Veterinary Science

Revised 6/2024

**Purpose and Standards**

The Veterinary Science event seeks to effectively prepare the students for the expectations of the animal health care and services (Veterinary Hospitals/Clinics, Grooming Facilities, Pet Stores, Kennels/Boarding Facilities, and Feed Stores) workplace. Workers seeking careers in the animal health care field must develop a high degree of knowledge, skill and ability to solve difficult problems. This event blends the testing of skills and knowledge required for careers in the animal science career pathway. California Career Technical Education Model Curriculum Standards addressed by this event include:

Foundation Standards: Listening and Speaking 1.1, 2.2c, 2.2f, 1.8, Technology 4.2, 4.6, Health and Safety 6.2, 6.5, Ethics and Legal Responsibilities 8.3, Leadership and Teamwork 9.1, 9.2, 9.3.

Animal Science Pathways: D1.3, D1.4, D3.1, D3.2, D4.1, D5.1, D6.1-D6.5, D9.1, D9.4, D10.1, D10.2, D11.1-D11.3.

Contestants

Teams consist of four members, with all four individual scores counting as the team score. All team members are eligible for individual awards.

State finals will consist of a preliminary round and a final round. The preliminary round will be held on Friday and the final rounds will be held the following day. To qualify for the final round, a team must be in the top 20 teams after the preliminary round. The preliminary round will consist of the Breed Identification, General Knowledge, and Identification Application Exams. The top 20 teams will be posted at the conclusion of the preliminary round tabulations. Preliminary round scores will be added to the final round on Saturday.

Classes

The contest will include:

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| --- | --- | --- | --- |
|  | **Class** | **Individual Points** | **Team Points** |
| A. | Identification Tests |  |  |
|  | 1. Equipment and Materials | 120 | 480 |
|  | 2. Parasites | 40 | 160 |
|  | 3. Breed identification | 80 | 320 |
| B. | Practicum #1 | 50 | 200 |
|  | Practicum #2 | 50 | 200 |
|  | Practicum #3 | 50 | 200 |
| C. | General Knowledge Test (50 questions) | 100 | 400 |
|  | Identification Application Test (25 questions) | 50 | 200 |
|  | TOTAL POINTS | 540 | 2160 |

Tie Breaker

1. Individual or team ties will be broken with highest General Knowledge test score, including the 50 points from the Identification Application Knowledge test questions.
2. If there still is a tie, it will be broken with highest Breed I.D. test score.
3. If there still is a tie, Individual or team ties will be broken with highest practicum score.

Sub-contest Awards

Sub-contest awards will be given for high teams and individuals in the following areas: Identification, Practicums, and Medical Math / Knowledge Test, Identification Application Test Questions.

Rules

1. Contestants in this contest will be divided into groups. Only one group will be allowed at one site at one time. Only one member of a team shall be allowed in a group.
2. A copy of any written exam and key shall be available upon request after the contest as per the General Rules.
3. All equipment and practicum materials needed by the contestants will be available at the judging sites. Practicum supplies and materials need to be able to perform the task as outlined in the practicum rubric.
4. All contestants must fill out the official score sheets and will be graded according to the points shown on the score card.
5. The contestants will be allowed 45 minutes at each test site for Equipment/Materials and Parasites/Breed Identification, to complete that section. The contestants will be allowed 60 minutes for both the General Knowledge Test and the Identification Application Test combined.– three rotations.
6. Three Practicums will be allowed 90 minutes for completion.
7. Identification Test (Time: Equipment/Materials = 45 minutes, Breed/Parasites = 45 minutes) PowerPoint slides will be set at 15 seconds per picture, the PowerPoint will be ran through twice and the slides will be numbered.
   1. Equipment and Materials can be picked at random from the approved California State Curricular Code List. Sixty items will be chosen for this contest. Two points for each correct answer.
   2. Parasites/Microscope Items are to be picked from the California State Curricular Code list provided. The specie and location on the animal will be given. Twenty items will be used in the contest. Two points for each correct answer.
   3. Students will identify forty animals from the approved California State Curricular Code list. Each correct answer will be worth two points.
8. Practicums (Time: 90 minutes)   
   Practicums will consist of three from the list of current year practicums: Students will go in order from one practicum to the other until all contestants are finished in each group. The list of practicums will come from the list provided by the California FFA contest for Veterinary Science. There will be a three minute maximum time limit for each of the individual practicums. Practicum scenarios should be simple and not require complex calculations as this will cause a major slowdown in the contest schedule. LIVE ANIMALS ARE NOT ALLOWED TO BE USED FOR STUDENT SAFETY AND ANIMAL WELFARE ISSUES.

