

2018 University of Minnesota Winter Invite Small Animal/ Vet Science Exam

Record your answers on the exam section of your scantron

1. Which of the following is a function of the skeletal system?
 - A. Blood cell production
 - B. Liver cell production
 - C. Egg cell production
 - D. Enzyme production
2. What is the name of the common condition in dogs where the ball & socket hip joint becomes diseased?
 - A. Hip dysplasia
 - B. Psoriasis
 - C. Carpal tunnel
 - D. Atherosclerosis
3. What type of joint is also known as "fixed joints"?
 - A. Cartilage joints
 - B. Fibrous joints
 - C. Meniscus joints
 - D. Synovial joints
4. What type of joint includes the growth plate?
 - A. Cartilage joints
 - B. Fibrous joints
 - C. Meniscus joints
 - D. Synovial joints
5. Which type of skeletal joint allows the most movement?
 - A. Cartilage joints
 - B. Fibrous joints
 - C. Synovial joints
 - D. Axel joints
6. Which nutrient is made up of amino acids?
 - A. Protein
 - B. Carbohydrates
 - C. Water
 - D. Fat
7. What is the most important nutrient for any species?
 - A. Protein
 - B. Carbohydrates
 - C. Water
 - D. Fat
8. Which of the following is not a compartment of the ruminant stomach?
 - A. Reticulum
 - B. Duodenum
 - C. Abomasum
 - D. Omasum

9. _____ is the term for the birth process in rabbits.
- A. Kindling
 - B. Kidding
 - C. Whelping
 - D. Lambing
10. Which of the following is the outer most layer of skin?
- A. Dermis
 - B. Epidermis
 - C. Subcutaneous Tissue
 - D. Sclera
11. Which of the following muscle tissues are both striated and voluntary?
- A. Smooth muscle
 - B. Skeletal muscle
 - C. Cardiac muscle
 - D. Sweeny muscle
12. Estrous cycles that occur only during certain times of the year are termed
- A. Anestrus.
 - B. Seasonal polyestrous.
 - C. Anunestrus.
 - D. Diestrus .
13. "Parturition" is another word for which of the following?
- A. Cell division
 - B. Milk production
 - C. Birthing
 - D. Egg development
14. Which of the following types of neurons contain receptors that are stimulated in response to a change in the animal's environment?
- A. Motor neurons
 - B. Axons
 - C. Interneurons
 - D. Sensory neurons
15. Which of the following types of neurons are found within the central nervous system?
- A. Motor neurons
 - B. Axons
 - C. Interneurons
 - D. Sensory neurons
16. Which of the following types of neurons directly stimulate action from a gland?
- A. Motor neurons
 - B. Interneurons
 - C. Sensory neurons
 - D. Oculomotor neurons
17. What is erythropoiesis?
- A. Production of white blood cells in response to infection
 - B. Production of red blood cells in response to low iron
 - C. Production of red blood cells by the bone marrow
 - D. Production of white blood cells by lymphocytes

18. The contraction phase of the cardiac cycle is called
- A. Systole.
 - B. Fitness.
 - C. Relaxation.
 - D. Diastole.
19. Antibody production occurs primarily in the
- A. Liver.
 - B. Lymph nodes.
 - C. Kidney.
 - D. Heart.
20. Which small animals can be affected by anchorworm and ich?
- A. Cats
 - B. Fish
 - C. Rabbits
 - D. Dogs
21. What is the vector for heartworm?
- A. Flies
 - B. Ants
 - C. Mosquitoes
 - D. Gnats
22. What is one purpose of an antibiotic?
- A. To kill bacteria
 - B. To kill viruses
 - C. To kill worms
 - D. To prevent rabies
23. Which of the following is not a DNA base?
- A. Arginine
 - B. Guanine
 - C. Thymine
 - D. Adenine
24. If an individual's mother and father are both carriers for a recessive trait, what is the probability that the individual will express that trait under the rules of simple Mendelian genetics?
- A. 0%
 - B. 25%
 - C. 50%
 - D. 100%
25. Which of the following dogs is in the sporting group?
- A. Maltese
 - B. Great Dane
 - C. Labrador Retriever
 - D. Basset hound
26. What is the most common method of spread for leptospirosis?
- A. Inhalation
 - B. Open sores/wounds
 - C. Contaminated water
 - D. Skin contact

