

Equine Science Sr Horse Bowl For Senior Division Only - 2009

1. Q: How much total feed should be fed per every 100 pounds of body weight each day to a horse on a maintenance diet?
A: 2 pounds per 100 pounds of body weight
Ref: ES 106 Level: 2 Category: A
2. Q: Grain or concentrates in the horses' daily diet should not exceed what percentage of the total food intake?
A: No more than 40%
Ref: ES 107 Level: 2 Category: A
3. Q: What is a good daily total food intake of a lactating broodmare?
A: As much as 2.5 to 3 pounds per 100 pounds of body weight or 2.5 to 3% of its body weight
Ref: ES 107 Level: 3 Category: A
4. Q: The average total time food takes to travel through the horse's body from intake through the mouth to waste excretion is approximately how long?
A: 36 to 72 hours (2 - 3 days)
Ref: ES 114 Level: 2 Category: A
5. Q: Name the dietary percentages of protein, vitamins, minerals & energy based on the daily ration of a healthy horse.
A: Protein - 8 - 15%, Vitamins - 1%, Minerals - 2 - 3%, Energy - 80 - 90% of total dietary needs daily
Ref: ES 114 & 115 Level: 5 Category: A
6. Q: A total loss of how much water based on total body weight will result in death?
A: Loss of 20% of body water
Ref: ES 115 Level: 2 Category: A
7. Q: What type of colic can result from a lack of available water in the diet?
A: Impaction colic
Ref: ES 116 Level: 2 Category: A
8. Q: Name 2 serious health problems that can result from a lack of dietary water.
A: Dehydration & impaction colic
Ref: ES 116 Level: 2 Category: A
9. Q: Name 4 things that are made up of amino acids other than bone, muscle & soft tissues of the body.
A: Blood, enzymes, hormones, hoof, hair
Ref: ES 117 Level: 5 Category: A
10. Q: Name 4 components that make amino acids different from carbohydrates & fats.
A: Amino acids also contain a nitrogen molecule & in some cases sulfur, phosphorus or iron molecules. Carbohydrates, fats & amino acids all have carbon, hydrogen & oxygen molecules.
Ref: ES 117 Level: 5 Category: A
11. Q: These are absorbed through the wall of the small intestine & into the bloodstream by way of the liver when enzymes & acids in the digestive tract break down proteins in food. What are these small chains called?
A: Amino acids
Ref: ES 118 Level: 3 Category: A

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12. Q: Fats & carbohydrates are efficient energy sources but this nutrient can also be used as an energy source but excessive heat is produced by the body during the conversion process. Name this nutrient.
A: Proteins
Ref: ES 118 Level: 2 Category: A
13. Q: Protein used as an energy source is not efficient because of the excessive amount of heat the body produces during its breakdown. Name a particularly dangerous situation that could cause heat exhaustion if protein was used as the main energy source.
A: Horse doing hard work in hot months of the year
Ref: ES 118 Level: 3 Category: A
14. Q: What is the term for the protein content based on nitrogen content in the feed stuff & estimates what would actually be available to the horse during digestion?
A: Digestible crude protein (DCP)
Ref: ES 119 Level: 3 Category: A
15. Q: What 2 terms should horse owners be familiar with when talking about protein sources in the horse's diet & are expressed as percentages?
A: Crude protein & Digestible crude protein
Ref: ES 119 Level: 3 Category: A
16. Q: Name 4 plant sources & 4 animal sources of protein in the horse's diet.
A: Plant sources--Forages (pasture or hay), Grains (oats, corn, sorghum, barley, wheat or rye), High-Protein sources (soybean meal, canola meal, linseed meal, cottonseed meal, corn gluten meal, sunflower meal, brewer's yeast, rice bran & etc). Animal source
Ref: ES 120-122 Level: 5 Category: A
17. Q: What are the 2 best high protein sources for the horse's diet due to their amino acid content & balance?
A: Soybean meal & Canola meal
Ref: ES 121 Level: 2 Category: A
18. Q: What high protein plant source has an excellent amino acid content & balance & is produced from the rape seed?
A: Canola meal
Ref: ES 121 Level: 2 Category: A
19. Q: Bacteria in the horse's digestive tract can produce all vitamins except which 2?
A: Vitamins A & E
Ref: ES 122 Level: 2 Category: A
20. Q: What substance is considered to be the precursor that horses need to produce vitamin A in the small intestine?
A: Beta-carotene
Ref: ES 123 Level: 2 Category: A
21. Q: Which vitamin is considered to be the "sunshine vitamin" & aids in the absorption & use of calcium & phosphorus in the body?
A: Vitamin D
Ref: ES 123 Level: 2 Category: A
22. Q: In nature, this vitamin is a fat-soluble vitamin supplied from green plants but the horse's body converts it from its fat soluble form into a water soluble form & stores it in the liver. Name this vitamin.
A: Vitamin K
Ref: ES 125 Level: 2 Category: A

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23. Q: Which vitamin enhances the absorption & storage of vitamin A by the horse's body & enhances the immune system?
A: Vitamin E
Ref: ES 124 Level: 3 Category: A
24. Q: What are the 4 common terms for thiamin, riboflavin, pyroxidine & cobalamin?
A: Thiamin=Vitamin B1, Riboflavin=Vitamin B2, Pyroxidine=Vitamin B6, Cobalamin=Vitamin B12
Ref: ES 126 Level: 5 Category: A
25. Q: Name the 8 vitamins that belong to the B-complex vitamins.
A: Thiamin (B1), Riboflavin (B2), Pyroxidine (B6), Cobalamin (B12), Biotin, Folic Acid, Niacin & Pantothenic Acid
Ref: ES 126 Level: 5 Category: A
26. Q: There are four B-complex vitamins without numbers assigned to them, name this 4 vitamins.
A: Biotin, Folic Acid, Niacin & Pantothenic Acid
Ref: ES 128 Level: 5 Category: A
27. Q: Name 3 vitamins that are considered to be "antioxidants" that help to prevent damage to cells.
A: Vitamin A, Vitamin E & Vitamin C (ascorbic acid)
Ref: ES 123-130 Level: 5 Category: A
28. Q: Name the 7 micro-minerals needed by the horse.
A: Cobalt, copper, iodine, iron, manganese, selenium & zinc
Ref: ES 131 Level: 5 Category: A
29. Q: Name the 7 macro-minerals needed by the horse.
A: Calcium, phosphorus, sodium, chloride, magnesium, potassium & sulfur
Ref: ES 131 Level: 5 Category: A
30. Q: The diet of a horse with HYPP needs to maintain a low level of which macro-mineral because it accumulates in their body?
A: Potassium
Ref: ES 136 Level: 2 Category: A
31. Q: Name the condition that causes enlargement of the thyroid gland due to a diet with too much or too little iodine.
A: Goiter
Ref: ES 138 Level: 2 Category: A
32. Q: The Midwest United States are referred to as the "goiter belt" due to a deficiency of which mineral?
A: Iodine
Ref: ES 138 Level: 3 Category: A
33. Q: Which mineral is found in 60% of the hemoglobin in the red blood cells & 20% of the myoglobin in muscle tissue?
A: Iron
Ref: ES 139 Level: 3 Category: A
34. Q: Tests that determine the blood ferritin levels are accurate in calculating the level of which mineral?
A: Iron
Ref: ES 139 Level: 3 Category: A
35. Q: What is the common term for monosaccharides?