**2024-2025 Practicum [9]**

Administering a Subcutaneous Injection- Clinical

Preparing a Surgical Pack for Sterilization- Clinical

Removal of Sutures- Clinical

Fine Needle Biopsy - Clinical

Ear Notching for Identification of Piglets - Clinical

Restraint of the Small Dog for Jugular Venipuncture- Handling

Restraint of the Cat for Cephalic IV Catheter Placement- Handling

Applying a Nylon Dog Muzzle- Handling

Placing a Tail Tie- Handling

**2025-2026 Practicum [10]**

Administering Aural Medication- Clinical

Applying an Electronic Ear Tag - Clinical

Bandage Removal- Clinical

Filling a Syringe for Injection- Clinical

Surgical Site Preparation-Clinical

Haltering Ruminants- Handling

Restraint of a Rabbit- Handling

Restraint of a Dog for Cephalic Venipuncture- Handling

Restraint of the Cat in Lateral Recumbency for Femoral Venipuncture- Handling

Restraint of a Piglet - Handling

**2026-2027 Practicum [10]**

Swabbing a Lesion - Clinical

Administering Ophthalmic Medication- Clinical

Prescription Filling- Clinical

Applying Standing Wrap on a Horse - Clinical

Fecal Flotation with Fecalyzers- Clinical

Haltering a Horse- Handling

Removing a cat form a cage and wrap in a fear-reduced manner- Handling

Restraint of the cat for Jugular Venipuncture- Handling

Lifting a Hind Foot of a Horse - Handling

Applying a Gauze Dog Muzzle- Handling

**2027-2028 Practicum [9]**

Cystocentesis in Companion Animals - Clinical

Administering an Intramuscular Injection- Clinical

Administration Oral Tablet/Capsule- Clinical

Opening a Surgery Pack- Clinical

Applying an Elizabethan Collar- Handling

Removing a dog form a floor level Cage to restrain for Lateral Saphenous Venipuncture-

*Handling*

Snare Restraint of the Pig- *Handling*

Applying a Lead Chain on a Horse Under the Chin *- Handling*

Applying a cat Muzzle- *Handling*

1. General Knowledge, Medical Math, and Identification Application Test (Time: 60 minutes)
   1. The written exam will consist of 75 multiple choice questions. Questions 1-40 will be multiple choice questions taken from the textbook titled: *Veterinary Assisting: Fundamental and Applications.* Vanhorn, Clark. ISBN:978-1-4354-5387-6. Questions 41-50 will be the medical math questions. Questions 51-75 will be the Identification Application Test Questions.   
      *Veterinary Assisting: Fundamental and Applications.* Vanhorn, Clark. ISBN:978-1-4354-5387-6
   2. National FFA Medical Math Resource Sheet must be provided by the contest site as a resource for the exam (Source – National FFA) FFA.org/SiteCollectionDocuments/Math%20Resource.pdf
   3. Contest sites will use provided medical math question bank to create representative, but not identical, problems for each approved contest.  
       \*Note: Bank of questions will be provided by September 1, 2018. Last year’s top 5 coaches will make the math test bank. This will give contest host sites ample time to create the 10 questions.
   4. Test will be generated using JudgingCard Form (refer to CATA website Curricular Code Page), including multiple choice, true/false and/or matching. Options for answers will be A, B, C, D, and E, with only 1 answer per line allowed on the sheet.
   5. The test will be 75 questions in length with each question being worth 2 points each.
   6. Identification Application Knowledge Questions can be administered by a slide show with the pictures and the questions/answers printed as part of the Test packet #’s 51-75. It can also have the pictures printed in the test itself provided the pictures are in COLOR. The contest host would develop these pictures and questions based from items that are included in the identification lists and the application answers should be content that can be found in the Veterinary Assisting Textbook used for the rest of the knowledge test.