27. Which of the following is an example of a longhaired breed of cat?
- A. Sphynx
 - B. Persian
 - C. Manx
 - D. Siamese
28. Which of the following is not a valid use for rabbits?
- A. Fur
 - B. Research
 - C. Weed control
 - D. Meat
29. A feline's tongue is lined with knobs called
- A. teeth.
 - B. cilia.
 - C. papillae.
 - D. flagella.
30. Which of the following is an example of an airborne disease?
- A. Parvo
 - B. Distemper
 - C. Bordatella
 - D. Hepatitis
31. Adding fiber to the diet can be beneficial for which of the following?
- A. Flatulence
 - B. Bad breath
 - C. Constipation
 - D. Allergies
32. Which of the following is a fat soluble vitamin?
- A. A
 - B. C
 - C. Niacin
 - D. Riboflavin
33. What does "VFA" stand for?
- A. Voracious Familial Acid
 - B. Volumetrically Freeing Acid
 - C. Volatile Fatty Acid
 - D. Vestibule Fatty Acid
34. Which of the following is true about toxoplasmosis?
- A. It is a protozoal parasite that infects cats.
 - B. It is a protozoal parasite that infects dogs.
 - C. It is a protozoal parasite that infects rabbits.
 - D. It is a protozoal parasite that infects birds.
35. What is the definition of "zoonotic disease"?
- A. A disease that is common in animals in confinement
 - B. A disease that can be transferred from animals to humans
 - C. A disease that can be transferred between reptiles and birds
 - D. A disease that can be transferred between wild and domesticated animals

36. Which is an example of a schooling type fish?
- A. Black skirt tetra
 - B. Chinese algae eater
 - C. Oscar
 - D. Plecostomus
37. The most popular pet bird in the world is the
- A. Budgerigar
 - B. Canary
 - C. Lovebird
 - D. Macaw
38. An example of a macromineral is
- A. Copper
 - B. Iron
 - C. Magnesium
 - D. Manganese
39. The small intestine is divided into three sections:
- A. Duodenum, jejunum and abomasum.
 - B. Duodenum, jejunum and omasum.
 - C. Duodenum, omasum and ileum.
 - D. Duodenum, jejunum and ileum.
40. Which of the following is a member of the working dog group?
- A. Basset hound
 - B. Collie
 - C. Lhasa Apso
 - D. Saint Bernard
41. Cats have a third set of receptors called the _____ which are located in the roof of the mouth.
- A. cochlea
 - B. Jacobson's organ
 - C. nictitating membrane
 - D. olfactory mucosa
42. The average gestation period for rabbits is _____ days.
- A. 30 - 32
 - B. 45 - 52
 - C. 55 - 63
 - D. 58 - 65
43. Seeds consumed by birds are of two types: _____ seeds and oil seeds.
- A. carbohydrate
 - B. cereal
 - C. amino acid
 - D. gritty
44. The feathers that give the bird the outward form are
- A. contour feathers.
 - B. down feathers.
 - C. filoplume feathers.
 - D. flight feathers.

45. The normal respiration rate for a dog is _____ breaths per minute.
- A. 12
 - B. 19
 - C. 22
 - D. 26
46. Typical heart rate for cats is _____ beats per minute.
- A. 58 – 104
 - B. 70 – 135
 - C. 100 – 130
 - D. 110 – 140
47. Any change in the rate, rhythm or conduction with the heart is called a/an
- A. arrhythmia.
 - B. erythropoiesis.
 - C. murmur.
 - D. tachycardia.
48. Luteinizing hormone targets the
- A. Adrenal glands.
 - B. Mammary glands.
 - C. Ovaries.
 - D. Thyroid.
49. The normal body temperature for a dog is _____ degrees Fahrenheit.
- A. 100
 - B. 101.5
 - C. 102
 - D. 102.5
50. Two hormones, insulin and _____, work together to maintain a tight control over the level of blood sugar in an animal.
- A. Glucose
 - B. Glycogen
 - C. Glycerol
 - D. Glucagon

2018 Small Animal Exam Key

- | | |
|-------|-------|
| 1. D | 46. D |
| 2. A | 47. A |
| 3. B | 48. C |
| 4. A | 49. B |
| 5. C | 50. D |
| 6. A | |
| 7. C | |
| 8. B | |
| 9. A | |
| 10. B | |
| 11. B | |
| 12. D | |
| 13. D | |
| 14. D | |
| 15. C | |
| 16. A | |
| 17. C | |
| 18. A | |
| 19. B | |
| 20. B | |
| 21. C | |
| 22. A | |
| 23. A | |
| 24. B | |
| 25. C | |
| 26. C | |
| 27. B | |
| 28. C | |
| 29. C | |
| 30. C | |
| 31. C | |
| 32. A | |
| 33. C | |
| 34. A | |
| 35. B | |
| 36. A | |
| 37. A | |
| 38. C | |
| 39. D | |
| 40. D | |
| 41. B | |
| 42. A | |
| 43. B | |
| 44. A | |
| 45. C | |
| 46. | |

TABLE 1 DOGS (40)

