Veterinary Science Standards & Skills

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## Animal Categories

Animal categories identified in this framework are described as follows:

* **Large animals** e.g., dairy cattle, beef cattle, sheep, swine, goats, and equine.
* **Livestock** e.g., beef cattle, sheep, swine, and goats.
* **Birds** e.g., Lovebirds, Cockatiels, Parakeets, Cockatoos, Amazons and Macaws, Canary, and Finch.
* **Poultry** e.g., Rhode Island Red, Plymouth Rock and Leghorns and Bantam breeds.
* **Specialty animals** e.g., Alpacas, Llamas, Bison, Ostrich, and Emus.
* **Common companion animals** e.g., dogs (American Kennel Club (AKC), cats (Cat Fanciers' Association (CFA), popular pocket pets - hamsters, guinea pigs, gerbils, and ferrets.
* **Amphibians and reptiles** e.g., Iguana, Corn Snake, Ball Python, Gecko, Newt, Firebelly Toad, White Tree Frog, Red Eared Slider and Blue Tongued Skink.
* **Small mammals** e.g., Rodents - mice, gerbils, rats, hamsters, and guinea pigs, rabbits - Dutch, Holland Lop, Netherland Dwarf, ferrets and hedgehogs.
* **Laboratory animals** e.g., rabbits, guinea pigs, rats, mice, etc.
* **Exotics** i.e., exotic species are those that are non-native to a particular region and have been introduced either accidentally or deliberately, can be categorized further among small mammals, amphibians, reptiles, and birds, e.g., chinchillas, hedgehogs, bearded dragons, axolotls, tiger salamander.

## Health & Safety Standards

### ****Standard 1:**** Veterinary Facility and Animal Safety Fundamentals

Students will be able to demonstrate appropriate use of Personal Protection Equipment (PPE), tools, equipment, animal safety protocols for restraint and humane handling, and workplace ergonomics and safety in accordance with OSHA standards.

* Aligned Industry Recognized Credentials: AVA, CVA, OSHA 10/30

#### Skills:

1. Identify, describe, and apply health and safety regulations.
2. Demonstrate appropriate health and safety practices based on the specific occupational area.
3. Demonstrate appropriate responses to situations that may threaten health and safety.
4. Utilize appropriate PPE and animal safety protocols.
5. Recognize and interpret animal behavioral changes in a given animal.
6. Safely handle animals in a variety of management situations according to current industry and OSHA standards.
7. Safely approach an animal utilizing techniques appropriate for the given situation and according to current industry standards.
8. Safely catch an animal utilizing techniques appropriate for the given situation and according to current industry standards.
9. Safely restrain an animal utilizing techniques appropriate for the given situation and according to current industry standards.

## Technical & Integrated Academic Standards

### ****Standard 2:**** Veterinary Science in Society

Students will be able to demonstrate an understanding of veterinary science’s role in society and the fundamentals of animal rights and animal welfare.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Skills:

1. Explain the role of veterinary science professionals in the workplace and community.
2. Describe the history of the field, including the contributions of traditionally underrepresented groups.
3. Explain the difference between animal rights and animal welfare.
4. Explain the importance of the Animal Welfare Act and other similar laws and regulations regarding animal welfare.
5. Explain the historical significance of the animal rights and animal welfare debate including how it has impacted the management of animals today.
6. Explain the history of laboratory animal medicine.
7. Identify the three R's of research.
8. Identify the different members and positions of a laboratory animal research team.
9. Describe the function and purpose of the American Association for Laboratory Animal Science (AALAS).
10. Describe the role of an Assistant Laboratory Animal Technician (ALAT) in the laboratory and research setting.
11. Summarize the ethical considerations inherent to the use of animals in research and laboratory experiments.
12. Understand implications and impact of animal cruelty, abuse, and neglect.

### ****Standard 3:**** Comparative Animal Anatomy and Physiology

Students will be able to identify and categorize the anatomy, physiology, and pathology of the major body systems in small and large animals (e.g., skeletal, digestive, circulatory, respiratory, urinary, muscular, reproductive, nervous, endocrine and integumentary).

