify the use of several common tools used in the veterinary field **TCC2, TI3**

Be able to put together and fill a syringe and administer a subcutaneous and intramuscular injection **TCC4, CCE2, TI3**

Prepare a surgery pack for sterilization and open it using sterile technique **TCC4, CCE2, TI3**

Use all concepts from the unit to perform a mock surgery **TCC3, CCE3, DE4, TI2, P4, AA2**

Teacher Resources: Teacher created resources, Thermometer, Timer (phone), Stethoscope, Alcohol wipes, Stuffed animal models, Lubricant, Live animal models, Slip leashes, Collars, Sidewalk Chalk, Saline solution, Dropper, Animal treats, Gauze sponges/Cotton balls, Q Tips, Eye Ointment, Individual whiteboards/markers/erasers, Flyswatters, Foam Dice, Colored pencils, Pool noodles, Bandages, Bulb Syringe, Syringe and Needle, Betadine, Muzzle, Nolvasan, Muzzle, Rags, Bandage Scissors, Sharps Bin, Oranges, Food Coloring, Medication Bottles, Surgery cloths and drapes, Dissection Probe, Scalpels and blades, Locking forceps, Dissection scissors, Dissection pins, Brown Adson forceps, Autoclave, Autoclave tape, Distilled water, Safety glasses, Ophthalmoscope, Otoscope, Scrubs, Endotracheal Tube, Clippers, Blades, Animal dissection specimens, Chlorhexidine, Saline solution, Vet wrap, Lister bandage scissors

Unit 5 - Small Animal Nutrition

Desired Results - Goals, Transfer, Meaning, Acquisition

Established Goals:

Connecticut Agriculture, Food, and Natural Resources Content Frameworks

- **AS.03.01.** Analyze the nutritional needs of animals.
- **AS.03.02.** Analyze feed rations and assess if they meet the nutritional needs of animals.
- **AS.03.03.** Utilize industry tools to make animal nutrition decisions.

Common Core State Standards

- **CCSS.ELA-LITERACY.RI.11-12.7-** Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
- **CCSS.ELA-LITERACY.W.11-12.1d** Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

Vision of A Learner Attributes: Students will be able to independently use their learning to... (“I can” statements to be demonstrated)

- I can ask questions and engage in problem solving. **TCC1**
- I can analyze data da resources from multiple perspectives **TCC2**
- I can synthesize information to develop innovative and relevant solutions **TCC3**
- I can transfer new learning and skills to other contexts and settings beyond the classroom **TCC4**
- I can seek, accept, and apply actionable feedback **CCE2**
- I can lead group progress through active listening, questioning, and giving advice **CCE3**
- I can express ideas in a variety of ways, according to context, purpose, and audience. **CCE4**
- I can organize time to set goals and devise plans **TI1**
- I can find and apply resources to identify solutions and manage projects **TI2**
- I can ask questions to direct learning and self-advocate **TI3**
- I can engage in responsible risk-taking to grow and achieve. **P4**
- I can recognize that there is more than one path to success. **AA1**

Understandings: Students will understand that...

- There are four major types of digestive systems that help determine the appropriate nutritional requirements of their diet
- Different species of animals have different nutritional requirements that must be met in order to ensure health and

Essential Questions:

- What are the major differences between the four types of digestive systems and the organs in terms of form and function?
- How do I know that I am meeting my animal’s nutritional needs?
- How do I evaluate the nutritional health of the animal?

<ul style="list-style-type: none"> quality of life There are a variety of methods that can be used to evaluate the nutritional health of an animal and its diet In order to run a business, it is important to use proper labeling and pricing strategies 	<ul style="list-style-type: none"> How do I determine what to include in a diet that is appropriate for my animal? How can I evaluate a type of animal food and determine if it is an appropriate and safe product to feed my animal? How do I convey nutritional information on the packaging of an animal food? How do I conduct a cost analysis if I were to create a dog treat and sell it?
<p>Students will know...</p> <ul style="list-style-type: none"> The four major types of digestive systems, including organs and functions, and comparative anatomy (avian, monogastric, ruminant, modified ruminant/hindgut fermenter) The differing nutritional needs of a variety of small animals and appropriate feeds to give them for nutritional health That animals can be evaluated using a body condition scoring system How to read and interpret a nutrition label on an animal food How to calculate the nutrition value of a treat based on its ingredients How to calculate the production and selling price of a dog treat 	<p>Students will be able to...</p> <ul style="list-style-type: none"> Identify which animals have which type of digestive system Evaluate a nutritional program for an animal and determine its appropriateness Evaluate an animal for nutritional health by using the body condition scoring system Determine the role that each organ plays in the digestive system of an animal Read and interpret a nutrition label to determine appropriateness for an animal's needs Choose a pet food that will meet their own animal's needs Create a dog treat, analyze the nutritional values and create a nutritional label with the legally required portions, and determine production and sale price based on the ingredients used
<p>Key Vocabulary: Digestion, Organs within the digestive system, Digestibility, Ruminant, Hindgut Fermenter, Monogastric, Avian, Nutrition, Body Condition Score, Protein, Carbohydrate, Amino Acid, Fat, Vitamin, Mineral, Diet, Formulate, Cost of Production, Nutrition Label, Palatability, Sale Price</p>	
<p>Assessment Evidence</p>	
<p>Performance Tasks:</p> <ul style="list-style-type: none"> Interim: Pet Food Evaluation Lab TCC2, CCE2, AA1 Summative: Dog Treat Creation and Packaging Lab TCC3, TCC4, CCE2, TI2, AA1 	<p>Other Evidence:</p> <ul style="list-style-type: none"> Body Condition Scoring and Nutritional Health Lab TCC4 Animal Diet Type Presentation CCE4, TI3, P4 Animal Food Label Reading Lab TCC1
<p>Learning Plan</p>	



Parts of the digestive system and comparative anatomy between the four types of digestive systems **TCC2**
Required components of small animal diets **TCC4**
Body condition scoring lab **TCC4**
Reading and interpreting diet labels **TCC1**
Pet food evaluation and comparisons **TCC2, CCE2, AA1**
Dog treat formulation, baking, nutritional and price analysis, and packaging **TCC3, TCC4, CCE2, TI2, AA1**

Teacher Resources: Teacher created resources, field trip location to see animal foods, small animal lab, variety of small animal food packages with nutrition labels, calculators, ingredients for dog treat creation lab, access to food lab and cooking supplies