101 Australian Shepherd	115 Doberman Pincher (& Mini)	128 Poodle
102 Basset Hound	116 English Springer Spaniel	129 Pug
103 Beagle	117 French Bulldog	130 Rhodesian Ridgeback
104 Bernese Mountain Dog	118 German Shepherd	131 Rottweiler
105 Border Collie	119 German Shorthaired Pointer	132 Schnauzer (Mini)
106 Boston Terrier	120 Golden Retriever	133 Shetland Sheepdog
107 Boxer	121 Great Dane	134 Shih Tzu
108 Brittany Spaniel	122 Havanese	135 Siberian Husky
109 Bulldog	123 Labrador Retriever	136 Vizsla
110 Cavalier King Charles Spaniel	124 Maltese	137 Weimaraner
111 Chihuahua	125 Mastiff	138 Welsh Corgi
112 Cocker Spaniel	126 Newfoundland	139 West Highland White Terrier
113 Collie	127 Pomeranian	140 Yorkshire Terrier
114 Dachshund		

TABLE 2 CATS (20)

201 Abyssinian	208 Maine Coon Cat	215 Russian Blue
202 American Shorthair	209 Manx	216 Scottish Fold
203 Birman	210 Norwegian Forest Cat	217 Siamese
204 British Shorthair	211 Oriental Shorthair	218 Siberian
205 Burmese	212 Persian	219 Sphynx
206 Egyptian Mau	213 Ragdoll	220 Tonkinese
207 Exotic	214 Rex (Cornish & Devon)	

TABLE 3 TROPICAL FISH (18)

301 Angelfish	307 Chinese Algae Eater	313 Neon Tetra
302 Bala Shark	308 Comet Goldfish	314 Platy
303 Betta	309 Corydora Catfish	315 Plecostomus
304 Black Skirt Tetra	310 Guppy	316 Swordtail
305 Blue Gourami	311 Harlequin Rasbora	317 Zebra Cichlid
306 Cherry Barb	312 Molly	318 Zebra Danio

TABLE 4 BIRDS (10)

401 African Gray Parrot	405 Cockatiel	408 Scarlet Macaw
402 Amazon Parrot	406 Greater Sulfur Cockatoo	409 Sun Conure
403 Budgerigar	407 Peach Faced Lovebird	410 Zebra Finch
404 Canary		

TABLE 5 RABBITS (12)

501 Californian	505 Flemish Giant	509 Netherland Dwarf
502 Dwarf Hotot	506 Havana	510 New Zealand
503 Dutch	507 Jersey Wooly	511 Polish
504 English Lop	508 Mini Lop	512 Rex (Mini or Standard)

TABLE 6 OTHER ANIMALS (20)

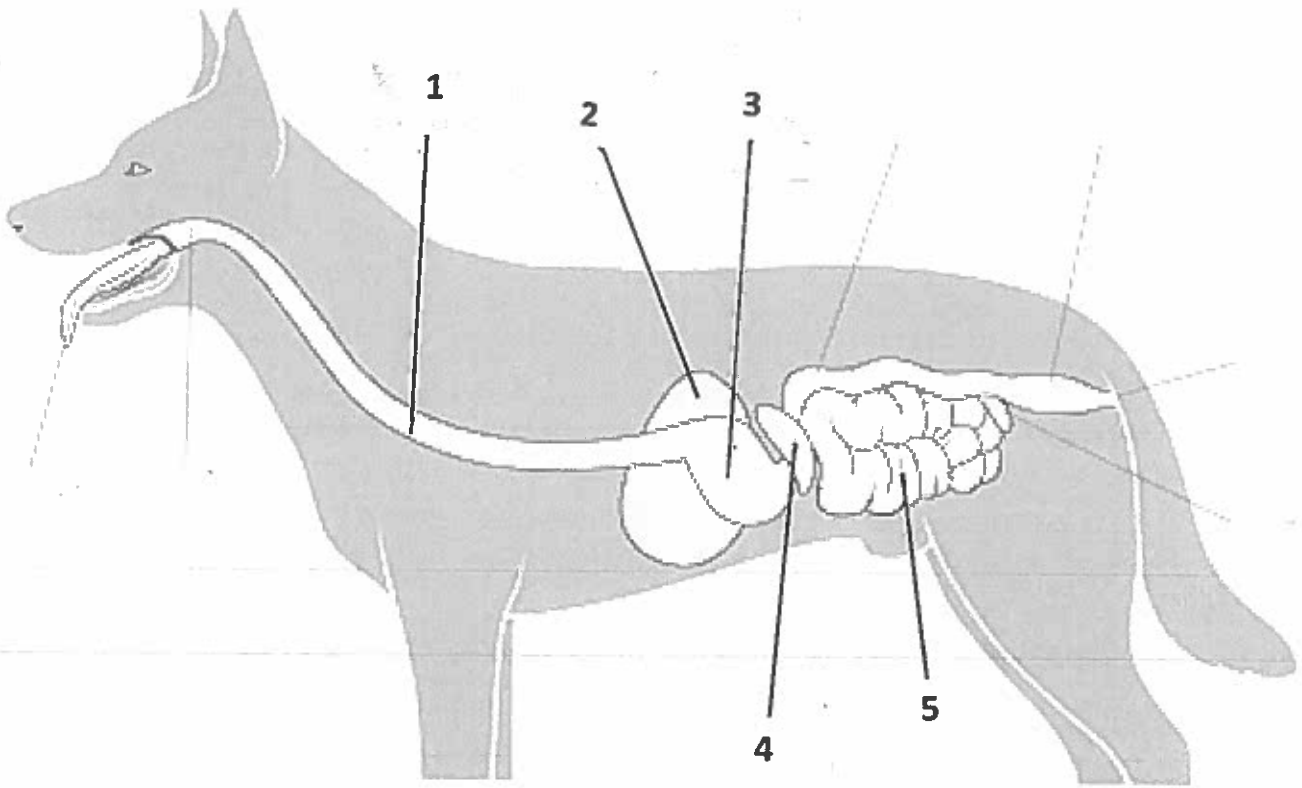
601 Ball Python	608 Fire-bellied toad	615 Rat
602 Bearded dragon	609 Ferret	616 Red Foot Tortoise
603 Blue-Tongued Skink	610 Gerbil	617 Red-Eared Slider
604 Chinchilla	611 Guinea pig	618 Russian Tortoise
605 Corn Snake	612 Hamster	619 Sugar Glider
606 Crested Gecko	613 Hedgehog	620 White's tree frog
607 Degus	614 Pac Man Frog	