* Aligned Industry Recognized Credentials: AVA, CVA

#### Skills:

1. Describe the anatomy, physiology, and pathology of the major body systems in small animals, livestock, equine and dairy species (e.g., skeletal, digestive, circulatory, respiratory, muscular, urinary, reproductive, nervous, endocrine, and integumentary).
2. Locate and diagram the various components of internal and external anatomy.
3. Distinguish the differences in the body systems of various species.
4. Explain the three main planes used in animal anatomy (i.e., sagittal, frontal, and transverse planes).
5. Identify and explain anatomical directional terms (e.g., anterior, posterior, distal, proximal, dorsal, inferior, superior, etc.).
6. Differentiate between normal and abnormal characteristics in the body system.
7. Identify common disorders associated with each system for various species.
8. Identify and define anatomy and physiology terms in a medical record.
9. Recognize the word parts of medical terms found in a medical record (e.g., root, prefix, and suffix).
10. Construct a diagram of one organ from each body system of a given species.
11. Present on a common disorder of each body system.

### ****Standard 4:**** Animal Husbandry and Fundamentals of Animal Care

Demonstrate an understanding of the basic animal science and animal husbandry terms and concepts associated with animal housing, nutrition care, and animal reproduction. Identify key animal breeding practices and management strategies utilized by industry.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Skills:

1. Define, describe, and use common industry terminology specific to common companion, exotic, livestock, equine, dairy, and laboratory animals regarding sex, reproduction, groups, age, and purpose/function.
2. Identify characteristics of common livestock, equine and dairy species, companion, exotic, and laboratory animal breeds.
3. Properly identify the sex of companion, exotic, livestock, equine and dairy, and laboratory animals.
4. Compare and contrast normal and abnormal animal behavior for companion, exotic, livestock, equine, dairy, and laboratory animals breeds.
5. Identify housing requirements for companion, exotic, livestock, equine, dairy, and laboratory animals and industry practices for the management of animal housing.
6. Explain the basic nutritional needs of companion, exotic, livestock, equine, dairy and laboratory animals.
7. Describe common diets seen in the veterinary industry (i.e., prescription, therapeutic, raw, and commercial diets, etc.).
8. Explain the principles of maintaining proper environmental conditions to ensure animal health.
9. Follow sanitation protocols for cleaning animal cages, kennels, stalls, and bedding.
10. Be able to describe reproductive cycle of companion, exotic, livestock, equine, dairy, and laboratory animals.
11. Describe the specific management and breeding strategies used when caring for breeding animals.

### ****Standard 5:**** Veterinary Facility Management

Students will be able to demonstrate office duties including: managing the day-to-day operations of a veterinary facility such as stocking supplies, patient intake and discharge, communicating with clients and vendors, and using record keeping/financial software for business management.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Skills:

1. Demonstrate the various front desk duties performed in a veterinary practice.
2. Demonstrate various ways to schedule appointments.
3. Demonstrate how to respond to emergencies.
4. Relay and request information from other facilities.
5. Use basic computer skills to file and retrieve medical records.
6. Identify various appointment types including wellness, recheck, tech visit, urgent, and emergency.
7. Identify the steps in determining what constitutes an urgent or emergency visit.
8. Demonstrate how to perform inventory procedures, restock, and rotate supplies.
9. Describe the roles and responsibilities of each member of the veterinary health team in a clinical setting.
10. Identify ethical considerations regarding confidentiality.
11. Utilize proper medical terminology and abbreviations used in veterinary practice.
12. Record information and read charts for client data.
13. Describe how to handle cash, check, and charge transactions.
14. Identify and describe the purpose of key sections in a veterinary facility, (i.e., exam room, laboratory, pharmacy, kenneling area, etc.).

### ****Standard 6:**** Communication and Client Relations

Students will demonstrate effective client communication skills, exhibiting professional communication including oral, written, and electronic, with clients, colleagues, and vendors.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Skills:

1. Outline the key features of quality customer service.
2. Demonstrate professional and appropriate appearance, (dress code, scrubs, safe shoes) and language in the workplace.
3. Describe how to respond to customers, vendors and other industry professionals using electronic communications.
4. Demonstrate how to answer phones and direct clients.
5. Explain the importance of prioritizing client concerns, facilitating scheduling prompt appointments.
6. Explain the importance of appropriate communication and the use of conflict resolution in handling customers.
7. Demonstrate ability to use, update, and store medical records.
8. Describe the human animal bond.
9. Demonstrate understanding of human animal bond in various contexts including understanding the VCPR, euthanasia, compassion fatigue and burnout, and supporting confrontational clients.
10. Explain client options for disposal of euthanized or deceased animals.
11. Describe the proper preparation and disposal of deceased animals according to industry standards.
12. Discuss how to admit a patient.
13. Discuss how to discharge a patient.
14. Demonstrate an understanding of ethical considerations in the sharing of patient information and care.
15. Demonstrate an understanding of confidentiality considerations in the sharing of patient information and care.

