

Team Number: _____

School Name: _____ KEY _____



Microbe Mission B 2017 National Cathedral Competition

Place team sticker from Event Supervisor envelope
over this box. Check wristbands and verify team #
and school

Team # _____

Team/School Name: _____ KEY _____ KEY _____ KEY _____

Student Names (First & Last) PRINT LEGIBLY

1. _____

2. _____

Total Points Possible: 100 Total Points Earned: _____

Tie Breaker (e.g. +0.1, +0.2, etc.): _____ Rank: _____

PLACE ALL ANSWERS ON THE ANSWER SHEET

NO CELL PHONES

WAIT TO BE TOLD TO START

PUT SCHOOL NAME AND TEAM NUMBER ON EACH PAGE

ANSWER SHEETS WITHOUT TEAM #/SCHOOL RECEIVE A ZERO!

Team Number: _____

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Station A: (2 points each)

1. B
2. B
3. C
4. Dark Field
5. Scanning Electron Microscope (SEM)
6. Phase Contrast
7. Bright Field

Station B

8. (1 point each)
 1. Ocular
 2. Nosepiece
 3. Objective
 4. Stage
 5. Stage Clips
 6. Base
 7. Diaphragm
 8. Illuminator
 9. Course Adjustment
 10. Fine Adjustment
 11. Arm
 12. Body Tube
9. C (2 points)
10. Decrease, Increase, Increase, Decrease, Increase (1 point each)
11. Anything resembling this: ➤ (2 points)

Station C (15-22: 2 points each)

12. A, C, D, E (1 point each)
13. Eukaryotic cells have a nucleus and membrane-bound organelles; prokaryotic cells do not (2 points)
14. Chloroplasts and Cell Wall (2 points)
15. C
16. D
17. True
18. True
19. False
20. False
21. True
22. False

Station D (24-28: 2 points each)

23. (2 points each)
 - a. Lag - Reproduction materials made
 - b. Exponential - Fast Growth
 - c. Stationary - Cell production equals death
 - d. Death - More cells are dying than growing
24. Time
25. # of Cells (any units)
26. Limited food and Waste Pollution
27. A, B
28. Protozoa

Station E (2 points each answer)

29.
 - a. Coccus
 - b. Budding
 - c. Bacilli
 - d. Other
30. Comma
31. Gram-positive
32. Purple
33. Peptidoglycan
34. C

Station F (2 points each)

35. A, B, C, D (1 point if they have 2/4)
36. B
37. B
38. Enrich quality of soil
39. D
40. Fungi that help plants absorb phosphorus from soil
41. Cyanobacteria and algae
42. False
43. False
44. True
45. True
46. False
47. False
48. False

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Station G

49. (2 points each)
- Fungus
 - Virus
 - Nematode
 - Dinoflagellate
 - Protozoan
 - Bacterium
 - Prion
 - Fungus
 - Virus
 - Trematode or Fluke
 - Bacterium
 - Protozoan
 - Bacterium
50. Vector (2 points)
51. C (2 points)
52. B (2 points)

Station H

53. B, C, F (1 point each correct answer)
54. B (2 points)
55. Bioremediation (2 points)
56. (2 points each)
- Isolate microbes to remove
 - Provide conditions to remove
57. A, B, C, D (2 points)
58. C (2 points)
59. False (2 points)
60. True (2 points)
61. False (2 points)
62. True (2 points)

Total: ____/178

Tiebreaker

- Name which specific microorganism causes the diseases below. Ex. Strep Throat can be caused by *Streptococcus pyogenes*. *S. pyogenes* is also acceptable.
 - Legionnaires' disease:
Legionella Pneumophila
 - Dental Caries: *Streptococcus mutans*
 - Tetanus: *Clostridium Tetani*
 - Peptic Ulcer Disease: *H. Pylori*
 - Syphilis: *T. pallidum*
 - Lyme Disease: *B. burgdorferi*
 - Schistosomiasis: *Trematodes, Flukes*
 - Malaria: *Plasmodium*
- Rabies: *Rhabdovirus Lyssavirus*

Classify the following drugs as antibiotic, antiviral, antifungal, or antiprotozoal.

 - Ketoconazole: **Antifungal**
 - Enfuvirtide: **Antiviral**
 - Amphotericin B: **Antifungal**
 - Clindamycin: **Antibiotic**
 - Artemisinin: **Antiprotozoal**
 - Pyrimethamine: **Antiprotozoal**
 - Simeprevir: **Antivirus**
 - Ornidazole: **Antiprotozoal**
 - Ganciclovir: **Antivirus**
 - Praziquantel: **Antibiotic**
 - Vancomycin: **Antibiotic**