2018 Sm An/Vet Sci U Winter ID Key

1. Pac Man Frog (614)
2. Ragdoll (213)
3. Collie (113)
4. Beta (303)
5. Tonkinese (220)
6. Havanese (122)
7. Budgerigar (403)
8. Egyptian Mau (206)
9. Dwarf Hotot (502)
10. Newfoundland (126)
11. Chinchilla (604)
12. Molly (312)
13. Schnauzer (Mini) (132)
14. Siberian (218)
15. Mini Lop (508)
16. Ball Python (601)
17. German Shorthaired Pointer (119)
18. Cherry Barb (306)
19. Boston Terrier (106)
20. Sun Conure (409)
21. Norwegian Forest Cat (210)
22. Hedgehog (613)
23. Welsh Corgi (138)
24. Corydora Catfish (309)
25. Basset Hound (102)
26. Siamese (217)
27. Weimaraner (137)
28. Crested Gecko (606)
29. French Bulldog (117)
30. Cockatiel (405)
31. Shetland Sheepdog (133)
32. Havana (506)
33. Dachshund (114)
34. Harlequin Rasbora (311)
35. Bernese Mountain Dog (104)
36. Rex (Cornish and Devon) (214)
37. Chihuahua (111)
38. Amazon Parrot (402)
39. English Springer Spaniel (116)
40. Red-Eared Slider (617)
41. Shih Tzu (134)
42. Flemish Giant (505)
43. Vizsla (136)
44. Neon Tetra (313)
45. Rhodesian Ridgeback (130)
46. Gerbil (610)
47. Maltese (124)
48. Polish (511)
49. Brittany Spaniel (108)
50. Russian Blue (215)

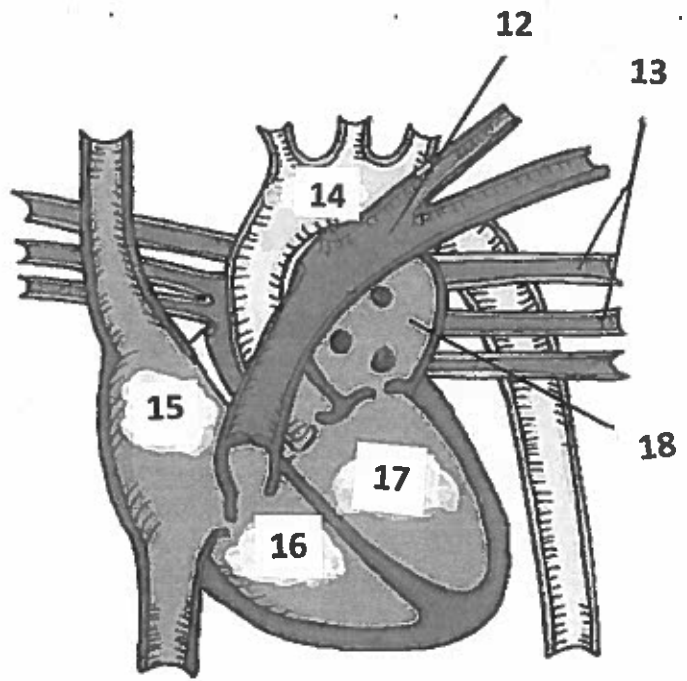
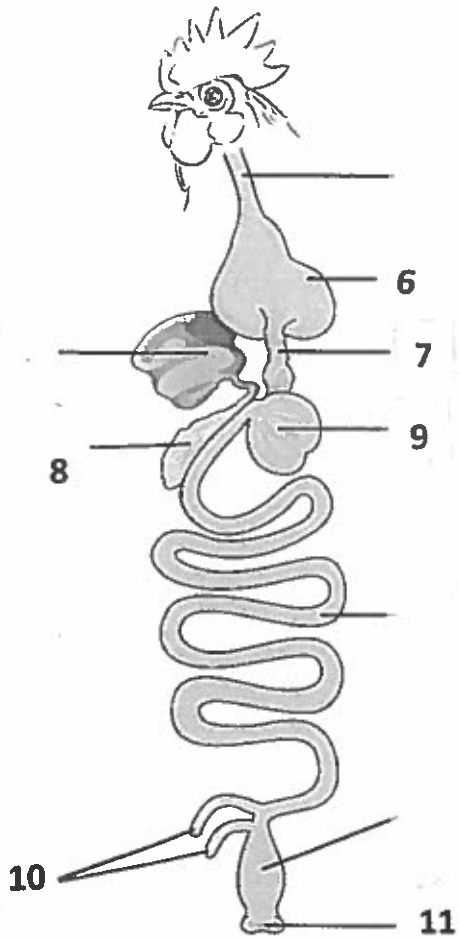
Mammal Digestive