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- A: Simple sugars
Ref: ES 145 Level: 2 Category: A
36. Q: What is the common term for polysaccharides?
A: Complex sugars
Ref: ES 145 Level: 2 Category: A
37. Q: When speaking of digestion in the horse, name the 2 main categories that carbohydrates are divided into.
A: Non-fiber carbohydrates (Nitrogen Free Extract) & Fiber
Ref: ES 145 Level: 2 Category: A
38. Q: Which of the 2 main categories of carbohydrates are made up of mostly starch & sugar molecules that are broken down in the stomach & small intestine?
A: Non-fiber carbohydrates (Nitrogen Free Extract)
Ref: ES 145 Level: 3 Category: A
39. Q: Which of the 2 main categories of carbohydrates are made up of mostly cellulose, hemicellulose & lignin that are broken down by bacterial action in the hind gut beginning in the cecum & continuing through the rest of the large intestine?
A: Fiber
Ref: ES 145 Level: 3 Category: A
40. Q: Name 3 carbohydrate compounds that make up fiber.
A: Cellulose, hemicellulose & lignin (possibly neutral detergent fiber & acid detergent fiber)
Ref: ES 145-146 Level: 5 Category: A
41. Q: What is pre-cecal digestion?
A: Digestion that take place before the cecum
Ref: ES 145 Level: 3 Category: A
42. Q: What is post-cecal digestion?
A: Digestion that take place in or after the cecum
Ref: ES 145 Level: 3 Category: A
43. Q: Energy not needed by the body at the time of digestion is stored in the form of glycogen in what 3 areas of the body?
A: Kidneys, liver & muscles
Ref: ES 146 Level: 3 Category: A
44. Q: If the glycogen storage capacity of the kidneys, liver & muscles is full, the body stores excess simple sugars as what substance?
A: Fat
Ref: ES 146 Level: 2 Category: A
45. Q: In comparisons bases on equal weights, plant oils provide how much more energy than grain?
A: Three times more energy
Ref: ES 147 Level: 3 Category: A
46. Q: Most commercial equine feeds contain what percentage of fat content?
A: 2 to 3 1/2 %
Ref: ES 147 Level: 3 Category: A
47. Q: Most commercial equine "high fat" feeds contain what percentage of fat content?
A: no more than 8 to 10%

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Ref: ES 147

Level: 3

Category: A

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48. Q: What is the maximum percentage of total fat recommended in an equine feed?
A: no more than 20%
Ref: ES 148 Level: 3 Category: A
49. Q: Adding fat to the equine diet has been proven to increase what 4 functions of the horse?
A: Growth, Performance or work, Reproductive functions, Milk production
Ref: ES 148 Level: 5 Category: A
50. Q: What do these 2 carbohydrate initials represent, DCF & DNFE?
A: Digestible crude fiber & Digestible nitrogen free extract
Ref: ES 149 Level: 3 Category: A
51. Q: What is the formula for calculating gross energy?
A: $\text{Gross energy} = \text{digestible energy} + \text{metabolizable energy} + \text{net energy}$
Ref: ES 149 Level: 5 Category: A
52. Q: What is the formula for calculating TDN?
A: $\text{TDN} = \% \text{ Digestible crude protein} + \% \text{ digestible crude fiber} + \% \text{ digestible nitrogen free extract} + (\% \text{ digestible ether extract} \times 2.25)$
Ref: ES 149 Level: 5 Category: A
53. Q: When speaking of fat in the diet, what do the initials DEE stand for?
A: Digestible ether extract
Ref: ES 149 Level: 3 Category: A
54. Q: The International Society of Animal Genetics is a worldwide leader in what specific type of research?
A: Equine genome research
Ref: ES 86 Level: 3 Category: B
55. Q: What is the term for genetic research on the molecular level of the gene?
A: Genome research
Ref: ES 86 Level: 3 Category: B
56. Q: What are diploid chromosomes?
A: Chromosome pairs
Ref: ES 87 Level: 2 Category: B
57. Q: What genetic material is composed of amino acids & proteins arranged in 2 thread-like strands called double helix with bonds that hold the strands together?
A: DNA (deoxyribonucleic acid)
Ref: ES 87 Level: 3 Category: B
58. Q: What is the coil-like structure of 2 strands of DNA called?
A: Double helix
Ref: ES 87 Level: 3 Category: B
59. Q: What holds the 2 twisted strands of DNA together like rungs of a ladder?
A: Bonds
Ref: ES 87 Level: 3 Category: B
60. Q: What genetic material is composed of amino acids & proteins on a double helix with multiple bonds?
A: DNA (deoxyribonucleic acid)
Ref: ES 87 Level: 3 Category: B

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61. Q: How many diploid chromosomes does the horse have?
A: 64
Ref: ES 88 Level: 3 Category: B
62. Q: Meiosis occurs only in reproductive cells & produces gametes. What type of chromosomes are passed from each parent during meiosis?
A: Haploid chromosomes
Ref: ES 88 Level: 3 Category: B
63. Q: Chromosomes pairs split during the reproductive process & half of the genetic information of each parent is passed on to the next generation in the form of gametes. What is this type of cell division called?
A: Meiosis
Ref: ES 88 Level: 2 Category: B
64. Q: When chromosome pairs for body cells split in half & produce identical copies of the original cell, this process is called what?
A: Mitosis
Ref: ES 88 Level: 2 Category: B
65. Q: Name the 2 types of chromosomes based on their numbers are produced during meiosis & mitosis.
A: Meiosis = haploid chromosomes & Mitosis = Diploid chromosomes
Ref: ES 88 Level: 3 Category: B
66. Q: What is the common term for the species, *Equus burchelli boehmi*?
A: Grant's zebra/common zebra
Ref: ES 88 Level: 3 Category: B
67. Q: Which will have the greatest number of chromosomes: horses, asses or zebra?
A: Horses (64 or 32 pairs)
Ref: ES 89 Level: 2 Category: B
68. Q: How many diploid & haploid chromosomes does the horse have?
A: 64 diploid & 32 haploid chromosomes
Ref: ES 89 Level: 2 Category: B
69. Q: Each sex cell that splits during the reproductive process contains, how many chromosomes?
A: 32 chromosomes
Ref: ES 89 Level: 2 Category: B
70. Q: Zoo-FISH maps technology is used in which type of scientific research?
A: Genome research (genetic research of genes on the molecular level)
Ref: ES 89 Level: 3 Category: B
71. Q: What is the term for the gene that has the ability to mask the genetic makeup of the other gene in the allele pair?
A: Dominant gene
Ref: ES 90 Level: 2 Category: B
72. Q: What is the term for the gene that cannot mask the genetic makeup of the other gene in the allele pair?
A: Recessive gene
Ref: ES 90 Level: 2 Category: B

