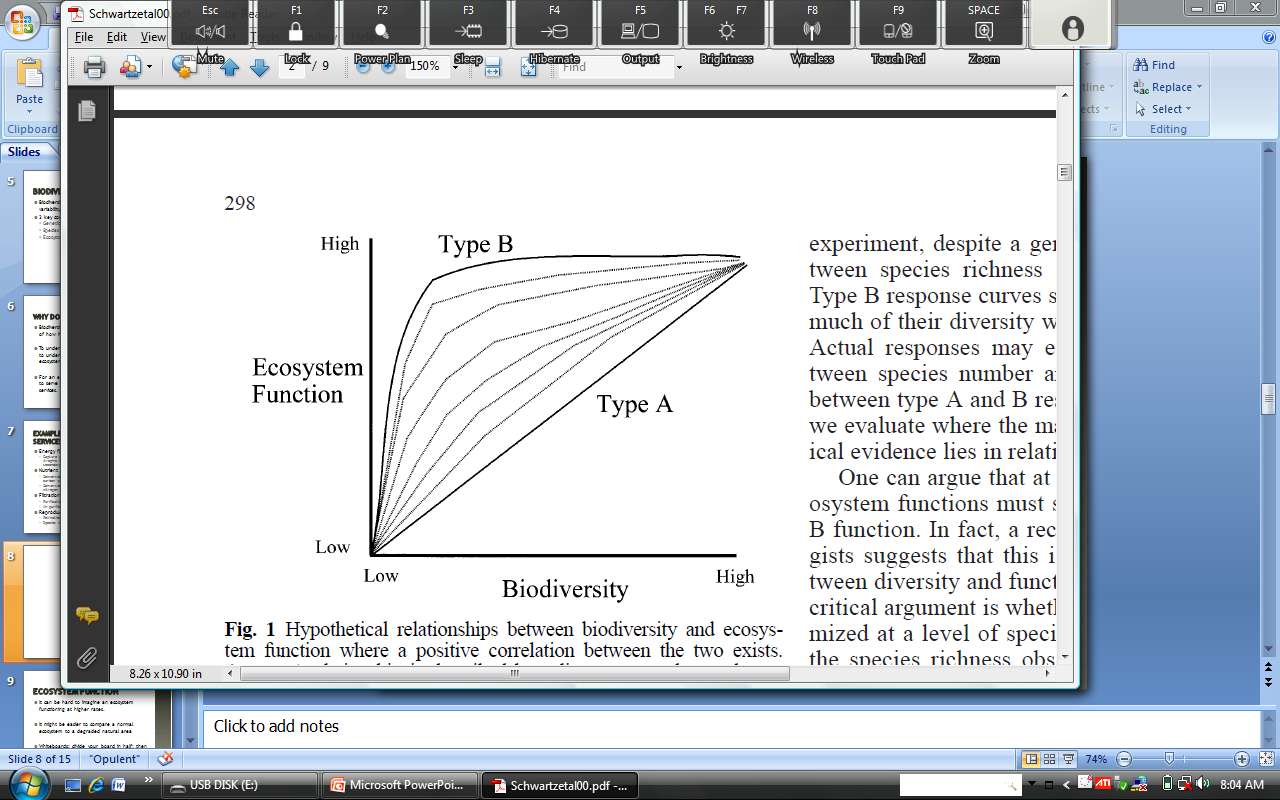
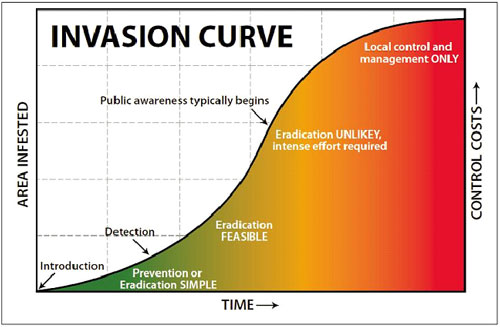
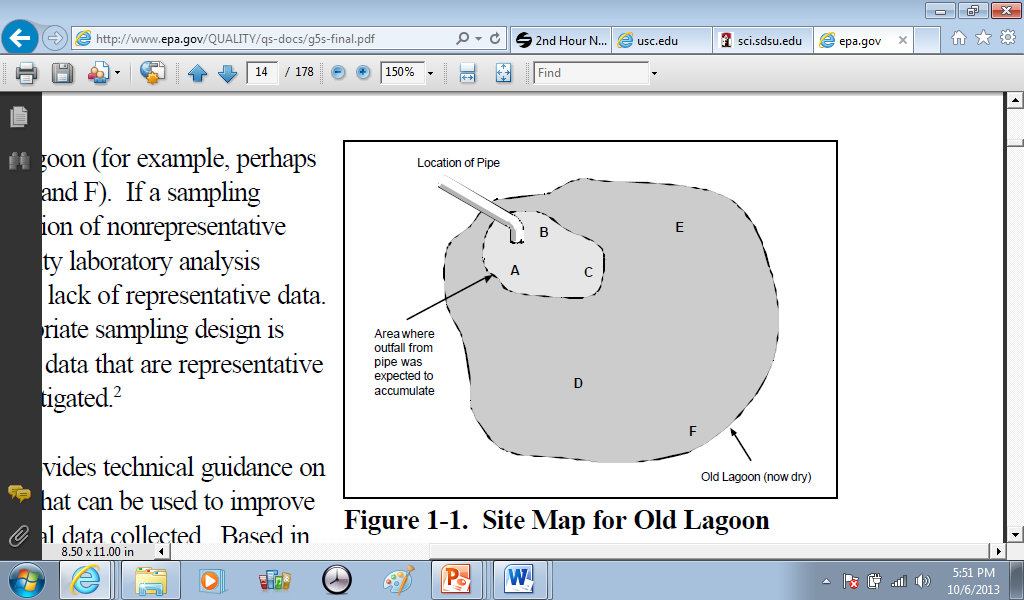
