Ecology Test

1. (Mark all that apply) Which are limiting factors in a logistic growth model that results in a decreased biotic potential?
    a. Light, temperature, and soil type
    b. Competition
    c. Predation
    d. Herbivory

2. What is the Dutch elm disease an example of?
    a. Keystone Species
    b. Invasive Species
    c. Primary Succession
    d. Mutualism

3. How do fires affect the grasslands?
    a. They remove invasive species
    b. Prevent the growth of new trees
    c. Remove animals from the area
    d. Burns up the dead plant matter to recycle nutrients

4. (Mark all that apply) Which one(s) of these are predators of the desert?
    a. Grizzly Bears
    b. Coyotes
    c. Road runners
    d. Badgers

5. What is a keystone species?
    a. A species that is most abundant in an ecosystem
    b. A species that has the greatest impact on an ecosystem
    c. A species that is least abundant in an ecosystem
    d. A species that has the least impact on an ecosystem

6. Why are succulents well adapted for the desert?
    a. Thick branches allow for heavy wind

b. Extensive, shallow root systems are able to absorb large quantities of water in short periods
c. Thin, waxy needles prevent loss of water
d. Deep root systems tap into groundwater

7. Which of the following is not a part of the phosphorous cycle?
   a. Atmosphere
   b. Rocks
   c. Marine sediments
   d. Organisms

8. What is the average temperature of a grassland throughout the year?
   a. -20 to 30 degrees Fahrenheit
   b. 0 to 40 degrees Celsius
   c. -20 to 30 degrees Celsius
   d. 0 to 40 degrees Fahrenheit

9. The intrinsic rate of increase (r) is:
   a. Rate at which an ecosystem reaches its carrying capacity
   b. Not influenced by environmental resistance
   c. Determined by subtracting immigration from emigration
   d. Rate at which the population would grow with unlimited resources

10. Which could be a secondary or tertiary consumer?
    a. Decomposer
    b. Herbivore
    c. Detritivore
    d. Autotroph
    e. Carnivore

11. What is the average amount of rainfall (per year) in a Grassland?
    a. 0-20 inches
    b. 10-35 inches
    c. 90-120 inches
    d. 25-45 inches

12. What is the effect of acid rain on Grasslands?
    a. Production of smaller and fewer seeds
    b. Unbalancing species competition

     c. A and B
     d. Decreased rate of transpiration

13. The series of predictable changes that occur in a community over time is called
     a. Population growth
     b. Climax community
     c. Ecological succession
     d. Climate change

14. Define ecology

15. How is the phosphorus cycle different from other nutrient cycles?

16. Draw a diagram of the nitrogen cycle

17. What percent of grasslands are protected globally?

18. What role do grazing animals have on grasslands?

19. What are two common characteristics of desert mammals?

20. What is the effect of farming on grasslands?

21. What is the largest desert in America? (tie-breaker)

22. What are the four types of deserts?

23. If global warming continues, grasslands will take over which biome?

24. What is the most threatened biome on earth?

25. Which biome has the richest soil?

26. What are the Milankovitch cycles?

27. What does denudation mean?

28. A population size equal to 0 is said to be?

29. What is the shannon index used to describe?

30. Two adaptations animals have to survive in the grassland.

31. Food chains are typically characterized by how many links?

32. Compare and contrast the greenhouse effect and global warming.

33. How does deforestation influence the carbon cycle?

34. What are most desert soils called?

35. What is r selection? How can you relate it to the survival curve(s)?

36. What is K selection? How can you relate it to the survival curve(s)?

Refer to the diagram below
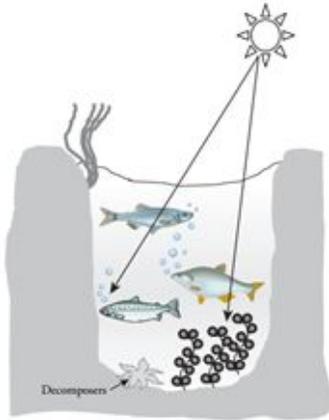
37. Which organisms need oxygen to survive?

38. If fertilizers got into the water, what would happen?

39. Describe the process identified in question 35

40. Why is this process a danger to the health of the ecosystem?

41. What is one solution to this problem?

Give definitions for each term

42. Fundamental niche

43. Biological magnification

44. Cogeneration

45. Neutral Theory

46. Biotic potential

47. Energy pyramid

True/False: If false, correct the statement
48. The species interaction most frequently represented in a food chain is mutualism.

49. The concept of carrying capacity is used to explain why populations exhibit increasing population size.

50. Habitat fragmentation is the biggest threat to biodiversity.

51. Lichens make good pioneer species because they can secrete acid that break down rock.

52.

Organism 1	Organism 2	Description of Relationship	Symbiotic Relationship
Dog	Flea		Parasitism
Fungus	Algae	The photosynthetic algae provide food for the fungus, which in turn provides a	

		suitable living environment for the algae.	
Termite	Cellulose-digesting bacteria		Mutualism
Cattle	Cattle egret	The cattle egret follows herds of cattle and eats the insects that the cattle stir up as they move through the grassland.	
Shark	Remora		Commensalism