



SCIENCE OLYMPIAD
AT THE
UNIVERSITY OF FLORIDA

Northern Regional: January 19th, 2019

Disease Detectives B Answer Key

Name(s): _____

Team Name: _____

School Name: _____

Team Number: _____

Rank: _____

Score: _____

Answer Key

Part One: Background and Surveillance

(34 points)

Multiple Choice (1 pt each):

1. B
2. D
3. E
4. C
- 5A. B
- 5B. D

6. Short answer (4 points total):

Acceptable answers:

1. Surveillance/Define the problem/Identify problem/Acknowledge problem (1 point for any)
2. Risk factor identification/Analyze problem/Determine causes (1 point for any)
3. Intervention evaluation/intervention/evaluation/ (give 1 point if any are mentioned in last step or before-last step)
4. Implementation/Apply solution (give 1 point if said as last step or before-last step)

(If answer choices are given that are synonyms or wordy elaborations, feel free to give them the point.)

Multiple Choice (1 point each):

7. C
8. B
9. D

Definitions (1 point each):

10. Epidemic
11. Surveillance
12. Cluster
13. Endemic
14. Sporadic
15. Vector
16. Pandemic
17. Outbreak
18. Risk
19. Fomite

True or False (1 point each):

Only give credit if written out, no T/F abbreviations allowed!

20. True
21. True
22. False
23. True
24. False

Multiple Choice (1 point each):

25. D

26. Short answer (2 points):

Answer:

1. Data Collection
2. Data Analysis
3. Data Interpretation
4. Data Dissemination
5. Action

Do not give any points if the steps are not numbered.

Give 2 points for correct order.

Give 1 point if three out of five steps are correct.

Multiple Choice (1 point each):

27. A
28. C

True or False (1 point each):

Only give credit if written out, no T/F abbreviations allowed!

29. False

Part Two: Outbreak Investigation

(43 points)

Short Answer (points vary):

30. **1 point**, Prepare for field work
- 31.

Gather supplies/equipment, research the disease, research the situation, make administrative arrangements, make travel arrangements, contact local officials.

Give points for any two they get correct, be generous, 2 points total

32.

4 points total

Give 3 points for mentioning using local records **AND/OR** determining the usual amount of influenza cases

Give 1 point if any mention is made of factors that could inflate the numbers (ex. differences in reporting, seasonal fluctuations, population changes)

33.

3 points total

Give 1 point for each:

1. Verify procedures used to diagnose problem/check methods
2. Check experimental/lab error
3. Commonality/interview patients to gain insight into cause, source, and spread

34.

4 points total

Give 1 point for each:

1. Clinical information (about disease)
2. Characteristics (of affected people)
3. Location or place (of outbreak)
4. Time (specific time during which outbreak or condition occurred)

35.

3 points total

Give 1 point for each:

Identifying information, demographic information, clinical information, risk factor information, reporter information.

36. **1 point**, confirmed

37. **1 point**, not a case

38. **1 point**, probable

39. **1 point**, confirmed

40. **1 point**, possible

41. **1 point**, confirmed

42. **1 point**, not a case

43. **1 point**, Line Listing (**must be exact**)

44. **1 point**, **either** EPI Curve **or** Epidemic Curve

45. **1 point**, No

46. **1 point**, continuous common source

47.

3 points total

Give 1 point for each:

Agent, Host, Environment

48. **1 point**, Cohort study

49. **1 point**, Any percent between 44% and 50%.

50. **1 point**, Any percent between 1% and 5%.

51. **1 point**, Any number between 14 and 17.

52. **1 point**, Yes

53.

4 points

Give 1 point for each:

Temporality

Consistency

Coherence/1-1 relationship

Strength of association

Biological plausibility

Dose/response (biological gradient)

54. **1 point**, Lab Verification **OR**

environmental studies

55.

1 point total

Give points for any: Do not allow children to touch swine, do not allow people to touch swine, fence off enclosure, educate people at fair, provide hand sanitizer, provide hand-washing station, educate about flu shot.

56. **1 point**, **Give points for either** communicate findings **OR** oral briefing **OR** written report.

Part Three: Patterns, Control, and Prevention

(24) points)

Multiple Choice (1 point):

57. B

58. D

59. **2 points**, C

60. D

Short Answer:

61. **4 points total**

Give 1 point for each of the following:

Control, Elimination, Eradication, Extinction

62.

5 points total

Give 1 point for any of the following:

Biological factors

Behavioral factors

Environmental factors

Immunologic factors

Nutritional Factors

Genetic Factors

Services

Social Factors

Spiritual Factors

63.

2 points total

Give one point for each definition:

Morbidity – the condition of being ill, diseased, or unhealthy

Mortality – the condition of being dead/death

Multiple Choice (1 point):

64. A

65. D

66. D

67. A

68. B

69. C

Short Answer:

70.

2 points total

Give both points for any number between 90% - 93%. No partial credit.