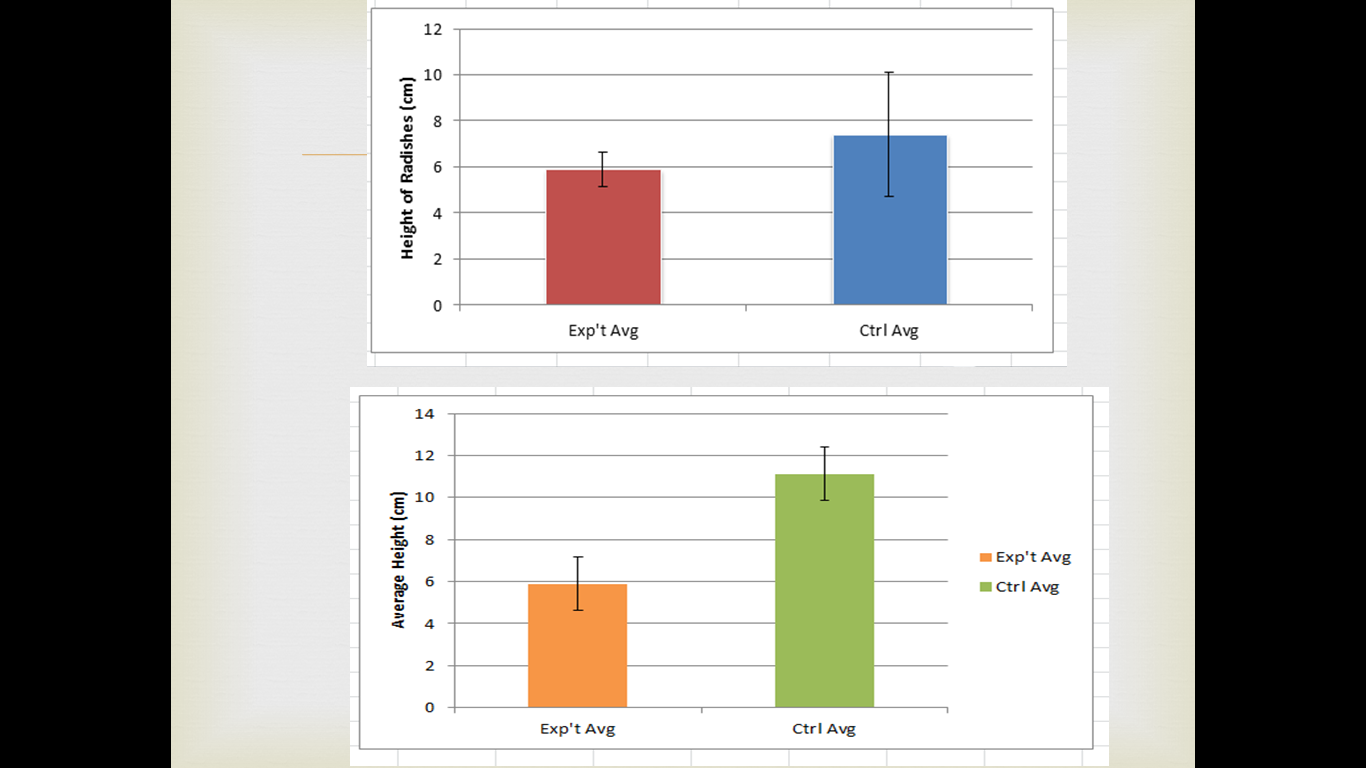
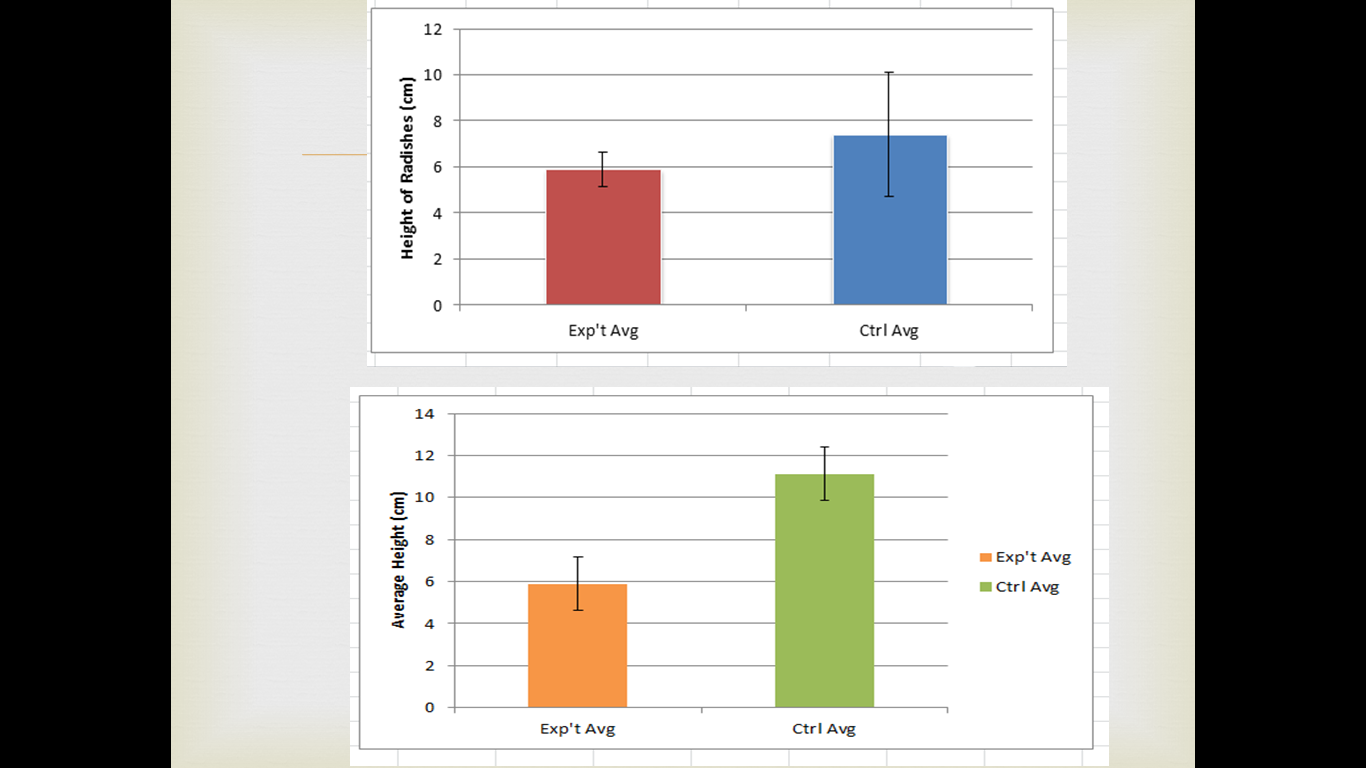
Wisc. ENR CDE – Questions Bank  
 C. Kohn, Agricultural Sciences, Waterford WI

Name: Hour Date: Score:

