School Name:_____ _ **Rank:** _____.

Team Name:_____ **Raw score:** _____.

Ecology

Aviation Invitational Science Olympiad

December 2, 2017

Student(s): 1)_____ 2) _____

1.	T	F	_____.		28.	A	B	C	D	
2.	T	F	exotic _____.		29.	A	**B**	C	D	
3.	**A**	B	C	D	30.	A	B	C	D	
4.	A	**B**	C	D	31.	A	**B**	C	D	
5.	A	B	**C**	D	32.	A	B	**C**	D	
6.	A	B	**C**	D	33.	A	B	**C**	D	
7.	A	B	C	**D**	34.	**A**	B	C	D	
8.	A	B	**C**	D	35.	A	B	C	D	
9.	A	B	C	**D**	36.	**A**	B	C	D	
10.	A	**B**	C	D	37.	A	B	C	D	
11.	**A**	B	C	D	38.	A	B	**C**	D	
12.	A	**B**	C	D	39.	**A**	B	C	D	
13.	A	B	**C**	D	40.	A	B	C	**D**	
14.	**A**	B	C	D	41.	**A**	B	C	D	
15.	A	B	C	**D**	**42.**	A	B	C	**D**	
16.	A	B	C	D	43.	A	B	C	D	
17.	A	B	**C**	D	44.	A	**B**	C	D	
18.	A	B	**C**	D	45.	A	B	C	D	
19.	A	B	C	**D**	46.	A	B	C	**D**	E
20.	A	B	C	D	47.	A	B	C	D	**E**
21.	A	**B**	C	D	48.	A	B	**C**	D	
22.	**A**	B	C	D	49.	A	B	C	D	**E**
23.	A	B	**C**	D	50.	**A**	B	C	D	
24.	A	B	**C**	D	51.	A	**B**	C	D	
25.	A	B	C	**D**	52.	A	**B**			
26.	A	B	C	**D**	53.	A	B	**C**	D	
27.	A	B	**C**	D	54.	A	B	C	D	

55. A B C D

56. A **B** C D

57. A B C D

58. A B **C** D

59. A B C **D**

60. A B C D

61. A B C **D**

Completion:

62. ____ Ecosystem _____

63. ___ symbiosis_____

64. _____biotic_____

65. ___ mutualism_____

66. _____decomposition_____

67. ____ heat_____

68. ___ biomass_____

69. __ ecosystem_____

70. _____ carrying capacity_____

71. _____ exponential_____

72. _____ Sonoran_____

73. _____ Mojave_____

74. ___ Sonoran_____

75. a b c d e f **g**

76. **a** b c d e f g

77. a b c d **e** f g

78. a b c d e **f** g

79. a b **c** d e f g

80. a **b** c d e f g

81. a b c **d** e f g

82. _____ Grassland_____

83. _____ Desert_____

84. abiotic factors – any nonliving components of an ecosystem: soil, minerals and other chemicals, pH, weather, climate, water, light, moisture, most limiting factors (4 points, at least 3 factors)

85. ____ Water_____ (1 point)

86. _Chihuahuan Desert.
Great Basin Desert,
__Mojave Desert
___Sonoran Desert

87. Carbon dioxide, Methane, water vapor, nitrous oxide, ozone, CFCs; greenhouse effect = The process in which greenhouse gases in the atmosphere trap heat from the sun and keep Earth warm. The greenhouse effect is necessary for life on Earth, but too many gases in the atmosphere could make our planet's temperatures rise too high. global warming = an increase in the average temperature of the earth's atmosphere (especially a sustained increase that causes climatic changes). (5 points, 3 for gases, 2 for difference between the two)

Short Answer:

10 on top

100

1,000

10,000 - Bottom

88.

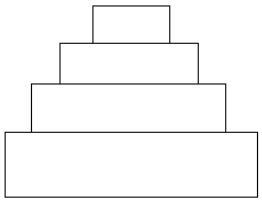

Figure 1

89. Pyramid of numbers (spindle-shape)__
*Sometimes the pyramid of numbers doesn't look like a pyramid at all. This could happen if the producer is a large plant such as a tree, or if one of the animals is very small. Remember, though, that whatever the situation, the producer still goes at the bottom of the pyramid

90. Bottom- grass (P=producer). Any omnivore/herbivore (PC Primary consumer), carnivore (SC=secondary consumer), decomposer/carnivore {TC = Tertiary consumer) (4points, 1 each level)

91. _____ Nitrogen cycle

_____ Nitrogen fixation

Tie Breakers:

92. •large surface area for cooling – ex. rabbit ears; waxy surface to contain water;
• large water retaining trunks, stocks, humps, or holding areas to have a water supply in case of drought;
• needles as opposed to leaves to conserve water;
• spines and poisons for protection;
• nocturnal to conserve water and energy, so as not to overheat;
• CAM photosynthesis to conserve water
(6 points, Any three or other appropriate answer)

93. •Some animals, such as bison, have broad, flat-topped teeth and digestive systems especially adapted to feed on grasses.
•Many prairie animals have front legs and paws that allow them to burrow into the ground, where they are protected from predators.
•Many prairie animals are adapted for nocturnal life; that is, they are active at night, which helps conceal their presence from predators.
•The color of many prairie animals blends in with the plant life, which also helps them hide from predators.
•The colorful blossoms attract insects to pollinate them.
•Extensive root systems for some shrubs can get water from far down in the Earth. Different species' roots get most of their water and nutrients from different levels in the soil.
•Three examples of animal adaptation are first giraffes because their necks are adapted to feed from the tall trees instead of feeding from the smaller trees where all the other animals feed.
(6 points, any three or other appropriate answer)

94. _Carbon dioxide, Methane, water vapor, nitrous oxide, ozone, CFCs;
greenhouse effect = The process in which greenhouse gases in the atmosphere trap heat from the sun and keep Earth warm. The greenhouse effect is necessary for life on Earth, but too many gases in the atmosphere could make our planet's temperatures rise too high.
global warming = an increase in the average temperature of the earth's atmosphere (especially a sustained increase that causes climatic changes).
(5 points, 3 for gases, 2 for difference between the two)