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73. Q: What is the term for the organism whose chromosomes carry 2 identical members of a given allele pair such as EE or bb?
A: Homozygous
Ref: ES 90 Level: 2 Category: B
74. Q: What is the term for the organism whose chromosomes do not carry identical members of a given allele pair such as Ee or Bb?
A: Heterozygous
Ref: ES 91 Level: 2 Category: B
75. Q: Define polygenic traits.
A: Genetic traits that are controlled by multiple genes, gene pairs &/or alleles
Ref: ES 91 Level: 3 Category: B
76. Q: What is the term for genetic traits that are determined by complicated genetic inheritance involving the interaction of multiple gene pairs?
A: Multiple alleles
Ref: ES 91 Level: 3 Category: B
77. Q: Which parent determines the sex of the offspring & why?
A: Stallion determines sex because he carries an X & Y chromosome
Ref: ES 91 Level: 2 Category: B
78. Q: What is the Punnett square used for?
A: To determine the expected outcomes & can determine the percentage of expected offspring that should show a particular trait
Ref: ES 92 Level: 3 Category: B
79. Q: Geneticists use this to determine the expected outcomes & can determine the percentage of expected offspring that should show a particular trait. Name this application.
A: Punnett square
Ref: ES 92 Level: 3 Category: B
80. Q: Melanin is the pigment that controls the color of the skin, iris of the eyes & some internal tissues. Name the 2 different forms of melanin & tell what colors they control.
A: Eumelanin - controls black or brown & Pheomelanin - controls red or yellow
Ref: ES 93 Level: 3 Category: B
81. Q: What is the term for the pigment cells that are made up of eumelanin & pheomelanin?
A: Melanocytes
Ref: ES 93 Level: 3 Category: B
82. Q: What is the term for a gene that regulates the color differences in black-pigmented & red-pigmented horses?
A: Extension gene
Ref: ES 94 Level: 3 Category: B
83. Q: What type of gene controls the amount of black eumelanin granules in the skin &/or the coat by means of a pair of alleles?
A: Extension gene
Ref: ES 94 Level: 3 Category: B
84. Q: When speaking of extension genes, what are the 6 black pigmented colors that affect skin & coat colors?
A: Black, bay, brown, buckskin, dun & grulla

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Ref: ES 94 Level: 5 Category: B

85. Q: When speaking of extension genes, what are the 4 red pigmented colors that affect skin & coat colors?

A: chestnuts/sorrel, palomino, red dun

Ref: ES 94 Level: 5 Category: B

86. Q: What is the term for a gene that controls the distribution patterns of eumelanin in the hair & restricts the distribution of the points (mane, tail, ear tips & lower legs) by means of a pair of alleles?

A: Agouti gene

Ref: ES 95 Level: 3 Category: B

87. Q: What is the genetic symbols for the extension gene?

A: E or e

Ref: ES 94 Level: 3 Category: B

88. Q: What is the genetic symbols for the agouti gene?

A: AA or aa

Ref: ES 95 Level: 3 Category: B

89. Q: What is the genetic symbol for the extension gene that extends or increases the amount of eumelanin (black or brown) & decreases the amount of pheomelanin (red or yellow)?

A: E (capital E)

Ref: ES 94 Level: 3 Category: B

90. Q: What is the genetic symbol for the extension gene that decreases the amount of eumelanin (black or brown) & increases the amount of pheomelanin (red or yellow)?

A: e (small e)

Ref: ES 94 Level: 3 Category: B

91. Q: What is the genetic symbol for the agouti gene that indicates the presence of eumelanin (black or brown) is restricted to the "points" pattern?

A: AA (Capital AA)

Ref: ES 95 Level: 3 Category: B

92. Q: What is the genetic symbol for the agouti gene that indicates the presence of eumelanin (black or brown) is not restricted to the "points" pattern?

A: aa (small aa)

Ref: ES 95 Level: 3 Category: B

93. Q: There are at least 3 genes that cause the dilution of coat colors in horses. Name 7 coat colors that are the result of these dilution genes' interactions.

A: Palomino, buckskin, cream, perlino, dun, champagne, silver dapple

Ref: ES 95 Level: 5 Category: B

94. Q: What physical features are the result of both genetic & non-genetic factors & result from a lack of pigment granules in the melanocyte cells during embryonic development?

A: White markings

Ref: ES 96 & 97 Level: 3 Category: B

95. Q: Melanocyte cells, which cause white markings, develop out of the embryonic tissue from the neural crest. What is the neural crest?

A: Area of cells from which the spinal cord & brain will develop in the embryo

Ref: ES 96 Level: 3 Category: B

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96. Q: Name 3 things that develop from the neural crest of the horse's embryo.
A: Spinal cord, brain & Melanocyte cells which cause white markings on the horse
Ref: ES 96 & 97 Level: 5 Category: B
97. Q: What genetic lethal condition is also known as megacolon?
A: Lethal White Foal Syndrome
Ref: ES 98 Level: 3 Category: B
98. Q: Which genetic condition is caused by a lack of nerve cells in the digestive tract that results in absence of normal peristalsis in the intestine & failure of fecal material to be defecated?
A: Lethal White Foal Syndrome
Ref: ES 98 Level: 3 Category: B
99. Q: What genetic condition is seen in blue-eyed, white coat colored foals with at least one overo colored parent that causes death within a few days after birth?
A: Lethal White Foal Syndrome
Ref: ES 98 Level: 3 Category: B
100. Q: What genetic condition is found in heavily muscled horses with a high blood potassium level & an increased skeletal muscle-cell membrane permeability to sodium & a lineage to stallion, Impressive?
A: HYPP (hyperkalemic periodic paralysis)
Ref: ES 98 Level: 3 Category: B
101. Q: Name 3 breeds that are most likely to be affected by the genetic condition of Hemophilia A?
A: Thoroughbreds, Standardbreds & Quarter horses
Ref: ES 99 Level: 3 Category: B
102. Q: What genetic condition will cause death of a foal from severe respiratory infection before the age of 5 months because of improper development of the immune system in Arabians?
A: Severe combined immunodeficiency (SCID or CID)
Ref: ES 99 Level: 3 Category: B
103. Q: What genetic condition causes visual impairment at night & is found in Appaloosas?
A: Equine night blindness
Ref: ES 100 Level: 3 Category: B
104. Q: What genetic condition has an absence of the iris of the eye plus cataracts of the eye of Belgian horses?
A: Aniridia
Ref: ES 100 Level: 3 Category: B
105. Q: Which breed is most commonly affected by aniridia?
A: Belgians
Ref: ES 100 Level: 3 Category: B
106. Q: Which breed is most commonly affected by equine night blindness?
A: Appaloosa
Ref: ES 100 Level: 3 Category: B
107. Q: What is the scientific name for tying up, Monday morning disease or azoturia?
A: Rhabdomyolysis
Ref: ES 100 Level: 3 Category: B
108. Q: PSSM (polysaccharide-storage myopathy) is a genetic trait that causes which condition?
A: Rhabdomyolysis (tying up, Monday morning disease or azoturia)

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Ref: ES 101 Level: 3 Category: B

109. Q: What genetic condition causes abnormal bone growth that affects the horses' joints that weaken the bone structure resulting in bone fragments breaking away & ending up in the joints & is most commonly found in fast growing breeds?