(Questions also on back of sheet)

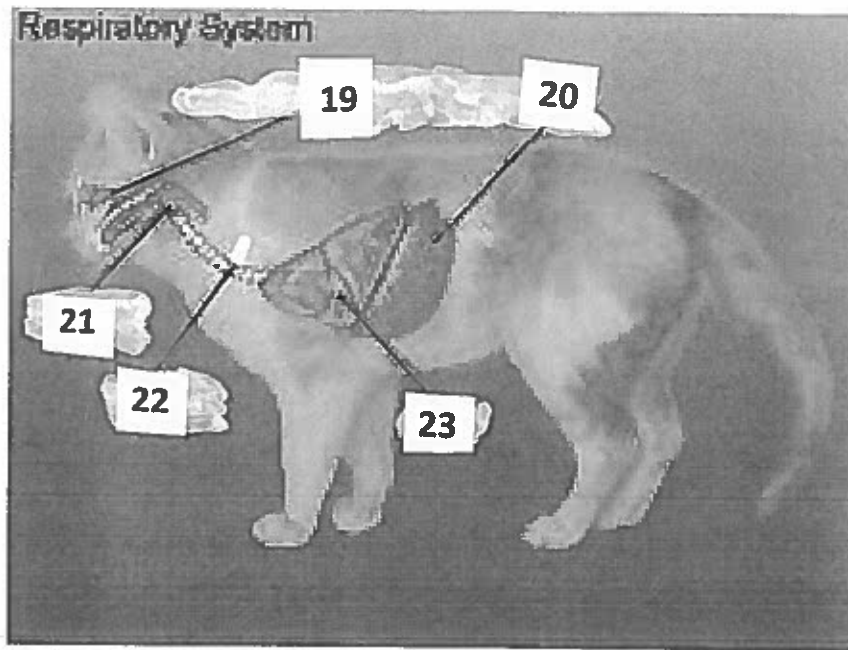


Avian Digestive

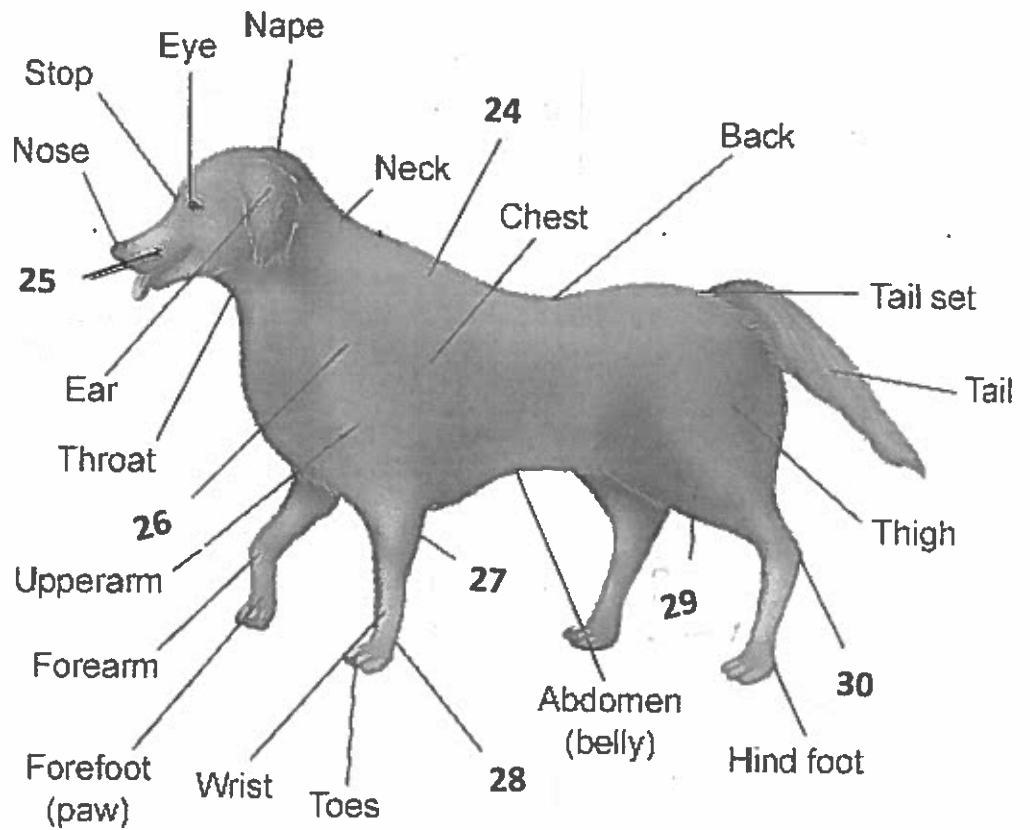
Mammal Circulatory



Mammal Respiratory



External Anatomy



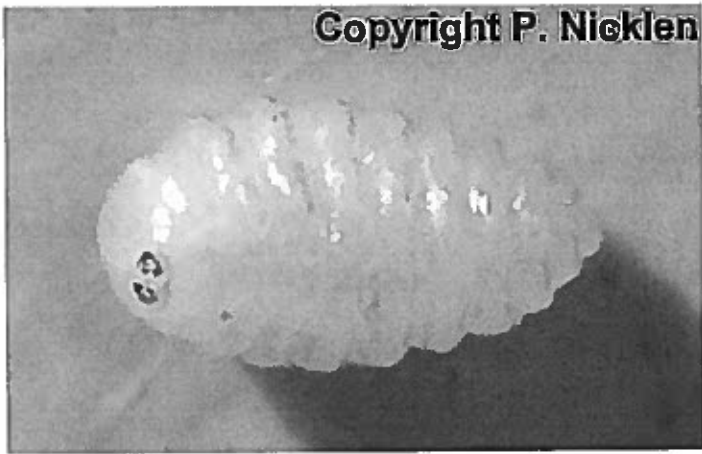
2018 U of MN Winter Invitational Small Animal Vet Science Anatomy Practicum # 1 Key

- 1. 105**
- 2. 108**
- 3. 114**
- 4. 113**
- 5. 112**
- 6. 203**
- 7. 211**
- 8. 210**
- 9. 214**
- 10.201**