### ****Standard 7:**** Pharmacy and Pharmacology

Students will be able to identify and describe common pharmaceutical materials and drugs used in the veterinary industry including: proper storage, safe handling, disposal of biological and therapeutic agents, pesticides, “sharps” and “sharps” containers, and hazardous waste in compliance with OSHA, NIOSH, USDA, and AVMA standards.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Skills:

1. Describe common pharmaceutical materials used in veterinary practice (e.g., antibiotics, corticosteroids, analgesics, non-steroidal anti-inflammatories, anti-fungal).
2. Explain specialized pharmaceutical materials used in veterinary practice (e.g., pour-on, spot-on products, premixes for feeding, products for adding to drinking water, raw pharmaceutical materials).
3. Indicate legal issues surrounding prescription, over the counter (OTC) medications, and controlled substances.
4. Explain how controlled substances are handled and logged.
5. Identify the chemical classifications of controlled substances (e.g., narcotics, stimulants, depressants, opioids).
6. Identify and describe the five schedules of controlled substances.
7. Recognize the impact of improper drug use I the veterinary science field.
8. Categorize groups of commonly used drugs by their use.
9. Explain how to interpret, label, and package dispensed drugs correctly.
10. Demonstrate or explain proper storage, handling, and disposal of biohazards, pesticides, and therapeutic agents.
11. Prepare and perform inventory procedures such as restocking supplies and rotating stock by expiration date.
12. Discuss how to complete a drug inventory sheet.
13. Identify core vaccines verses recommended vaccines for both large and small animals.
14. Understand vaccine protocols for species commonly seen in veterinary medicine.
15. Describe how to prepare vaccines.
16. Identify common vaccination locations and routes on the animal.
17. Describe the different routes and methods of drug administration.
18. Solve medical math problems using conversions, drug calculations, and dosing.
19. Calculate medical conversions such as pounds to kilograms, milliliters to ounces, etc.
20. Demonstrate medical math calculations to determine required dilutions, percentages, and conversions for proper dosing.

### ****Standard 8:**** Examination Room Procedures

Students will be able to demonstrate examination room procedures including: identification of compromised patients and required restraint methods, perform basic exam procedures, and apply safety measures.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Skills:

1. Perform basic clinical procedures on small animals and livestock, equine and dairy (e.g. apply restraint, record and update medical history and report chief complaint, determine patient temperature, pulse, respiration rate, body condition score, and weight, etc. [“Basic” defined by NAVTA AVA]).
2. Describe the components of a physical exam on an animal.
3. Explain the importance of a thorough patient history.
4. Define the role of the veterinary assistant, veterinary technician, and veterinarian during a physical exam.
5. Describe the symptoms commonly associated with animals affected by rabies (dumb and furious rabies).
6. Define temperature, pulse, and respiration (TPR) and explain how they relate to the health of the animal.
7. Obtain and record weight of small animals and livestock, equine, and dairy animals in both pounds and kilograms.
8. Obtain and record the temperature, pulse, and respiration of small animals.
9. Obtain and record the temperature, pulse, and respiration of livestock, equine and dairy.
10. Identify and categorize common diseases and medical conditions found in animals.
11. Demonstrate nail trimming on cats, dogs, rabbits, and birds.
12. Demonstrate how to trim the hooves of small ruminants.
13. Demonstrate or describe how to express anal glands.
14. Demonstrate how to clean external ear canals.
15. Perform therapeutic bathing, basic grooming, and dipping of small animals.
16. Apply and remove bandages on a variety of animals.
17. Prepare food and water based on the animal’s nutritional needs.
18. Explain the disposal of animal remains according to current industry and OSHA standards.
19. Summarize the grieving process as it relates to veterinary medicine.
20. Demonstrate sanitation protocols and levels of cleanliness required (clean, disinfect, sterilize) for cleaning the various rooms of the facility.
21. Demonstrate sanitation protocols for cleaning animal cages, kennels, stalls, and bedding.
22. Calculate dilution of cleaning chemicals.
23. Describe animal first aid techniques.
24. Demonstrate animal CPR using an animal model.
25. Evaluate mucous membrane color and determine capillary refill time (CRT).