A: Osteochondrosis (OC)

Ref: ES 101 Level: 3 Category: B

110. Q: Name 4 breeds that are most likely to be affected by Osteochondrosis.

A: Thoroughbreds, Standardbreds, Warmbloods & Quarter horses

Ref: ES 101 Level: 5 Category: B

111. Q: What is a genetic, degenerative condition that affects the brain & spinal cord & may be genetically related to sensitivity to low levels of vitamin E?

A: Equine Degenerative myeloencephalopathy (EDM)

Ref: ES 101 Level: 3 Category: B

112. Q: Name 3 different genetic testing for parentage verification or genetically related inherited traits or disorders for horses.

A: Blood group tests, Lymphocyte tests & DNA tests

Ref: ES 102 & 103 Level: 5 Category: B

113. Q: What are Monozygotic horse twins?

A: Identical twins

Ref: ES 104 Level: 3 Category: B

114. Q: What are the 5 main senses of the horse?

A: Sight, Smell, Hearing, Touch & Taste

Ref: ES 55 Level: 3 Category: D

115. Q: What is the total range of vision in degrees?

A: 350 degrees

Ref: ES 55 Level: 2 Category: D

116. Q: What is the total range of binocular vision of the horse?

A: About 65 degrees (directly in front of its head)

Ref: ES 57 Level: 3 Category: D

117. Q: A horse will turn his head or even its whole body in an effort to use which type of vision?

A: Binocular

Ref: ES 56 Level: 2 Category: D

118. Q: Which type of vision has the widest field of vision?

A: Monocular

Ref: ES 56 Level: 2 Category: D

119. Q: The horse's survival instincts will cause it to run away from danger or stay & fight. What are the 2 terms for these reaction behaviors?

A: Run away = fright & flight reaction & Stay & fight = Fright & flight

Ref: ES 57 Level: 3 Category: D

120. Q: The horse uses what type of vision to see objects in 3 dimensions, length, height & width, which enables the horse to have better depth perception?

A: Binocular

Ref: ES 58 Level: 3 Category: D

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121. Q: Where are the 4 blind spots in the horse's field of vision?
A: Directly in front of the head about 4 - 6 feet in front of horse), Under the head & neck, Over the head, neck & back , Directly behind (to the width of the horse's rump)
Ref: ES 58-60 Level: 3 Category: D
122. Q: Which type of vision is best at seeing long distances but has little detail or depth perception?
A: Monocular
Ref: ES 60 Level: 2 Category: D
123. Q: Research indicates that horses can see in color. Which color does the horse have the most difficulty in seeing?
A: Red
Ref: ES 60 Level: 2 Category: D
124. Q: Name 3 ways the horse's vision is different than a human's.
A: Horses have better night vision, can see motion at a much greater distance, have greater total range of vision, has monocular vision
Ref: ES 56 - 60 Level: 5 Category: D
125. Q: What is another name for the olfactory sense?
A: Sense of smell
Ref: ES 61 Level: 2 Category: D
126. Q: Name 7 reasons why the sense of smell is important to the horse.
A: Locate food, Ensure food & water are of acceptable quality, Identify other horses, Identify people, Identify objects, Smell potential predators or other dangers, Identify marked territory of other horses or herds, Initiate sexual & breeding behavior
Ref: ES 61 Level: 5 Category: D
127. Q: Each ear of the horse can rotate how many degrees?
A: About 180 degrees
Ref: ES 62 Level: 3 Category: D
128. Q: Name 2 reasons horses may react to sounds differently than humans.
A: Horses can hear sounds in ranges that humans can not hear, Horses can move their ears in almost any direction
Ref: ES 64 Level: 3 Category: D
129. Q: What is another name for the tactile sense?
A: Sense of touch
Ref: ES 64 Level: 2 Category: D
130. Q: Name 10 areas of the horse's body that are very sensitive to touch.
A: Head, mouth, Inside of mouth (including teeth), Ears, Muzzle (including nose), Sides of neck, Withers, Girth area, Rib area, Flank area, Back & Lower legs
Ref: ES 65 Level: 5 Category: D
131. Q: Name 2 conditions the horse may develop from constant rein & bit pressure in the mouth & a rider's constant leg pressure.
A: Hard mouth & Dead sides
Ref: ES 65 Level: 2 Category: D
132. Q: What is the normal equine hearing ranges?
A: 55 hertz to 33.5 kilohertz
Ref: ES 64 Level: 3 Category: D

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133. Q: Name the mechanical process that reduces the particle size of food, increases the amount of surface area & stimulates the release of saliva during digestion.
A: Mastication (chewing)
Ref: ES 109 Level: 3 Category: D
134. Q: What muscle is located at the top of the stomach & prevents food from reentering the esophagus once it reaches the stomach?
A: Esophageal sphincter muscle
Ref: ES 110 Level: 3 Category: D
135. Q: Liquids can take as little as 15 to 30 minutes & dry matter may take as long as 12 hours to pass through this digestive organ that makes up about 8% of the total digestive tract. Name this organ.
A: Stomach
Ref: ES 110 Level: 2 Category: D
136. Q: What is secreted into the small intestine to emulsify (breaks down) fat & is produced in the liver?
A: Bile
Ref: ES 111 Level: 2 Category: D
137. Q: What part of the digestive tract is the physiological equivalent to the human appendix but does more work in horses?
A: Cecum
Ref: ES 112 & 113 Level: 1 Category: D
138. Q: What part of the hind gut is known as the "fermentation vat"?
A: Cecum
Ref: ES 112 Level: 1 Category: D
139. Q: In the hind gut, what is the main function of the large colon?
A: Water absorption
Ref: ES 113 Level: 2 Category: D
140. Q: In what part of the digestive tract does some water absorption occur, all available nutrients have been removed from the foodstuff & fecal balls are ready to be expelled from the body?
A: Small colon
Ref: ES 113 Level: 3 Category: D
141. Q: What part of the digestive tract is responsible for the excretion of waste material out of the body immediately after the fecal balls enter?
A: Rectum
Ref: ES 114 Level: 2 Category: D
142. Q: Which artery carries blood from the heart to the head?
A: Carotid artery
Ref: ES 208 Level: 3 Category: D
143. Q: Which artery carries blood from the heart to the lungs?
A: Pulmonary artery
Ref: ES 208 Level: 3 Category: D
144. Q: Which artery carries blood from the heart to the kidneys?
A: Renal artery
Ref: ES 208 Level: 3 Category: D