- 11.202**
- 12.307**
- 13.309**
- 14.301**
- 15.310**
- 16.311**
- 17.306**
- 18.305**
- 19.409**
- 20.404**
- 21.407**
- 22.417**
- 23.408**
- 24.516**
- 25.508**
- 26.514**
- 27.506**
- 28.504**
- 29.515**
- 30.509**

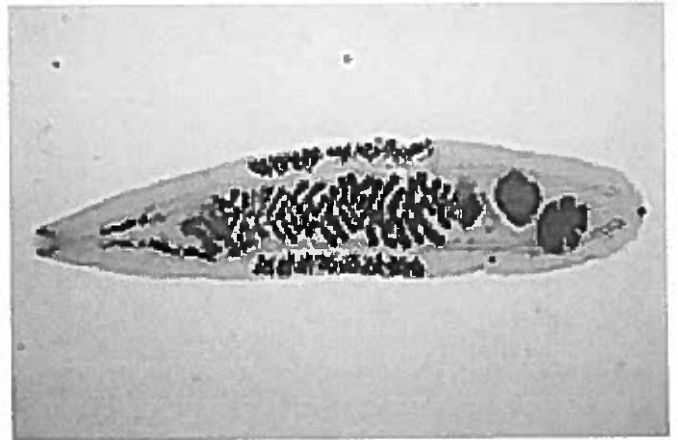
2018 University of Minnesota Winter Invite Vet Science Practicum #2- Parasites

Place 10 answers on the bottom Identification section on the back side of your scantron (6 pts each)

