

Name _____

County _____

Sample State 4-H Roundup Entomology Contest

I. Next to each common name, place the letter of the order in which the arthropod belongs. (25 points)

Common name	Orders
_____ 1. Sunspider	A. Hemiptera (Sternorrhyncha)
_____ 2. Springtail	B. Plecoptera
_____ 3. Smoky brown cockroach	C. Isopoda
_____ 4. Crab spider	D. Trichoptera
_____ 5. Firebrat	E. Phthiraptera (Anoplura)
_____ 6. Harvestmen	F. Thysanura
_____ 7. Vinegaroon	G. Hymenoptera
_____ 8. Biting midge	H. Ephemeroptera
_____ 9. Scorpionfly	I. Araneae
_____ 10. Pillbug	J. Coleoptera
_____ 11. Caddisfly	K. Opiliones
_____ 12. Human body louse	L. Siphonaptera
_____ 13. Horntails	M. Diptera
_____ 14. Mayfly	N. Acarina
_____ 15. European earwig	O. Mecoptera
_____ 16. Human flea	P. Dermaptera
_____ 17. Chigger	Q. Psocoptera
_____ 18. Stonefly	R. Hemiptera (Heteroptera)
_____ 19. Armored scale	S. Blattodea
_____ 20. Backswimmer	T. Collembola
_____ 21. Mantidflies	U. Scorpiones
_____ 22. Shaft louse	V. Solifugae
_____ 23. Striped bark scorpion	W. Thelyphonida
_____ 24. Plum curculio	X Neuroptera
_____ 25. Barklice	Y. Phthiraptera (Mallophaga)

II. Read the questions carefully . Write a T for true and F for False (15 points).

26. _____ Grubs are the immature stage of beetles.
27. _____ Immature stages of stoneflies and dobsonflies are found in the soil.
28. _____ Immature stages of mantids and lacewings are predaceous.
29. _____ A few species of true bugs have chewing mouthparts.
30. _____ Fleas are not known to transmit any disease.
31. _____ Some beetle larvae have mouthparts modified for piercing and sucking.
32. _____ Mayflies are the only insects that molt after their wings are fully developed.
33. _____ From man's standpoint, the order Hymenoptera is considered the most beneficial in the entire insect class.
34. _____ The mouthparts of some Hymenoptera are made for both chewing and sucking.
35. _____ Insects in the order Diptera are responsible for the spread of malaria.
36. _____ Mayflies are the only insects that do not feed as adults.
37. _____ All insects in the Order Hemiptera feed on plants.
38. _____ Thrips sometimes bite humans.
39. _____ Insects may be collected any day of the year unless the temperature is below freezing.
40. _____ Common household pins should not be used to pin insects unless one does not have insect pins.

III. Fill in the blanks (10 points).

41. & 42. The absolute minimum information that should appear on an insect label is the _____ and the _____.
43. The greatest economic benefit provided by honey bees is derived from _____.
44. _____ are the front pair of appendages of an arachnid that are often specialized with fangs.

45. _____ are the tubular structures on each side of the abdomen of aphids from which pheromones or honeydew is expelled.
46. An insect resting stage, usually induced by environmental signals or extreme conditions like winter or summer is called _____.
47. Egg development without fertilization is called _____.
48. Insect using plants as a food source (plant eating) are called _____ insects.
49. A triangular-shaped area on the back of Hemiptera and some Diptera and Coleoptera that is often the identifying characteristic of Hemipterans is called the _____.
50. The _____ is the outer portion of an insect body which may be relatively soft like a caterpillar or hardened like many beetles.

IV. Match the arthropod with the term with which it is best associated (15 points).

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| 51. _____ Cockroach | A. Naiad |
| 52. _____ Immature Plecoptera | B. Cephalothorax |
| 53. _____ Stink bug | C. Conicle |
| 54. _____ Mayfly adult | D. Subimago |
| 55. _____ Aphid | E. Siphoning |
| 56. _____ Termite | F. Tegmen |
| 57. _____ Honey bee | G. Secondary reproductive |
| 58. _____ Housefly | H. Piercing and chewing |
| 59. _____ Monarch butterfly adult | I. Ootheca |
| 60. _____ Grasshopper | J. Maggot |
| 61. _____ Winged insect | K. Pollination |
| 62. _____ Mosquito | L. Hemelytra |
| 63. _____ Collembola | M. Imago |
| 64. _____ Adult insect | N. Alate |
| 65. _____ Spider | O. Collophore |

V. Match the following arthropods with where or on which they are found (20 points):

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| 66. _____ Termite | A. Milkweed |
| 67. _____ German cockroach | B. Stored grain |
| 68. _____ Bollworm | C. Kitchen cabinet |
| 69. _____ Rice weevil | D. Board piles |
| 70. _____ Monarch | E. Cotton |
| 71. _____ Caddisfly | F. Ornamental trees |
| 72. _____ Plum curculio | G. Stream |
| 73. _____ Soft scales | H. Weeds |
| 74. _____ Fireflies | I. Rotting stump |
| 75. _____ Recluse spider | J. Peaches |
| 76. _____ Cat flea | K. Old tires |
| 77. _____ Clothes moth | L. Wool |
| 78. _____ Bed bugs | M. Dogs |
| 79. _____ Mosquito larvae | N. Birds |
| 80. _____ Chewing lice | O. Humans |
| 81. _____ Bagworm | P. Fermenting fruit |
| 82. _____ Sap Beetle | Q. Juniper (cedar) |
| 83. _____ Diamond back caterpillar | R. Pond bank |
| 84. _____ Blister beetle | S. Alfalfa field |
| 85. _____ Toad bug | T. Cabbage |

VI. Match the type of antenna with the insect to which it belongs (5 points)

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| 86. _____ Dragonfly | A. Elbowed |
| 87. _____ Male mosquito | B. Moniliform |
| 88. _____ Ground beetle | C. Filiform |
| 89. _____ Ants | D. Setaceous |
| 90. _____ Termite | E. Plumose |

VII. Match the type of leg with the insect to which it belongs (5 points)

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| 91. _____ Cursorial | F. Backswimmer |
| 92. _____ Raptorial | G. Praying mantis |
| 93. _____ Fossorial | H. Mole cricket |
| 94. _____ Saltatorial | I. Grasshopper |
| 95. _____ Natatorial | J. Cockroach |

VIII. Place the letter of the organism next to the disease(s) it transmits (5 points).

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|--------------------------|---------------------|
| 96. _____ Lyme disease | A. Screwworm fly |
| 97. _____ Malaria | B. Human body louse |
| 98. _____ Typhus | C. Ticks |
| 99. _____ Bubonic plague | D. Fleas |
| 100. _____ Myiasis | E. Mosquitoes |

Tie-breaker questions (5 points).

1. A certain species of female fly catches a female mosquito and cements her egg to the ventral surface of the mosquito. When the mosquito alights on a human, the fly egg hatches immediately and the fly larva bores in through the skin. This fly (not the mosquito) is known as the _____.
2. The name _____ is another name for the order Hemiptera.
3. Insects in the order _____ have silk glands in their tarsi.
4. Three orders of insects which can damage books and papers are _____, _____, and _____.
5. The _____ lays a single large egg.