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145. Q: Which vein carries blood from the liver to the heart?
A: Hepatic vein
Ref: ES 208 Level: 3 Category: D
146. Q: Which vein carries blood from the head to the heart?
A: Jugular vein
Ref: ES 208 Level: 3 Category: D
147. Q: The brain & spinal cord are the components of which body system?
A: Central nervous system
Ref: ES 212 Level: 2 Category: D
148. Q: What is the term for the system of nerves that are involved with the heart, blood vessels, body temperature, eyes, glands, digestive & urinary system functions & are a division of the peripheral nervous system?
A: Autonomic nervous system
Ref: ES 212 Level: 3 Category: D
149. Q: How many pairs of spinal nerves are found in the horse?
A: 42 pairs
Ref: ES 212 Level: 3 Category: D
150. Q: Name 3 endocrine glands that occur in pairs.
A: Adrenal glands, ovaries, testes
Ref: ES 213 Level: 5 Category: D
151. Q: Name 3 endocrine glands that do not occur in pairs.
A: Pituitary, thyroid & pancreas
Ref: ES 213 Level: 5 Category: D
152. Q: Describe the shape of the incisor at the ages of 5, 9, 15 & 20 years.
A: 5 yrs= Long oval, 9 yrs=Oval, 15 yrs=Round, 20 yrs=Triangular
Ref: ES 218 Level: 5 Category: D
153. Q: The United State Department of Agriculture reported a decline in the horse population to an all-time low of 3 million horses in which recent decade?
A: 1960's
Ref: ES 3 Level: 2 Category: E
154. Q: Name 4 non-traditional types of horse-related jobs.
A: Equine lawyers, tax consultants, farm managers, writers, editors, marketing specialists, insurance specialists, computer experts, sales managers, scientists, educators
Ref: ES 3 Level: 5 Category: E
155. Q: About how long ago did the horse originated?
A: About 60 (to 58) million years ago
Ref: ES 5 & 9 Level: 1 Category: E
156. Q: Early fossil evidence show that the horse originated where?
A: Great Plains of North America
Ref: ES 5 Level: 1 Category: E
157. Q: What was the natural habitat & feeding area during the earliest stage of equus?
A: Swamp lands
Ref: ES 6 Level: 1 Category: E

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158. Q: Equus originated in North America but disappeared from the continent during what period in history?
A: Ice Age
Ref: ES 7 Level: 1 Category: E
159. Q: Name 2 other animals, other than the horse, that became extinct on the North American continent as the ice masses of the Ice Age began to recede.
A: Camel, mastodon, rhinoceros & saber-toothed tiger
Ref: ES 8 Level: 3 Category: E
160. Q: Scientists think that the extinction of the horse in North America was not directly attributed to the Ice Age because many part of the area were not covered by ice. Name 4 possible theories for the horses disappearance.
A: Drastic, sudden climate change, Disease or parasite epidemic, Competition for available food sources, Failure to adapt to the environment
Ref: ES 8 Level: 5 Category: E
161. Q: Name the 6 major forms of the horse as it evolved to the modern-day horse.
A: Pre-horse, Eohippus, Mesohippus, Merychippus, Pliohippus & Equus
Ref: ES 9 & 10 Level: 5 Category: E
162. Q: Name 4 characteristics of the pre-horse.
A: 5 toes on front & probably hind feet, One of the front toes may have been a splint, Teeth were low-crowned, Approximately 75 million years ago
Ref: ES 9 Level: 5 Category: E
163. Q: Name 4 characteristics of eohippus.
A: Approximately 58 million years ago, 4 toes on front feet & 3 toes on hind feet with a splint bone, About 1 foot tall, Teeth were low-crowned
Ref: ES 9 Level: 5 Category: E
164. Q: Name 5 characteristics of mesohippus.
A: Approximately 38 million years ago, 3 toes on front feet & hind feet, Middle toe the largest, About size of collie dog or miniature horse, Teeth were low-crowned, Most likely a browsing animal
Ref: ES 9 Level: 5 Category: E
165. Q: Name 5 characteristics of merychippus.
A: Approximately 28 million years ago, 3 toes on each foot, Middle toe bigger & touched the ground with toes on either side did not touch the ground, About size of a Shetland pony, Grass eater, Teeth were high-crowned & hard surfaced
Ref: ES 9 Level: 5 Category: E
166. Q: Name 5 characteristics of pliohippus.
A: Approximately 12 million years ago, First one-toed horse with 2 side toes reduced to splint bones, About the size of a pony, Grazing animal, High crowned teeth
Ref: ES 9 Level: 5 Category: E
167. Q: Approximately how long ago did the domestication of the horse had spread throughout Asia, North Africa & Europe?
A: 5 thousand years ago
Ref: ES 9 Level: 2 Category: E
168. Q: How long ago did man hunted the horse & used it as a source of food during the Stone Age?

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- A: 25 thousand years ago
Ref: ES 9 Level: 2 Category: E
169. Q: How long ago was the horse first domesticated by man & used for travel?
A: 6 thousand years ago
Ref: ES 9 Level: 2 Category: E
170. Q: How long ago did the Spanish explorers import large numbers of livestock & horses to missions & settlements along the Rio Grande Valley of North America?
A: 400 years ago
Ref: ES 9 Level: 2 Category: E
171. Q: Which evolutionary stage of the horse was the first one-toed horse?
A: Plihippus
Ref: ES 9 Level: 2 Category: E
172. Q: What first occurred about six thousand years ago that enabled man to travel farther & faster than he had before?
A: Domestication of the horse
Ref: ES 10 Level: 2 Category: E
173. Q: What was the originate use of the horse?
A: Source of food
Ref: ES 12 Level: 1 Category: E
174. Q: Approximately how many horses were used in World War II?
A: 2 million
Ref: ES 14 Level: 2 Category: E
175. Q: Name the physical feature found on the legs of horses & ponies that are not found on asses & zebras.
A: Chestnuts on the inside of both the front & hind legs
Ref: ES 15 Level: 2 Category: E
176. Q: How many fewer chromosome pairs does the donkey have compared to the horse?
A: One less chromosome pair
Ref: ES 16 Level: 2 Category: E
177. Q: Where are the leg chestnuts on the donkey & zebra found?
A: Inside of front legs only
Ref: ES 16 Level: 2 Category: E
178. Q: Which member of the Genus, Equus has the least number of chromosome pairs?
A: Zebra (some only half as many as the horse)
Ref: ES 16 & 17 Level: 3 Category: E
179. Q: Name 4 past or present wild horses found throughout the world.
A: Oriental light-legged horses, Wild black horses of Flanders, Predecessors to European draft & pony breeds, Tarpans, Przewalski's horse, Mustangs
Ref: ES 17 Level: 5 Category: E
180. Q: What is the equine term for any animal in the family, Equidae which includes horses, zebras & asses?
A: Equine
Ref: ES 19 Level: 2 Category: E