### ****Standard 9: Animal Nursing****

Students will be able to demonstrate animal nursing techniques and assist with clinical procedures including, identification of common medical conditions and zoonotic diseases and their potential causes.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Skills:

1. Demonstrate basic animal nursing on a variety of animal species (e.g., take TPR, monitor, feed, clean animal and/or bedding, etc.).
2. Compare and contrast normal and abnormal animal behavior.
3. Develop a client survey sheet that investigates normal vs. abnormal animal behavior.
4. Evaluate and explain how to utilize patient and personnel safety measures.
5. Identify and explain common zoonotic diseases common in clinical practices.
6. Identify and describe zoonotic diseases endemic in the New England region.
7. Explain and describe the difference between isolation and quarantine procedures.
8. Identify essential procedures included in an infection control and biosecurity plan.
9. Identify methods of microorganism transmission and report signs and symptoms of infection and apply infection control measures.
10. Apply and maintain infection control techniques including PPE used for transmissions-based precautions.
11. Describe how and where to dispose of hazardous waste.
12. Explain the differences between restraining small animals and livestock, equine, and dairy species.
13. Demonstrate various humane methods of restraining small animals.
14. Demonstrate various humane methods of restraining dairy, livestock, and equine species (types of twitches – lip, neck, chain, humane, and rope, and nose tongs/leads, etc.).
15. Remove and place small animals into various caging systems.
16. Demonstrate the ability to restrain small animals for procedures.
17. Demonstrate the ability to use a variety of restraint devices (i.e., e-collar, snare, catch pole, muzzles, cat bag, etc.).
18. Demonstrate the ability to use multiple restraint devices at the same time (i.e. muzzle and cat bag).
19. Demonstrate the ability to remove and place fractious small animals and livestock, equine, and dairy species into various caging systems.
20. Demonstrate the ability to restrain exotic animals for procedures.
21. Demonstrate the ability to change physical restraint positions depending on the situation (e.g., standing, sitting, sternal, lateral).
22. Discuss how to handle animals that are paralyzed or unable to walk or stand on their own.

### ****Standard 10:**** Surgical Preparation and Assisting

Students will be able to demonstrate preparation for surgical procedures including, assembling required surgical equipment and supplies, and demonstrating proper operating room conduct and asepsis.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Skills:

1. Summarize the principles of surgery.
2. Identify common veterinary medical surgical instruments (towel clamps, scalpel handle and blade, needle driver, thumb forceps, suture scissors, etc.)
3. Demonstrate the ability to operate and maintain an autoclave.
4. Follows industry standard procedures for cleaning all surgical instruments.
5. Follows industry standard procedures for ultrasonic cleaning of instruments.
6. Assist with preparation for surgical procedures while maintaining asepsis.
7. Demonstrate surgical prep (hand scrub, prepping an animal, opening surgical packs/gloves).
8. Identify types of monitoring devices and their uses in veterinary practice, (electrocardiography (ECG), pulse oximetry, capnometry, direct and indirect arterial blood pressure monitors, blood gas analysis, etc.)
9. Describe operating room sanitation and care (i.e., post-surgical clean up).
10. Identify common suture needles and material types and sizes (i.e. absorbable, non- absorbable, natural, synthetic, braided, or monofilament).
11. Describe how to properly dispose of hazardous medical waste.
12. Demonstrate how to position a patient for common surgical procedures such as spay, neuter, and limb surgery.
13. Compare injectable anesthesia, inhaled anesthesia, and local anesthesia.
14. Describe the four phases of anesthesia (i.e., paranesthesia, [induction](https://www.aaha.org/aaha-guidelines/2020-aaha-anesthesia-and-monitoring-guidelines-for-dogs-and-cats/phase-2-day-of-anesthesia/step-4-anesthetic-protocol/), [maintenance](https://www.aaha.org/aaha-guidelines/2020-aaha-anesthesia-and-monitoring-guidelines-for-dogs-and-cats/phase-2-day-of-anesthesia/step-4-anesthetic-protocol/), and [recovery](https://www.aaha.org/aaha-guidelines/2020-aaha-anesthesia-and-monitoring-guidelines-for-dogs-and-cats/phase-2-day-of-anesthesia/step-4-anesthetic-protocol/)).
15. Explain the different planes of anesthesia.
16. Identify common suture closures (i.e., continuous, interrupted, Ford interlocking, purse-string).
17. Maintains all dental equipment in clean and usable condition for performing prophylaxis treatments.