A dog standing in a field

Description automatically generated

o EXAMPLE: (Picture of a Brittany Spaniel)

o Question- Identify the dog in the picture and answer the following question:

What AKC group does this dog belong to?

A- Non-Sporting

B- Sporting

C- Herding

D- Toy

A pair of scissors with a gold handle

Description automatically generatedo EXAMPLE: (Picture of a Olsen Hegar Needle Holder)

o Question- Identify the tool in the picture and answer the following question:

What procedure would this tool most likely be used for?

A- Holding open a surgical incision.

B- Removing Sutures

C- Suturing closed a surgical opening.

D- Removing a foxtail from the ear.

* 1. Students are allowed to have basic (non-programming) calculators for the test to the General Knowledge Test section.
  2. A copy of the test where students may have marked or shown math problem work should be returned to the coach after the contest per the general rules.

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| **Parasite / Microscopic Identification List** | | | |
| 01 | Blowfly (Family Calliphoridae) | |
| 02 | Calcium oxalate crystals | |
| 03 | Cat Warble (Genus Cuterebra) | |
| 04 | Cocci (bacteria) | |
| 05 | Coccidia (Genus Isospora or Eimeria) | |
| 06 | Demodectic Mite (Genus Demodex) | |
| 07 | Ear Mite (Family Psoroptidae; Genus Otodectes) | |
| 08 | Eosinophils | |
| 09 | Epithelial cells (urine) | |
| 10 | Flea Larva (Genus Ctenocephalides) | |
| 11 | Flea Tapeworm Egg\* (Genus Dipylidium) | |
| 12 | Flea Tapeworm Segment\* (Genus Dipylidium) | |
| 13 | Flea Tapeworm\* (Genus Dipylidium) | |
| 14 | Fleas\* (Genus Ctenocephalides) | |
| 15 | Giardia\* (Genus Giardia) | |
| 16 | Heartworm Adult\* (Genus Dirofilaria) | |
| 17 | Heartworm Microfilaria\* (Genus Dirofilaria) | |
| 18 | Hookworm Adult\* (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus) | |
| 19 | Hookworm Egg\* (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus) | |
| 20 | Horse Bots\* (Genus Gasterophilus) | |
| 21 | Horse Strongyles\* (Family Strongylidae; Genus Strongylus ) | |
| 22 | Lice - Biting (Order Mallophaga; Genus Bovicola or Trichodectes) | |
| 23 | Lice - Sucking (Order Anoplura; Genus Linognathus or Hematopinus) | |
| 24 | Liver Fluke (Class Trematoda; Genus Fasciola, Fascioloides or Dicrocoelium) | |
| 25 | Mosquito Adult (Family Culicidae; Genus Anopheles, Culex or Aedes) | |
| 26 | Mosquito Larva (Family Culicidae; Genus Anopheles, Culex or Aedes) | |
| 27 | Neutrophils | |
| 28 | Platelets | |
| 29 | Red Blood cell (Mammalian) | |
| 30 | Red Blood cell (Avian) | |
| 31 | Rod (bacteria) | |
| 32 | Roundworm Adult\* (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris) | |
| 33 | Roundworm Egg\* (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris) | |
| 34 | Sarcoptic Mite (Family Sarcoptidae; Genus Sarcoptes or Notoedres) | |
| 35 | Struvite crystals (triple magnesium phosphate) | |
| 36 | Taenia Tapeworm Egg\* (Family Taeniidae; Genus Taenia) | |
| 37 | Taenia Tapeworm Segment\* (Family Taeniidae; Genus Taenia) | |
| 38 | Taenia Tapeworm\* (Family Taeniidae; Genus Taenia) | |
| 39 | Tick – American Dog (Family Dermacentor; Genus variabilis) | |
| 40 | Tick – Black Legged Deer (Family ixodes; Genus scapularis) | |
| 41 | Tick – Brown Dog (Family Rhipicephalus; Genus Sanguineus) | |
| 42 | Tick – Lonestar (Family Amblyomma; Genus americanum) | |
| 43 | Whipworm Egg\* (Genus Trichuris) | |
| 44 | Whipworm\* (Genus Trichuris) | |
| 45 | Yeast (cytology) | |
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**Equipment and Materials Identification List**