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181. Q: What is the only breed of ass that is not smaller than the horse?
A: Mammoth breeds
Ref: ES 21 Level: 2 Category: E
182. Q: What is the term for the loud, deep vocalization of the ass?
A: Bray
Ref: ES 21 Level: 1 Category: E
183. Q: Name 5 characteristics of the donkey or ass that are different than the horse.
A: Donkeys & asses have smaller, upright hooves with more heel than horses, Hair of mane & tail is generally shorter & thinner, Longer ears, Chestnuts on insides of front legs, Asses bray instead of whinny or neighing, Most asses have one less chromosome than horses
Ref: ES 20 & 21 Level: 5 Category: E
184. Q: Name the number of chestnuts found on each the horse, pony, mule, hinny & ass.
A: Horses, ponies, mules & hinnies have 4 (both front & hind legs) Asses have 2 (front legs only)
Ref: ES 21 Level: 5 Category: E
185. Q: Generally speaking, name 2 members of the equine family that are sterile.
A: Mules & hinnies
Ref: ES 22 Level: 2 Category: E
186. Q: Which member of the Genus, Equus always has black & white striped coats?
A: Zebras
Ref: ES 22 Level: 1 Category: E
187. Q: Zebras & asses usually have short hair toward the top of the tail & longer hair that begins about halfway down the tail. What is the term for this type of tail?
A: Tufted tail
Ref: ES 22 Level: 2 Category: E
188. Q: Name 5 characteristics of the zebra that are different from the horse.
A: Zebras have less chromosome pairs, Black & white striped coats, Tufted tails, Ear size varies greatly but most zebras ears are slightly larger with a rounder tip, Chestnut only on inside of front legs, Not easily domesticated or trained by man
Ref: ES 22 Level: 5 Category: E
189. Q: Describe the difference in ancestry of the hot blooded & cold blooded horses.
A: Hot blooded have Arabian ancestors (includes most modern light horse breeds) & Cold blooded have draft horse ancestors
Ref: ES 24 Level: 2 Category: E
190. Q: Name the breed of pony that accepts animals that are taller than 14.2 hands tall & refers to them as Cobs.
A: Welsh "C" ponies
Ref: ES 28 Level: 2 Category: F
191. Q: White markings of all breeds of horses are generally broken into 2 basic categories, name them.
A: Face & leg markings
Ref: ES 29 Level: 1 Category: F
192. Q: What is another name for the face marking, Paper faced?
A: Bonnet

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- Ref: ES 30 Level: 3 Category: F
193. Q: How does the leg marking, high stocking differ from a full stocking?
 A: High stockings have more white above the knees or hocks
 Ref: ES 31 Level: 2 Category: F
194. Q: Name 4 areas of the horse where color points are found.
 A: Mane, tail, lower legs, ear rims
 Ref: ES 36 Level: 2 Category: F
195. Q: Mealy refers to a modification of a basic dark coat color in which 6 areas of the horse are lighter in color?
 A: Flanks, girth, lower belly, inside of the legs, muzzle or above the eyes
 Ref: ES 37 Level: 5 Category: F
196. Q: Name 4 terms used to describe a stripe of color down the center of the equine's back.
 A: Dorsal stripe, Back stripe, Lineback, Eel stripe
 Ref: ES 38 Level: 5 Category: F
197. Q: Name 4 types of primitive markings that are darker than the animal's base color.
 A: Dorsal stripe, Wither stripe or cross, Zebra marks around the knee, hocks, or lower legs, Cobwebbing or spider-webbing on the forehead
 Ref: ES 38 Level: 5 Category: F
198. Q: What is the term for the intermixing of 2 slightly different shades of the same base coat color creating a circular or ring-shaped pattern in the horse's coat?
 A: Dappled
 Ref: ES 38 Level: 1 Category: F
199. Q: What are the 2 most common colors of the small flecks of color over the base coat color pattern known as flea-bitten?
 A: Usually brown or red
 Ref: ES 39 Level: 2 Category: F
200. Q: What is the term for a dark-colored "splotch" on the basic coat color that are usually brown or red in color?
 A: Blood mark
 Ref: ES 39 Level: 3 Category: F
201. Q: What is the term for the small dark colored spots seen on the white areas of some paint or pinto horses & are also called pawprints or bear paws?
 A: Ink spots
 Ref: ES 39 Level: 3 Category: F
202. Q: According to the Equine Science book, what are the 3 basic dark colors found in horses?
 A: Black, bay & chestnut
 Ref: ES 39 Level: 2 Category: F
203. Q: South American horse people use 3 additional terms used to describe a chestnut colored horse. Name & describe each of these 3 terms.
 A: Alazan - red colored horse with red points, Tostado - red colored horse with darker red colored points, Ruano - red-colored horse with lighter colored points or a flaxen mane & tail
 Ref: ES 41 Level: 5 Category: F
204. Q: According to the Equine Science book, what is the modified dark coat color?

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- A: Brown
Ref: ES 41 Level: 2 Category: F
205. Q: Name 2 other terms used to describe a brown coat color.
A: Seal brown or black bay
Ref: ES 42 Level: 2 Category: F
206. Q: Most breed associations' standards state that duns & grulla will have this marking while buckskins do not have it. What is this dark marking?
A: Dorsal stripe (eel stripe, lineback, back stripe)
Ref: ES 42 Level: 2 Category: F
207. Q: What is the very palest coat color dilution that is not white?
A: Creamello/ Cream
Ref: ES 43 Level: 1 Category: F
208. Q: What is the most distinguishing factor when comparing duns to grulla coat colors?
A: Grullas have black points & generally have darker colored or black heads
Ref: ES 43 Level: 2 Category: F
209. Q: What colors are the eyes & skin of the cremello?
A: Blue eyes & pink skin
Ref: ES 43 Level: 2 Category: F
210. Q: Name 4 variations on the basic gray coat pattern.
A: Dappled, flea-bitten, rosettes, rose gray
Ref: ES 45 Level: 3 Category: F
211. Q: Describe the gray coat pattern, rosettes.
A: Bursts of white on gray coat color
Ref: ES 45 Level: Category: F
212. Q: What is the term for gray on a red coat color?
A: Rose gray
Ref: ES 45 Level: 2 Category: F
213. Q: What coat color has white hairs individually scattered among & intermixed between the base coat color hairs?
A: Roan
Ref: ES 46 & 47 Level: 1 Category: F
214. Q: What are the small dark colored spots on the roan coat called?
A: Corn spots
Ref: ES 47 Level: 2 Category: F
215. Q: How do the meanings of the terms, piebald & skewbald differ?
A: Piebald - white on a black horse, Skewbald - white on any other color than black. Both are spotted coat patterns
Ref: ES 47 Level: 3 Category: F
216. Q: What are the 3 coat patterns of the overo color marking?
A: Frame, Sabino, Splashed white
Ref: ES 48 Level: 3 Category: F