1. Which of the following is NOT a sustainable choice?
   1. Utilizing renewable energy
   2. Locally eliminating a species that has become invasive
   3. Using recycled materials
   4. Using sources of energy that are unable to be replenished.
2. Which of the following would describe Ecological Sustainability
   1. Ensuring that a practice does not diminish the culture, language, or lifestyle of a group of people.
   2. Making decisions that will not unfairly affect the income of one group of people for the benefit of another.
   3. Developing solutions that allow natural resources to renew themselves at a rate that ensures their continued existence in the future.
   4. Using resources in such a manner that they will be exhausted in a few generations.
3. Which of the following describes Social Sustainability?
   1. Ensuring that a practice does not diminish the culture, language, or lifestyle of a group of people.
   2. Making decisions that will not unfairly affect the income of one group of people for the benefit of another.
   3. Developing solutions that allow natural resources to renew themselves at a rate that ensures their continued existence in the future.
   4. Using resources in such a manner that they will be exhausted in a few generations.
4. Which of the following describes Economic Sustainability?
   1. Ensuring that a practice does not diminish the culture, language, or lifestyle of a group of people.
   2. Making decisions that will not unfairly affect the income of one group of people for the benefit of another.
   3. Developing solutions that allow natural resources to renew themselves at a rate that ensures their continued existence in the future.
   4. Using resources in such a manner that they will be exhausted in a few generations.
5. Which of the following does not describe any kind of sustainability?
   1. Ensuring that a practice does not diminish the culture, language, or lifestyle of a group of people.
   2. Making decisions that will not unfairly affect the income of one group of people for the benefit of another.
   3. Developing solutions that allow natural resources to renew themselves at a rate that ensures their continued existence in the future.
