Aquatic Science Fall Final Review

Electronic copies of all notes, powerpoints, and textbook chapters are available on my web site

Unit 1 – Intro to Freshwater Ecology (Notes, powerpoint, and Guide to Freshwater Ecology Chapters 1, 2, and 4)

1. What are the distinguishing characteristics of the four main types of wetland: Marsh, swamp, bog, and fen.

2. How can you tell a marsh from a swamp?

3. What percentage of the world’s water is found in the oceans? _________ glaciers? __________ liquid freshwater? ____

4. What unique characteristic of water insulates aquatic organisms in cold climate from extreme cold temperatures?

5. Diagram the water cycle and identify the different processes.

6. Within which river basin in Waco located?

7. What is the only naturally formed lake in Texas?

8. What is the difference between an lentic and lotic system?

9. What is the difference between a perennial, intermittent, and ephemeral stream?

10. Draw a diagram showing 1st, 2nd, and 3rd order streams
11. What is a riparian zone?

12. What are the stages of lake succession and do lakes become deeper or shallower with age?

13. What is a drainage basin?

14. What is a watershed?

**Unit 2 – Water Pollution** *(notes and Guide to Freshwater Ecology Chapter 3)*

15. What is the leading cause of water pollution in the U.S.?

16. What is the difference between point source and nonpoint source pollution?

17. What are some examples of both point source and nonpoint source pollution?

18. What is cultural eutrophication?

19. What is the process of nitrification?

20. What is the preferred pH range for most aquatic organisms?

21. Why is fecal coliform bacteria (*E. coli*) used as an indicator species and what does its presence indicate?

22. Aquatic species can be divided classified into pollution intolerant, intermediate, and pollution tolerant species. What mix of species would we expect to find in a healthy stream?

23. What is the difference between acute and chronic toxicity?

24. Nitrates and phosphates are examples of what kind of pollution?
25. What are the negative effects of higher water temperature on fish?

26. What class of pollutants causes algal blooms?

Unit 3 – Macro and Micro invertebrates (Notes, powerpoint, and Chapters 5 and 6 in Guide to Freshwater Ecology)

27. Protozoa and Algae are classified into which kingdom?

28. What is the main difference between protozoa and algae?

29. Which kingdom are macroinvertebrates classified as?

30. When a group of algal cells join together it is called a _____________________

31. Many protozoa use either flagella or cilia as means of propulsion. What is the difference between flagella and cilia?

Unit 4 – Water Resources (Notes, powerpoint, and Chapter 13 of the Living in the Environment textbook)

32. What is the world’s leading cause of illness?

33. What percentage of the world’s water supply is liquid freshwater that is available to living organisms?

34. What is an aquifer?

35. Throughout the world most water is used for what purpose?

36. How does Saudi Arabia obtain the majority of its drinking water?

37. What are the two main types of desalinization and how do they work?

38. What is the world’s largest known aquifer?
39. According to experts, what is the main reason why so much water is wasted in the U.S.?

40. What effect does deforestation and destroying vegetation have on flooding?

41. What effect does urban development have on flooding?

**Unit 5 – Intro to Oceanography** *(notes, powerpoint, prologue and Chapter 1 of Introduction to the World’s Oceans)*

42. Who holds the record for the deepest dive in history and what was the name of their vessel?

43. Who was the first European explorer to cross the Atlantic and set foot in North America?

44. Competition between which two countries led to the great voyages of discovery in the 1400s?

45. Who developed the law of universal gravitation which explains the tides?

46. What was Ben Franklin’s contribution to oceanography?

47. Which 19th century explorer froze his vessel into the polar ice pack in order to chart the current systems of the polar seas?

48. Which oceanographer found the Titanic?

49. According to geologists, what is the approximate age of the earth?

50. Which female oceanographer is one of the world’s leading experts in deep sea submersible diving?

51. The length of time required for the earth to complete one orbit of the sun is called a ___________.

52. The earth is tilted 23.5 degrees on its axis. How does this cause the changes in the seasons?
53. The vertical reference lines on globes and charts that run from pole to pole are called ______________

54. The horizontal reference lines on globes and charts are called _______________________

55. The prime meridian passes directly through _________________________________

56. What is the difference between a map and a chart?

57. One degree of latitude is equal to ____________ nautical miles

58. How did sailors determine their latitude at sea before the invention of GPS?

**Unit 6 – The Seafloor (notes, powerpoint, and Chapter 2 of introduction to the World’s Oceans)**

59. Bathymetry is the study of __________________________

60. What is a fathom?

61. What is the difference between an active and passive continental margin?

62. The submerged outer edge of a continent is called the ______________________________

63. Which classification of sea floor makes up the bulk of the world’s oceans?

64. How were submarine canyons formed?

65. What are hydrothermal vents and where are they found?

66. The world’s longest living animals are found at the mid ocean vents. They are:
67. What is “marine snow”?

68. Flat-topped seamounts eroded by wave action are called ________________

69. Are ocean trenches found where plates are separating or colliding?

70. What is a subduction zone?

71. Where are subduction zones found?

72. What is the world’s deepest ocean trench? ____________________________

73. Why is the abyssal plain so flat?

74. What are “black smokers?”