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217. Q: What white color pattern has speckled, flecked & jagged colored paint or pinto horses with extensive white on the legs & head?
A: Sabino
Ref: ES 49 Level: 2 Category: F
218. Q: What white color pattern has white legs & white underpinning & tend to have large amounts of white on the head & face with crisp, clearly defined, sharp line between color & white spotting pattern?
A: Splashed white
Ref: ES 50 Level: 2 Category: F
219. Q: What sensory defect is found in some splashed white horses?
A: Deafness
Ref: ES 50 Level: 3 Category: F
220. Q: Name the 8 sub-patterns included in the leopard white spotting pattern.
A: Mottled, Frost, Snowflake, Varnish roan, Speckled, Blanket, Leopard, Few-spot leopard
Ref: ES 51 Level: 5 Category: F
221. Q: According to the Equine Science book, what are the 5 white color patterns?
A: White, Gray, Roan, Paint/Pinto, Leopard
Ref: ES 45 & 50 Level: 5 Category: F
222. Q: What is the term for a newborn equine of either sex?
A: Foal
Ref: ES 23 Level: 1 Category: G
223. Q: What is the term for a female horse that is unable to conceive or carry a foal because her ovaries have been surgically removed, leaving her sterile?
A: Spayed mare
Ref: ES 23 Level: 1 Category: G
224. Q: What is the term for a sterile male equine due to removal of the testicles?
A: Gelding
Ref: ES 23 Level: 1 Category: G
225. Q: What is the term for a sterile female equine due to removal of the ovaries?
A: Spayed mare
Ref: ES 23 Level: 1 Category: G
226. Q: The average horse is considered to be in his prime between what ages?
A: 6 - 10 years old
Ref: ES 24 Level: 2 Category: H
227. Q: Name the condition where there are an insufficient number of red blood cells & can be caused by a deficiency of folic acid?
A: Anemia
Ref: ES 129 Level: 3 Category: I
228. Q: What is the common term for the nutritional disease, osteodystrophia fibrosa?
A: Bighead disease (Hyperparathyroidism)
Ref: ES 132 Level: 3 Category: I
229. Q: What are the normal TPR rates for a foal?
A: Temperature=100 +/- 2 degrees, Pulse=80 +/- 10 beats per minute, Respiration=30 +/- 10 breaths per minute

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- Ref: ES 155 Level: 3 Category: I
230. Q: What are the 2 types of thermometers used with horses?
 A: Conventional thermometer & digital thermometer
Ref: ES 157 Level: 2 Category: I
231. Q: When using a conventional thermometer to take a horse's temperature, it should be first shaken down to a reading below what number?
 A: Less than 96 degree F
Ref: ES 157 Level: 3 Category: I
232. Q: How long should both the conventional & digital thermometer remain in the anus to get an accurate reading?
 A: Conventional = 3 - 4 minutes, Digital = generally less than one minute but check manufacturers instructions
Ref: ES 158-159 Level: 3 Category: I
233. Q: What should be done to a conventional thermometer to ensure that it is not sucked into the anus or expelled & broken?
 A: Attach a string 1 - 2 feet long to the loop at top of the thermometer & the other end of the string to a clothes pin or hair clip
Ref: ES 157 Level: 3 Category: I
234. Q: What is the term for the measurement of how fast the heart is pumping blood throughout the body?
 A: Pulse rate or heart rate
Ref: ES 159 Level: 2 Category: I
235. Q: What veterinarian tool is used to listen to the heart rate?
 A: Stethoscope
Ref: ES 160 Level: 2 Category: I
236. Q: You can use your fingers to feel the artery just inside the jaw or cheek groove when taking the pulse rate. Which artery is being felt?
 A: Facial artery
Ref: ES 160 Level: 2 Category: I
237. Q: The pulse rate is usually taken under the elbow, along the girth line, on which side of the horse?
 A: Left side of the horse's body (heart is closer to the left side than the right)
Ref: ES 160 Level: 3 Category: I
238. Q: Name 2 easy methods for determining the respiration rate of a horse.
 A: Count the raise & fall of the flank as one movement or Hold a tissue about 3 inches in front of one nostril & count the number of times it moves per minute
Ref: ES 161 Level: 3 Category: I
239. Q: Which pulse rate is barely detectable in a healthy horse at rest but becomes strong & throbbing if there is an injury or laminitis in the foot?
 A: Digital pulse
Ref: ES 161 Level: 3 Category: I
240. Q: Name the 2 places in the foot region to check for a digital pulse.
 A: Just to the outside of the center on the back of the pastern just above the coronary band & Just above the pastern joint

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Ref: ES 162-163 Level: 3 Category: I

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241. Q: When body systems are calling all the available blood to the center of the body & away from the extremities in an effort to maintain function of the vital organs, the horse may be going into shock & have a slowed CRT. What is CRT?
A: Capillary refill time
Ref: ES 163 Level: 3 Category: I
242. Q: Describe the CRT of a healthy horse.
A: Capillary refill time of 1 to 3 seconds & gums should be medium pink color
Ref: ES 163 Level: 3 Category: I
243. Q: Name 2 simple ways to determine the dehydration level of a horse.
A: Skin pinch test at junction of neck & shoulder at the center of the neck on the slope of the shoulder of more than 2 seconds shows dehydration & Open horse's lips & check with the tip of your finger whether the gums feel moist, gums that feel dry or tacky
Ref: ES 164 Level: 3 Category: I
244. Q: What is the term for an imbalance in normal body function, an infection or state of illness in one or more parts of the body, causing health issues?
A: Disease
Ref: ES 167 Level: 3 Category: I
245. Q: What is the term for the condition resulting from the presence of organisms in the body that cause health issue or disease?
A: Infection
Ref: ES 167 Level: 3 Category: I
246. Q: What is the term for the ability to cause the spread of disease by means of organisms such as bacteria, virus, protozoa, fungus & rickettsia?
A: Infectious
Ref: ES 167 Level: 3 Category: I
247. Q: What is the term for the ability to spread from one animal to another through exposure to the ill animal itself, to its body secretions, to a wound or sore or to a parasite from the infected animal?
A: Contagious
Ref: ES 167 Level: 3 Category: I
248. Q: What is the term for not being able to spread from one animal to another through exposure to the ill animal itself, or to its body secretions, to a wound or sore or to a parasite from the infected animal?
A: Non-contagious
Ref: ES 167 Level: 3 Category: I
249. Q: What are minute bundles of genetic material wrapped in a protective outer layer of protein, do not need oxygen to survive, have not waste products, need a living organism in order to reproduce, can cause health problems & affect the immune system of the h
A: Viruses
Ref: ES 168 Level: 3 Category: I
250. Q: What is the term for an illness or health related issue that is within the animal's body & may affect one, several or all parts of the body?
A: Systemic
Ref: ES 168 Level: 3 Category: I
251. Q: Even though they are a plant, they contain no chlorophyll & reproduce form spores & can be classified as yeast, molds, mildew or mushrooms. Name this item.
A: Fungus