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| --- | --- | --- | --- | --- | --- |
|  | 01 | Ambubag |  | 50 | Hoof knife |
|  | 02 | Anesthetic machines |  | 51 | Hoof rasp |
|  | 03 | Autoclave |  | 52 | IV administration set |
|  | 04 | Autoclave tape indicator |  | 53 | Laparoscope |
|  | 05 | Backhaus towel clamps |  | 54 | Laryngoscopes |
|  | 06 | Balling gun |  | 55 | Muzzle - basket |
|  | 07 | Bandaging material – Elasticon |  | 56 | Muzzle - nylon |
|  | 08 | Bandaging material – roll gauze |  | 57 | Needle holder – Mayo-Hegar |
|  | 09 | Bandaging material – vet wrap |  | 58 | Needle holder – Olsen-Hegar |
|  | 10 | Bands (castration or docking) |  | 59 | Obstetrical chain and handle |
|  | 11 | Cat bag |  | 60 | Ophthalmoscope |
|  | 12 | Catch pole (dog snare) |  | 61 | Otoscope |
|  | 13 | Catheter – Butterfly |  | 62 | Pig tooth nippers |
|  | 14 | Catheter – IV |  | 63 | Radiology personal protective Equipment |
|  | 15 | Catheter – Tomcat urinary |  | 64 | Rectal prolapse ring -swine |
|  | 16 | Cautery |  | 65 | Rumen magnet |
|  | 17 | Centrifuge |  | 66 | Scalpel blade |
|  | 18 | Chemical indicator strips |  | 67 | Scalpel handle |
|  | 19 | Cold sterile tray |  | 68 | Scissors – Suture wire cutting |
|  | 20 | Dehorner - Barnes |  | 69 | Scissors – Utility Bandage |
|  | 21 | Dehorner - electric |  | 70 | Scissors – Lister bandage |
|  | 22 | Dental/Power floats |  | 71 | Scissors – Littauer suture removal |
|  | 23 | Dental scaler |  | 72 | Scissors – Mayo dissecting |
|  | 24 | Drench gun – small ruminant |  | 73 | Scissors - Metzenbaum dissecting |
|  | 25 | Ear Notcher |  | 74 | Silver nitrate sticks |
|  | 26 | Ear Tagger – Large Animal |  | 75 | Small animal oxygen cage |
|  | 27 | Elastrator |  | 76 | Snook ovariohysterectomy hook |
|  | 28 | Electronic ID Reader |  | 77 | Speculum – Equine |
|  | 29 | Elizabethan collar |  | 78 | Speculum – Frick/Bovine |
|  | 30 | Emasculators |  | 79 | Speculum – small animal oral |
|  | 31 | Endoscope |  | 80 | Speculum – vaginal |
|  | 32 | Endotracheal tubes |  | 81 | Squeeze chute |
|  | 33 | Fecal loop |  | 82 | Staple remover |
|  | 34 | Fecalyzers |  | 83 | Stethoscope |
|  | 35 | Feeding tube for small animals |  | 84 | Surgical drapes |
|  | 36 | Fetal extractor - calf |  | 85 | Suture needle – cutting |
|  | 37 | Forceps – Alligator |  | 86 | Suture needle – taper |
|  | 38 | Forceps – Allis tissue |  | 87 | Syringe – automatic, multidose |
|  | 39 | Forceps – Babcock tissue |  | 88 | Syringe – Luer Lock |
|  | 40 | Forceps – Brown-Adson thumb |  | 89 | Syringe – Slip Tip |
|  | 41 | Forceps – Crile |  | 90 | Tattooing instruments – small and large |
|  | 42 | Forceps - Kelly |  | 91 | Tonometer |
|  | 43 | Forceps – Halstead mosquito hemostatic |  | 92 | Tourniquet |
|  | 44 | Forceps – Rochester Carmalt |  | 93 | Trocar and cannula |
|  | 45 | Forceps – Rat tooth thumb |  | 94 | Twitch - chain |