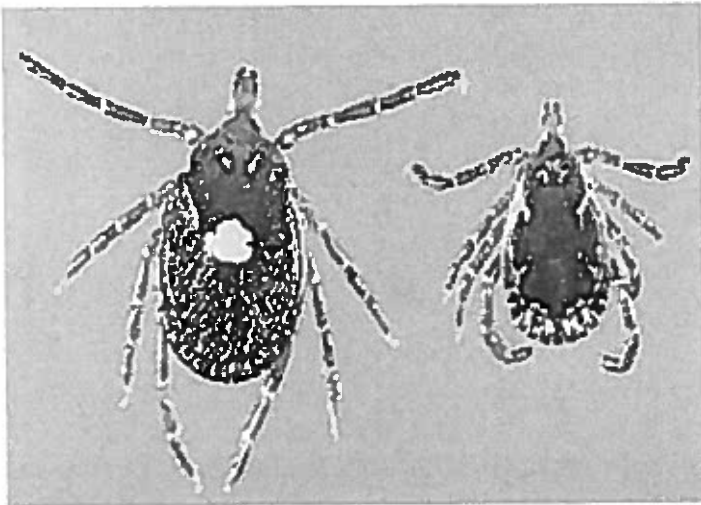
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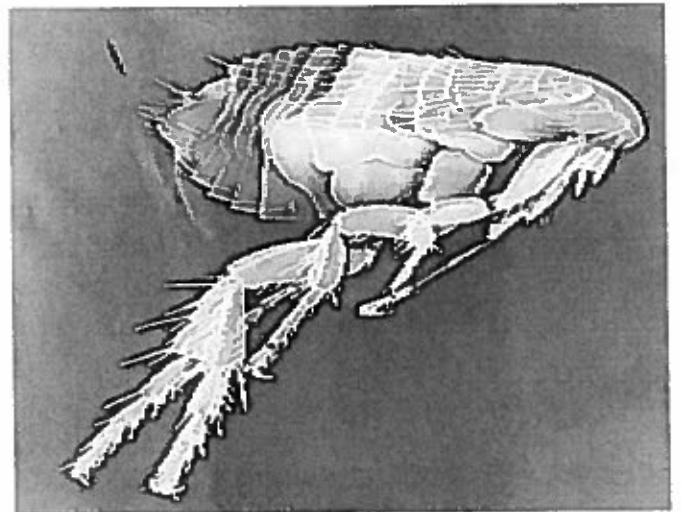
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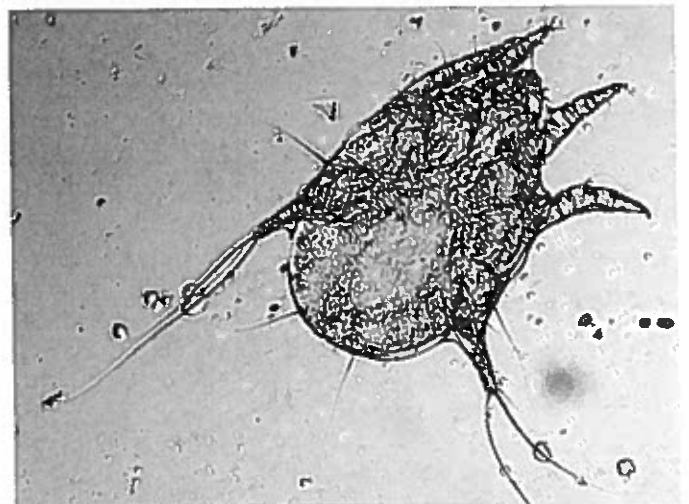
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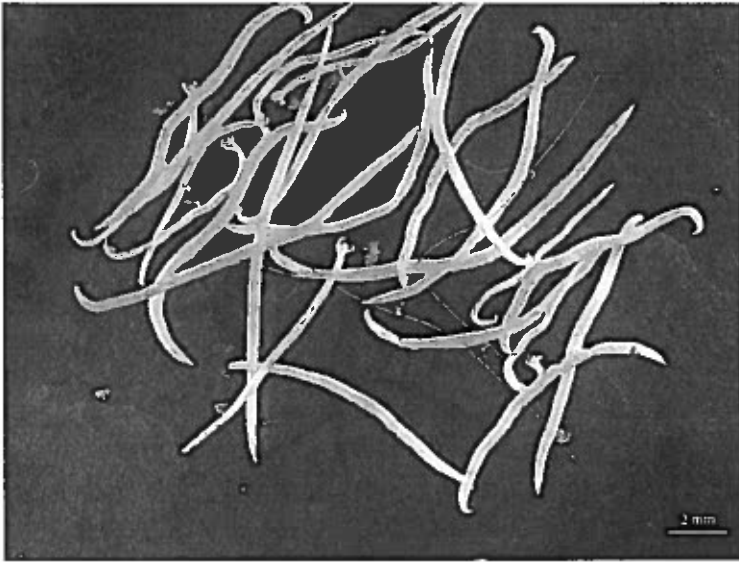
35.



36.



37.



38.



39.



40.