### ****Standard 11:**** Laboratory Procedures

Students will be able to demonstrate laboratory procedures including: identification of common external parasites, identification and use of common laboratory materials and equipment, and proper use of PPE.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Skills:

1. Perform various laboratory procedures on small, livestock, equine, and dairy species (e.g., prepare fecal sample, urine sample, and blood sample for analysis).
2. Identify common internal and external parasites found in clinical practice.
3. Collect and prepare a fecal sample for analysis.
4. Collect and prepare a voided urine sample for analysis.
5. Compare and contrast a fecal floatation vs. direct smear.
6. Describe how to do a gross inspection of a urine sample.
7. Maintain a laboratory log.
8. Describe the process for or prepare a Wright’s, Gram Stain, or differential stain.
9. Describe the process or prepare blood for various laboratory tests.
10. Prepare a sample for a Packed Cell Volume/Total Solids (PCV/TS) test.
11. Demonstrate the process to prepare a blood sample for use of an in-house analyzer.
12. Demonstrate how to run a blood sample on an in-house analyzer.
13. Prepare a blood smear slide.
14. Prepare an ear smear.
15. Describe how to perform a skin scraping.
16. Identify procedures for culture and sensitivity tests.
17. Understand the role of the veterinary assistant in necropsy procedures.
18. Explain how to handle rabies suspects and samples in accordance with state law.
19. Understand the Massachusetts rabies laws in relation to veterinary medicine.

### ****Standard 12:**** Radiography and Imaging

Students will be able to implement safety measures for all methods of diagnostic imaging including proper use of PPE and be prepared to assist with completion of diagnostic radiographs, CT scan, MRI, and ultrasounds.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Skills:

1. Summarize the principles of radiology and ultrasound imaging.
2. Identify the PPE used when taking a radiograph.
3. Explain the practice of radiation safety used within the facility.
4. Maintain a radiology log.
5. Describe how to set up an X-Ray or ultrasound to perform diagnostics.
6. Describe the difference between traditional X-ray set up and Digital X-ray set up.
7. Use (or describe the use of) identification markers for radiographs.
8. Demonstrate how to position a patient for a radiograph and ultrasound.
9. Describe how to use a caliper to measure body thickness.
10. Explain the dangers of radiation exposure.
11. Demonstrate cleaning and preparation of related tools and equipment.
12. Describe the purpose and function of a dosimetry badge.

## Employability Standards

### ****Standard 13:**** Employability Skills

Students will understand and demonstrate the roles of professional communication, critical thinking, problem solving, professionalism, teamwork, and collaboration to the field of work.

#### Skills:

1. Demonstrate the impact of communication skills in the veterinary clinic/hospital setting.
2. Describe appropriate methods of communication for internal and external stakeholders, including professional phone etiquette.
3. Evaluate the communication skills used in a hypothetical medical emergency understanding the impact on a positive patient outcome.
4. Design a team-based approach to diagnosis and development of a treatment plan in an epidemic scenario that includes recruiting teammates and assigning roles.

## Entrepreneurship Standards

### ****Standard 14:**** Entrepreneurship and Management

Students will be able to describe opportunities for entrepreneurship and be able to evaluate the value proposition of business ownership in this field.

#### Skills:

1. Develop a business plan (including initial equipment and staffing needs, a marketing/business development plan, and a basic revenue management strategy) for a startup veterinary clinic.
2. Compare and contrast veterinary science business models.
3. Describe the concept of professional networking and demonstrate personal introductions and an “elevator speech” in a professional setting.
4. Evaluate the licensing, regulatory, and tax implications of business ownership in this field.