|  | 46 | Gravity feeder/J tube |  | 95 | Twitch - humane |
|  | 47 | Head gate |  |  |  |
|  | 48 | Hog snare |  |  |  |
|  | 49 | IV Fluid Bag |  |  |  |
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| **DOGS** | |  |  |  |  | **CATS** | |
| **Herding Group** | |  | **Terrier Group** | |  | 60 | Abyssinian |
| 01 | Australian Cattle Dog |  | 33 | Bull Terrier |  | 61 | American Shorthair |
| 02 | Australian Shepherd |  | 34 | Cairn Terrier |  | 62 | Burmese |
| 03 | Border Collie |  | 35 | Parson Russell Terrier |  | 63 | Maine Coon |
| 04 | Collie |  | 36 | Scottish Terrier |  | 64 | Manx |
| 05 | German Shepherd Dog 236 |  | 37 | West Highland White Terrier |  | 65 | Persian |
| 06 | Old English Sheepdog |  |  |  |  | 66 | Ragdoll |
| 07 | Pembroke Welsh Corgi |  | **Toy Group** | |  | 67 | Russian Blue |
| 08 | Shetland Sheepdog |  | 38 | Cavalier King Charles Spaniel |  | 68 | Siamese |
|  |  |  | 39 | Chihuahua |  | 69 | Sphynx |
| **Hound Group** | |  | 40 | Miniature Pinscher |  |  |  |
| 09 | Afghan Hound |  | 41 | Papillon |  | **BIRDS** | |
| 10 | Basenji |  | 42 | Pekingese |  | 11 | African Gray Parrot |
| 11 | Basset Hound |  | 43 | Pomeranian |  | 12 | Canary |
| 12 | Beagle |  | 44 | Toy Poodle |  | 13 | Cockatiel |
| 13 | Black and Tan Coonhound |  | 45 | Pug |  | 14 | Cockatoos |
| 14 | Bloodhound |  | 46 | Shih Tzu |  | 15 | Love Birds |
| 15 | Dachshund |  | 47 | Yorkshire Terrier |  | 16 | Macaw |
| 16 | Greyhound |  |  |  |  | 17 | Parakeet |
| 17 | Rhodesian Ridgeback |  | **Working Group** | |  | 18 | Sun Conure |
|  |  |  | 48 | Bernese Mountain Dog |  | 19 | Zebra Finch |
| **Non-Sporting Group** | |  | 49 | Boxer |  |  |  |
|  |  |  | 50 | Doberman Pinscher |  | **REPTILES** | |
| 18 | Bichon Frise |  | 51 | Great Dane |  | 20 | Ball Python |
| 19 | Boston Terrier |  | 52 | Great Pyrenees |  | 21 | Bearded Dragon |
| 20 | Bulldog |  | 53 | Mastiff |  | 22 | Burmese Python |
| 21 | Chinese Shar-Pei |  | 54 | Newfoundland |  | 23 | Chameleon |
| 22 | Chow Chow |  | 55 | Portuguese Water Dog |  | 24 | Corn Snake |
| 23 | Dalmatian |  | 56 | Rottweiler |  | 25 | Gecko |
| 24 | Poodle |  | 57 | Saint Bernard |  | 26 | Iguana |
|  |  |  | 58 | Siberian Husky |  |  |  |
| **Sporting Group** | |  | 59 | Standard Schnauzer |  | **POULTRY** | |
|  |  |  |  |  |  | 27 | Chicken – Cornish Cross Broiler |
| 25 | Brittany Spaniel |  |  |  |  | 28 | Chicken – White Leghorns |
| 26 | Cocker Spaniel |  |  |  |  | 29 | Chicken – Plymouth Rock |
| 27 | English Setter |  |  |  |  | 30 | Chicken – Rhode Island Red |
| 28 | German Shorthaired Pointer |  |  |  |  | 31 | Duck – White Pekin |
| 29 | Golden Retriever |  |  |  |  | 32 | Duck – Khaki Campbell |
| 30 | Irish Setter |  |  |  |  | 33 | Duck – Runner |
| 31 | Labrador Retriever |  |  |  |  | 34 | Geese – Embden |
| 32 | Weimaraner |  |  |  |  | 35 | Quail – Coturnix |
|  |  |  |  |  |  | 36 | Turkey – Broad Breasted White |

