

## SSSS 2020 Fossils Test Key

1. Genus Hydnoceras
2. 90 degrees
3. skeleton, made of six-pointed siliceous spicules
4. No
5. osculum
6. a large opening in which the current of water exits after passing through the spongocoel/ostia/ostium
7. ostium/pore
8. Genus Rhombopora
9. Order Dendroidea
10. Greek origins, "sweet root" (1 point for Greek, 1 point for meaning)
11. True
12. Yes
13. E.
14. Cephalon
15. Pygidium
16. Left Pleural Lobe
17. Right Pleural Lobe
18. Diagram B
19. Split apart to help when molting (must mention molting)
20. Carried as amulets for protection/good luck
21. filter food **or** let water pass through for smooth locomotion (accept both)
22. Yes
23. False
24. False
25. E, G, L, C, H, M, D, J, A, N, K, B, F (-1 for each error)
26. No, Platyceras lived before Baculites/Baculites lived in Cretaceous (must indicate Platyceras lived before Baculites)
27. D, Principle of cross cutting relationships
28. E
29. False
30. Yes
31. layers of sediment were originally deposited horizontally under the action of gravity (must mention gravity)
32. False
33. Tiktaalik 
34. Genus Acanthostega
35. Legs lacked joints/degrees of motion for terrestrial locomotion or spine/ribs were not adapted to support its weight while on land (accept either answer)
36. True
37. False
38. Teeth and skulls (1 point for teeth, 1 point for skull)
39. Had teeth on palate which helped seizing/holding onto prey then throwing it back and swallowing whole
40. True
41. Trail or Trackway (accept both)
42. Order Eurypterida (-.5 if answered Eurypterid)
43. Yes, New York
44. Order Orthocerida
45. No
46. Scavenger
47. Green River Formation, Turritella (1 point each)
48. B, A, C, D (1 point each)
49. The valves are controlled by muscles and death results in relaxation of muscles, hence a closed valve.
50. Strophic (straight hinges), Astrophic (curved hinges) (1 point for name, 1 point for description, 4 points total)
51. Brachial (dorsal) valve: supports the lophophore  
Pedicle (ventral) valve: attaches to the pedicle  
(Must mention both names for full point)  
(1 point for names, 1 point for function)
52. Hinge line
53. T
54. 10/ten
55. Class Blastoidea

56. Theca, 13 total plates, [3 basal plates, 5 radial plates, and 5 deltoid plates] (8 points total)
57. False
58. Greek, “snake tail” or “serpent” (1 point for Greek, 1 point for meaning)
59. Bottom of the central disk (**must mention bottom**)
60. Brittle stars, 1 of the following [fall/detach limb/s when frightened, fragile nature, or fall apart after death] (2 points total)
61. Class Crinoidea, 1821 (.5 point for classification, .5 for year named)
62. False
63. Genus Dunkleosteus
64. Proves that they attacked/ate their own kind
65. Cleveland Museum of Natural History
66. Species *C. Megalodon* or Genus *Carcharocles/Carcharodon* (accept either)
67. False
68. A boluse is a pellet/mass of indigestible material (ex. bones) that forms in the stomach cavity and is later spat out, it prevents the digestive system of specimen A from being damaged (4 points total, up to 3 for quality definition, 1 for function)
69. 2 of any of the 3: USA, Canada, Morocco (**must have 2 for full point, no partial points**)
70. Only the head/skull is fossilized so any full body reconstructions must be made with other specimens as the body. (**must say only skull/head fossilized**)
71. Class Batoidea
72. False
73. Triassic - Present/Today
74. Ordovician - Present/Today
75. Hinge teeth
76. Helps to align the valves as they close/keeps valves closed and secure
77. Mobile suspension feeder (plankton)
78. Class Bivalvia, Latin origin, *bis* meaning “two” and *valvae* meaning “leaves of a door” (4 points total, 2 for class, 1 for language origin, 1 for meaning)
79. ctenidium/ctenidia, specialized organs for eating and breathing (1 point for name, 1 point for function)
80. **Must describe how deposits filled up rivers/lakes**
81. From youngest to oldest:
- Jingangshan Bed
  - Dawangzhangzi Bed
  - Lujiatun Bed
  - Jianshangou Bed
  - Dakangpu Bed
  - Basalt base
- (6 points each, 1 per subunit)
82. Any 2 of the following:
- cavenging,
  - fossil disturbance,
  - lake currents,
  - decomposition of the body prior to fossilization
  - changing physical conditions
- (2 points total, 1 per reason)
83. External mold - Outer imprints of the organism on the outer sediment  
Internal mold - Inner imprints of the inside of an organism, made when internal body is filled with a sediment that cements and the organism dissolves away
84. The last spike/period of extinction (bioevent) during the Devonian extinction that affected both marine and terrestrial life, proven by anoxic black shale layer and with an overlying sandstone deposit
85. 96%
86. Genus *Nucula*
87. Genus *Astarte*
88. Genus *Astarte*
89. Genus *Nucula*
90. Genus *Nucula*
91. Genus *Astarte*
92. Genus *Acer*
93. Genus *Platanus*
94. Genus *Platanus*
95. Genus *Platanus*
96. Genus *Acer*
97. Genus *Platanus*