## Digital Literacy Standards

### ****Standard 15:**** Technology Literacy

Students will be able to demonstrate proficiency in the use of computers and applications related to veterinary science and the operation of a veterinary clinic.

#### Skills:

1. Demonstrate appropriate use of clinic management software for patient intake, case management, and appointment scheduling.
2. Demonstrate appropriate use of spreadsheets, word documents, and other applications that support charting, data collection, and recordkeeping.
3. Describe the risks and best practices associated with customer and patient medical records.
4. Use office applications to complete appropriate inventory and office forms.
5. Demonstrate use of an online calendar.

## Performance Examples

### ****Standard 1:**** Veterinary Facility and Animal Safety Fundamentals

Students will be able to demonstrate appropriate use of Personal Protection Equipment (PPE) and animal safety protocols, including use of tools and equipment; humane handling and restraint of animals according to industry; and workplace safety in accordance with OSHA standards.

* Aligned Industry Recognized Credentials: AVA, CVA, OSHA 10 / 30

#### Performance Examples:

* Define and demonstrate safe storage and maintenance of equipment and proper disposal or recycling of hazardous, flammable, and combustible materials.
* Describe and demonstrate the PPE and safety guidelines used in industry when caging an animal.
* Demonstrate ergonomically correct lifting techniques and the correct use of restraint devices when placing the assigned canine on an examination table.
* Discuss OSHA standards for proper disposal of medical and hazardous waste.

### ****Standard 2:**** Veterinary Science in Society

Students will be able to demonstrate an understanding of veterinary science’s role in society and fundamentals of animal rights and animal welfare.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Performance Examples:

* Divide the class into two groups and assign each team either the topic of “animal rights” or “animal welfare”. Have students research basic differences between the two. Create a comparison chart on the board and ask one group to list one item on the board that identifies one of the fundamental precepts of their movement. Ask the other group to offer a comparison to determine if the two factions agree or disagree. For the next round, allow the second group to go first. Alternate until the basic foundations of each group are identified and compared.
* Lead a classroom discussion regarding animal rights organizations. Instruct students on the different types of organizations. Ask students to research three animal rights organizations and report their findings in a visual presentation. Some topics to include: purpose/mission of the organization, animals covered, and mission statement. Summarize the lesson’s main concepts by asking students to present their findings to the class.

### ****Standard 3:**** Comparative Animal Anatomy and Physiology

Students will be able to identify and categorize the anatomy, physiology, and pathology of the major body systems in small and large animals (e.g., skeletal, digestive, circulatory, respiratory, urinary, muscular, reproductive, nervous, endocrine, and integumentary).

* Aligned Industry Recognized Credentials: AVA, CVA

#### Performance Examples:

* Ask students to create a 3-D anatomical example out of any material they wish and label each part of that example correctly. Students will also turn in a separate report on the function of that example, as well as a disease found in that example. Students will be assessed on their ability to locate and spell the parts correctly in addition to creating the example and the report.

### ****Standard 4:**** Animal Husbandry and Fundamentals of Animal Care

Demonstrate an understanding of the basic animal science and animal husbandry terms and concepts associated with animal housing, nutrition care, and animal reproduction. Identify key animal breeding practices and management strategies utilized by industry.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Performance Examples:

* Demonstrate the safe handling procedures for a chinchilla when transferring it from its cage to a dust bowl, for the chinchilla to take a dust bath.
* Demonstrate how to catch the chinchilla in the confined space of the dust bath bowl and transfer it back to its original cage.
* Ask students to create flashcards with a picture of the breed of animal on the front. On the back of the card, ask students to fill in the name of the breed, origin, color, and pertinent breed facts. Ask the students to form pairs to quiz each other on the information.
* Once completed, show students other pictures of the breed, and ask them to identify the breed out of the original context.
* Discuss the common symptoms associated with this problem and the long-term effects.
* Lead a classroom discussion on the requirements of animals for safe and healthy housing. Create a list of the needed elements that are required for satisfactory animal housing. Create a check list of “must haves” and “nice to have” conditions.

### ****Standard 5:**** Veterinary Facility Management

Students will be able to demonstrate office duties including: managing day-to-day operations of a veterinary facility such as stocking supplies, patient intake and discharge, communicating with clients and vendors, and using record keeping/financial software for business management.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Performance Examples:

* As part of a lesson involving office procedures, instruct the class on how to answer phones and direct customers. Upon mastery of this skill, students will role play with each other, given a situation to resolve/handle. Finalize training on this topic by having students perform a customer call back and book appointment.