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| **Breed/Species Identification List - Continued** | | | | | | | |
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| **SMALL MAMMALS** | |  | **HORSE** | |  | **Swine** | |
| 35 | Chinchilla |  | 64 | Appaloosa |  | 90 | American Landrace |
| 36 | Ferret |  | 65 | Arabian |  | 91 | Berkshire |
| 37 | Gerbils |  | 66 | Belgian |  | 92 | Chester White |
| 38 | Guinea Pig |  | 67 | Clydesdale |  | 93 | Duroc |
| 39 | Hamster |  | 68 | Morgan |  | 94 | Hampshire |
| 40 | Hedgehog |  | 69 | Paint |  | 95 | Yorkshire |
| 41 | Mouse |  | 70 | Percheron |  |  |  |
| 42 | Rat |  | 71 | Quarter Horse |  |  |  |
| 43 | Sugar Glider |  | 72 | Saddlebred |  |  |  |
|  |  |  | 73 | Tennessee Walking Horse |  |  |  |
| **RABBITS** | |  | 74 | Thoroughbred |  |  |  |
| 44 | Angora |  |  |  |  |  |  |
| 45 | Californian |  | **GOAT** | |  |  |  |
| 46 | Dutch |  | 75 | Alpine |  |  |  |
| 47 | English Spot |  | 76 | Nubian |  |  |  |
| 48 | Holland Lop |  | 77 | Angora |  |  |  |
| 49 | Mini-Rex |  | 78 | Boer |  |  |  |
| 50 | Netherland Dwarf |  | 79 | LaMancha |  |  |  |
| 51 | New Zealand |  | 80 | Saanen |  |  |  |
|  |  |  | 81 | Toggenburg |  |  |  |
| **DAIRY CATTLE** | |  |  |  |  |  |  |
| 52 | Ayrshire |  | **SHEEP** | |  |  |  |
| 53 | Brown Swiss |  | 82 | Columbia |  |  |  |
| 54 | Guernsey |  | 83 | Dorper |  |  |  |
| 55 | Holstein |  | 84 | Dorset |  |  |  |
| 56 | Jersey |  | 85 | Hampshire |  |  |  |
|  |  |  | 86 | Merino |  |  |  |
| **BEEF CATTLE** | |  | 87 | Rambouillet |  |  |  |
| 58 | Angus |  | 88 | Southdown |  |  |  |
| 59 | Brahman |  | 89 | Suffolk |  |  |  |
| 60 | Charolais |  |  |  |  |  |  |
| 61 | Hereford |  |  |  |  |  |  |
| 62 | Shorthorn |  |  |  |  |  |  |
| 63 | Simmental |  |  |  |  |  |  |