2018 U of MN Winter Invite Vet Science Practicum #2- Parasites Key

- 31. 103
- 32. 109
- 33. 104
- 34. 108
- 35. 123
- 36. 106
- 37. 111
- 38. 114
- 39. 116
- 40. 118

**2018 U of MN Winter Invite Small Animal Veterinary Science
Practicum #3- Evaluations & Scenarios
(6 pts each)**

Place answers on the Assessment & Solution section of your scantron (front side)

1. The process of surgically removing the reproductive organs of a female canine is called:
 - A. Spay
 - B. Whelp
 - C. Neuter
 - D. Castration

2. Walker is taking a dog's pulse. What is the name of the artery where he will do this?
 - A. facial artery
 - B. carotid artery
 - C. femoral artery
 - D. brachiocephalic artery

3. Allison accidentally spilled bleach. In order to know the correct clean up procedure, he must check the MSDS. The acronym MSDS stands for:
 - A. Mechanical Safety Data Sheet
 - B. Material Safety Data Sheet
 - C. Material Safety from Disease Sheet
 - D. Material Safety Destruction Sheets

4. When taking a patient history, which question would be the best to ask?
 - A. Is Ollie drinking a lot of water?
 - B. Is Ollie drinking more water now?
 - C. How much water does Ollie drink daily?
 - D. Isn't Ollie drinking more water than normal

5. The term for "toward the nose" is:
 - A. cranial
 - B. dorsal
 - C. rostral
 - D. caudal

6. Abnormally fast breathing is called:
 - A. Tachypnea
 - B. Tachycardia
 - C. Dyspnea
 - D. Eupnea

7. Which of the following injections has the fastest absorption rate?
 - A. Subcutaneous
 - B. Intramuscular
 - C. Intravenous

(over)

8. Which of these is not considered a vital sign of life for normal health of an animal?
- A. weight
 - B. heart rate
 - C. temperature
 - D. capillary refill time
9. If an animal is presenting with a superficial wound, the term “superficial” means:
- A. on an organ
 - B. deep laceration
 - C. near the surface, external
 - D. on the extremities of the animal
10. Which of the following needles has the smallest bore?
- A. 16 gauge
 - B. 20 gauge
 - C. 21 gauge
 - D. 25 gauge

**2018 U of MN Winter Invite Small Animal Veterinary Science
Practicum #3- Evaluations & Scenarios Key
(6 pts each)**

- 1. A**
- 2. C**
- 3. B**
- 4. C**
- 5. C**
- 6. A**
- 7. C**
- 8. A**
- 9. C**
- 10. D**

Table 7A; Practicum #1 Anatomy**Word Bank**

 ODD YEARS; 2019, 2021, 2023

Mammal digestive

101 Anus	107 Kidney	112 Small intestine
102 Bladder	108 Liver	113 Spleen
103 Cecum	109 Mouth	114 Stomach
104 Colon	110 Pancreas	115 Ureter
105 Esophagus	111 Rectum	116 Urethra
106 Gall Bladder		

Avian digestive

201 Ceca	206 Gall bladder	211 Proventriculus
202 Cloaca	207 Large intestine	212 Small Intestine
203 Crop	208 Liver	213 Vent
204 Duodenum loop	209 Mouth/beak	214 Ventriculus
205 Esophagus	210 Pancreas	

Mammal Circulatory

301 Aortic arch	306 Left Ventricle	310 Right atrium
302 Aortic valve	307 Pulmonary artery	311 Right ventricle
303 Caudal vena cava	308 Pulmonary Valve	312 Septum
304 Cranial vena cava	309 Pulmonary veins	313 Ventricular wall
305 Left Atrium		

Mammal Respiratory

401 Alveoli	407 Larynx	413 Pleural cavity
402 Bronchi	408 Lungs	414 Pleural membranes
403 Bronchioles	409 Nasal cavity	415 Rings of cartilage
404 Diaphragm	410 Nasal pharynx	416 Soft palate
405 Epiglottis	411 Nose	417 Trachea
406 Hard palate	412 Oral Cavity	

External Anatomy

501 Brisket	507 Flank	512 Occiput
502 Crest	508 Flew	513 Pastern
503 Croup	509 Hock	514 Shoulder
504 Dew claw	510 Loin	515 Stifle
505 Dewlap	511 Muzzle	516 Withers
506 Elbow		

Practicum #2 Word Bank on back.

Table 8A; Practicum #2, Vet Science Problem Solving**Word Bank****ODD YEARS; 2019, 2021, 2023****Parasites**

101 American Dog Tick
102 Anchor worm
103 Cat Warble
104 Deer Tick
105 Demodectic mite
106 Ear mite
107 Flea tapeworm egg
108 Fleas

109 Flukes
110 Heartworm
111 Hookworm
112 Hookworm egg
113 Giardia
114 Lice
115 Lungworm
116 Mosquito

117 Pinworm
118 Ringworm
119 Roundworm
120 Roundworm egg
121 Sarcoptic mite
122 Tapeworm
123 Whipworm
124 Whipworm egg