### ****Standard 6:**** Communication and Client Relations

Students will demonstrate effective client communication skills, exhibiting professional communication including oral, written, and electronic, with clients, colleagues, and vendors.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Performance Examples:

* Each student will design a veterinary clinic front desk area on sketch paper. The student will then list and discuss the roles of the Veterinarian and Veterinary Assistant in the example.

### ****Standard 7:**** Pharmacy and Pharmacology

Students will be able to identify and describe common pharmaceutical materials and drugs used in the veterinary industry including: proper storage, safe handling, disposal of biological and therapeutic agents, pesticides, “sharps” and “sharps” containers, and hazardous waste in compliance with OSHA, NIOSH, USDA, and AVMA standards.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Performance Examples:

* Students will randomly choose one medication and research that medication. Students will be asked to find:
  + the generic and trade name
  + the routes the medication can be given (oral, injectable, etc.)
  + what the medication is used for and in what the medication is contraindicated
  + whether it is a prescription or non-prescription medication
  + calculate a medical dose using standard vs. metric measures

Students will then present their findings to the class in the form of a visual presentation. Students will take notes and create quiz questions to answer based on those presentations. A final assessment will be in the form of an exam based on those and additional questions.

### ****Standard 8:**** Examination Room Procedures

Students will be able to demonstrate examination room procedures including: identification of compromised patients and required restraint methods, perform basic exam procedures, and apply safety measures.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Performance Examples:

* Students will be given a canine patient and asked to perform the following: temperature, pulse and respirations, TPR, clip nails, and weight.

(The student will have time to practice the skill prior to final assessment. The student will be assessed using the shop’s competency scoring sheet.)

### ****Standard 9:**** Animal Nursing

Students will be able to demonstrate animal nursing techniques and assist with clinical procedures including, identification of common medical conditions and zoonotic diseases and their potential causes.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Performance Examples:

* As part of a classroom discussion about bringing a new animal into an existing group, brainstorm the potential dangers this introduction brings in the form of the health of the overall group. Select a species and discuss what precautions should be taken when bringing a new animal into the group. Create a checklist for an isolation protocol for the new animal being brought in. As an extension of the learning, switch species and ask students if and why the previous isolation protocol would need to change.
* Students will be presented with a canine and a feline patient for their small animal exercise. The student will be asked to perform three basic restraints on each patient and will be assessed with the shop’s competency scoring sheet.

### ****Standard 10:**** Surgical Preparation and Assisting

Students will be able to demonstrate preparation for surgical procedures including, assembling required surgical equipment and supplies, and demonstrating proper operating room conduct and asepsis.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Performance Examples:

* Students will participate in a “scavenger hunt” looking for selected surgical tools used in veterinary practice. Students will need to correctly identify the tool (as they will only be given the name of the tool). As a review, at the conclusion of the activity, students will review the use of the tool. A tool quiz will be administered later to assess their ability to identify the tool and its use.

### ****Standard 11:**** Laboratory Procedures

Students will be able to demonstrate laboratory procedures including: identification of common external parasites, identification and use of common laboratory materials and equipment, and proper use of PPE.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Performance Examples:

* Students will show how to collect a fresh fecal sample from a goat and set up a fecal floatation. Students will then be asked to show how to place the sample under the microscope for viewing under 4X and 10X power. The student will be assessed on their ability to complete the task.
* As part of a series of lessons about the urinary system, discuss the formation of bladder stones in animals, especially in dogs and cats. Discuss the three major factors that influence their formation, including infection, dietary influences, stress, and genetics.

### ****Standard 12:**** Radiography and Imaging

Students will be able to implement safety measures for all methods of Diagnostic Imaging including proper use of PPE and be prepared to assist with completion of diagnostic radiographs, CT scan, MRI, and ultrasounds.

* Aligned Industry Recognized Credentials: AVA, CVA

#### Performance Examples:

* Students will write a research paper about radiation safety for the patient and the veterinary staff. Students will identify the appropriate PPE to be used, the dangers of repeated radiation exposure, and what precautions should be taken to ensure full safety for the patient and the veterinary staff.