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- Ref: ES 168 Level: 3 Category: I
252. Q: What are 4 classifications of fungi?
 A: Yeast, molds, mildew or mushrooms
 Ref: ES 168 Level: 3 Category: I
253. Q: What are microorganisms that are smaller than bacteria but bigger than viruses in size & are found in & usually spread by parasitic arthropods such as ticks, lice, fleas & mites?
 A: Rickettsia
 Ref: ES 168 Level: 3 Category: I
254. Q: What are the 2 basic types of immunity?
 A: Passive & active
 Ref: ES 169 Level: 3 Category: I
255. Q: Name 5 health issues caused from infections by bacteria.
 A: Anthrax, Brucellosis, Leptospirosis, Lyme disease, Salmonellosis, Strangles (distemper), Tetanus (lockjaw)
 Ref: ES 170-172 Level: 5 Category: I
256. Q: Name 3 health issues caused by infections from fungi.
 A: Aspergillosis, Blastomycosis, Coccidioidomycosis, Histoplasmosis
 Ref: ES 173 Level: 5 Category: I
257. Q: Name 2 health issues caused by infections from protozoa.
 A: Equine piroplasmiasis (babesiosis), Equine Protozoal Myeloencephalitis (EPM), Giardiasis (Giardia infection)
 Ref: ES 174 Level: 5 Category: I
258. Q: Name a health issue caused by infections from rickettsia.
 A: Equine Ehrlichiosis & Potomac horse fever
 Ref: ES 175 Level: 3 Category: I
259. Q: Name 7 health issues caused by infections from viruses.
 A: EIA (equine infectious anemia), Equine influenza, Equine Viral arteritis, Equine Viral Encephalomyelitis (sleeping sickness), Rabies, Rhinopneumonitis, Viral Enteritis (rotavirus infection), Vesicular stomatitis, West Nile Virus
 Ref: ES 176-180 Level: 5 Category: I
260. Q: Name 4 disorders of the foot.
 A: Navicular disease, laminitis (founder), Thrush, White line disease (seedy toe)
 Ref: ES 182-183 Level: 5 Category: I
261. Q: Name the 4 stage life cycle of most internal & external parasites.
 A: Egg, larva, pupa, adult
 Ref: ES 184 Level: 2 Category: I
262. Q: What are the 2 main types of flies & give 2 examples of each?
 A: Biting flies--stable fly, horse fly, deer fly, horn fly, gnat, black fly & Non-biting flies--house fly & face fly
 Ref: ES 186 Level: 5 Category: I
263. Q: What are the 2 general types of mites?
 A: Burrowing or sarcoptic mites & Biting or psoroptic mites
 Ref: ES 187 Level: 2 Category: I

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264. Q: Which of the 2 general types of mites cause the most damage to the host?
A: Burrowing or sarcoptic mites
Ref: ES 187 Level: 3 Category: I
265. Q: What is the common name for the internal parasite, Dictyocaulus-arnfieldi?
A: Lung worm
Ref: ES 189 Level: 3 Category: I
266. Q: Which internal parasite infection is usually related to exposure to donkeys?
A: Lung worms
Ref: ES 189 Level: 3 Category: I
267. Q: Threadworm produce parthenogenetic eggs. What are parthenogenetic eggs?
A: Eggs that are able to mature & hatch into larvae without fertilization by a male
Ref: ES 190 Level: 3 Category: I
268. Q: What is the term for keeping biological things (both plants & animals) from being infected with agents that can cause health & disease issues by mechanical means?
A: Biosecurity
Ref: ES 193 Level: 3 Category: I
269. Q: What are the 5 gaits that are common to most breeds of horses?
A: Walk, Trot or jog, Canter or lope, Gallop or run & Back
Ref: ES 69 & 70 Level: 2 Category: K
270. Q: What is the gait that is common to all breeds of horses & the slowest of all gaits?
A: Walk
Ref: ES 70 Level: 1 Category: K
271. Q: What is the average length of stride at the walk?
A: Less than 6 feet
Ref: ES 70 Level: 2 Category: K
272. Q: What is the average length of stride at the trot?
A: About 8 - 9 feet
Ref: ES 72 Level: 2 Category: K
273. Q: What is the average length of stride at the gallop or run?
A: 15 - 20 feet for most riding horses, 21- 23 feet for Thoroughbreds
Ref: ES 78 Level: 2 Category: K
274. Q: What is the average length of stride at the canter or lope?
A: About 10 - 15 feet
Ref: ES 74 Level: 2 Category: K
275. Q: What is the average length of stride at the back?
A: 3 feet or less
Ref: ES 79 Level: 2 Category: K
276. Q: What is the average speed of the walk?
A: 4 mph
Ref: ES 70 Level: 2 Category: K
277. Q: What is the average speed of the trot?
A: 8 mph although Standardbreds can trot over 30 mph

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- Ref: ES 72 Level: 2 Category: K
278. Q: What is the average speed of the jog?
 A: About 6 mph
 Ref: ES 72 Level: 2 Category: K
279. Q: What is the average speed of the canter?
 A: 12 mph
 Ref: ES 74 Level: 2 Category: K
280. Q: What is the average speed of the gallop or run?
 A: About 18 mph (Thoroughbreds run about 35 mph & Quarter horses can run up to 50 mph in a quarter mile)
 Ref: ES 78 Level: 2 Category: K
281. Q: What is the average speed of the run in a Thoroughbred racehorse?
 A: About 35 mph
 Ref: ES 78 Level: 2 Category: K
282. Q: What is the average speed of the run in a Quarter horse racehorse?
 A: Up to 50 mph
 Ref: ES 78 Level: 2 Category: K
283. Q: What is the term for the movement of the English rider that rises with every other beat of the trot?
 A: Posting
 Ref: ES 72 Level: 1 Category: K
284. Q: What is the correct lead for cantering or loping in a clockwise direction of the arena?
 A: Right lead
 Ref: ES 74 Level: 1 Category: K
285. Q: What is the correct lead for cantering or loping in a counter-clockwise direction of the arena?
 A: Left lead
 Ref: ES 74 Level: 1 Category: K
286. Q: Name 2 terms that indicate a horse is on one lead in the front & the other lead in the hind while cantering or loping?
 A: Disunited canter or lope & Cross-canter or cross-lope
 Ref: ES 76 Level: 2 Category: K
287. Q: What is the gait that is primarily seen in Standardbreds?
 A: Pace
 Ref: ES 79 Level: 1 Category: K
288. Q: What are the 2 racing gaits of the Standardbred?
 A: Pace & trot
 Ref: ES 79 Level: 1 Category: K
289. Q: What is the average speed of the pace of the Standardbred race horse?
 A: Over 30 mph
 Ref: ES 81 Level: 2 Category: K
290. Q: Name 4 gaits where for a brief moment in the movement the horse has only one foot on the ground.

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A: Running walk (plantation gait), Slow gait (amble or stepping pace), Rack & Fox trot
Ref: ES 81 Level: 5 Category: K

291. Q: What is the only diagonal 4 beat gait of all of the single foot gaits?

A: Fox trot
Ref: ES 81 Level: 2 Category: K

292. Q: Name the 4 gaits that can be classified as single foot gaits.

A: Running walk (plantation gait), Slow gait (amble or stepping pace), Rack & Fox trot
Ref: ES 81 Level: 5 Category: K

293. Q: Describe the new technology called gene mapping.

A: Identities & positions of the genes that make up humans & other animal species
Ref: ES 85 Level: 3 Category: K