   4. Using resources in such a manner that they will be exhausted in a few generations.
6. Developing solutions that equally affect all people in a fair manner reflects what common theme of sustainability?
   1. Stewardship of Natural Resources
   2. Systems Approaches
   3. Long-term Planning
   4. Adaptation to Change
   5. Social and Economic Justification
7. Land Ethic is another term for which common theme of sustainability?
   1. Stewardship of Natural Resources
   2. Systems Approaches
   3. Long-term Planning
   4. Adaptation to Change
   5. Social and Economic Justification
8. Using foresight, planning, and education reflects this.
   1. Stewardship of Natural Resources
   2. Systems Approaches
   3. Long-term Planning
   4. Adaptation to Change
   5. Social and Economic Justification
9. Understanding the processes in nature in order to reduce energy use is reflective of…
   1. Stewardship of Natural Resources
   2. Systems Approaches
   3. Long-term Planning
   4. Adaptation to Change
   5. Social and Economic Justification
10. Which of the following was a primary cause of the Dust Bowl?
    1. Rapid change due to agricultural mechanization.
    2. Replacement of native species with shallow-rooted crops.
    3. Destruction of most of native ecosystems in the affected area.
    4. All of the above.
11. What led to the depletion of Midwestern forests in the late 1800s?
    1. Diseases and fungal infections of trees.
    2. Introduction of exotic, invasive species that wiped out many trees.
    3. Harvesting lumber at a rate that exceeded their ability to replenish themselves.
    4. All of the above.
12. Why were the federal and state governments able to acquire so much land for forest preserves in the 1930’s?
    1. The land was cheap because it was so depleted.
    2. The land was abandoned because of depletion.
    3. Pres. Roosevelt used government take-over to acquire land by force.
    4. Many people were unable to keep their land because of the Depression.
13. The person considered to be the father of wildlife management is…
    1. Rachel Carson b. Teddy Roosevelt c. E. M. Griffith d. Aldo Leopold
14. Which of the following best summarizes the concept of the Land Ethic?
    1. The land is purely an economic resource that, like other economic resources, must be cared for.
    2. We must use natural resources to make people treat other people with respect.
    3. We have an obligation to care for the land if and only if the land has cared for us.
    4. We should treat the land ethically just like we should treat people ethically.
15. Which of the following is part of sustainable forestry?
    1. Identifying opportunities to improve a forest ecosystem.
    2. Removing timber only at a rate in which it can be sufficiently replaced.
    3. Removing threats and diseases to a forest whenever feasible.
    4. All of the above.
16. Removing trees that have poor health so that younger, vigorous trees have a better chance would describe a
    1. Improvement Harvest b. Timber Stand Improvement   
       c. Diversity Improvement d. Regeneration
17. Management of a forest that promotes the growth and development of new trees is called…
    1. Improvement Harvest b. Timber Stand Improvement   
       c. Diversity Improvement d. Regeneration
18. Removing weeds, invasive species, and cull trees and pruning and weeding is called…
    1. Improvement Harvest b. Timber Stand Improvement   
       c. Diversity Improvement d. Regeneration
19. Managing a forest to increase the number of species of trees found there is called…
    1. Improvement Harvest b. Timber Stand Improvement   
       c. Diversity Improvement d. Regeneration
20. Which of the following would be an example of an unsustainable use of forests?
    1. Cutting timber at a rate faster than it can re-grow.
    2. Utilizing competitive practices that drive smaller foresters out of business.
    3. Removing trees that have sacred or cultural value to a society.
    4. Not actively seeking ways to improve the energy efficiency of lumber production.
    5. All of the above
21. As biodiversity increases in an ecosystem…
    1. Resources become more scarce
    2. The ecosystem is more functional and resilient to threats
    3. Ecosystem function decreases
    4. Extinctions are more likely
22. The higher the biodiversity of an ecosystem…
    1. The more species it can support
    2. The more individuals it can support
    3. The more services it can provide
    4. All of the above are true
23. Which of the following is NOT a part of the 3 levels of biodiversity
    1. Genetic b. Species c. Ecosystem d. All of these are part of biodiversity
24. Genetic diversity is best described as…
    1. The diversity within a species
    2. The diversity of different species
    3. The diversity of ecosystems that exist
    4. The diversity of atoms
25. Examples of ecosystem diversity include…
    1. The variety of traits within a species
    2. The variety of species within an ecosystem
    3. The variety of ecosystems on the planet
    4. All of the above
26. The the biodiversity, the likely a habitat will be affected by disturbances.
    1. Greater, More b. Lower, More
27. Which of the following is the correct formula for calculating biodiversity?
    1. Biodiversity = Number of Individuals/Number of Species
    2. Biodiversity = Number of Individuals
    3. Biodiversity = Number of Species/Number of Individuals
    4. Biodiversity = Number of Species
28. A section of a meadow has 50 individuals; there are 10 total species. What is the biodiversity score?
    1. 10/50 = 0.2 b. 50/10 = 5.0 c. 50 d. 10
29. An example of Nutrient Cycling in an ecosystem would include…
    1. The use of plants by herbivores, or the use of herbivores by carnivores, to support bodily function.
    2. The purification of air and water by living organisms.
    3. The spread of genetic material by pollinators.
    4. The use of nitrogen in the air for proteins by plants.
30. An example of Energy Flow in an ecosystem would include…
    1. The use of plants by herbivores, or the use of herbivores by carnivores, to support bodily function.
    2. The purification of air and water by living organisms.
    3. The spread of genetic material by pollinators.
    4. The use of nitrogen in the air for proteins by plants.
31. An example of Reproduction & Genetic Diversity as an ecosystem service includes:
    1. The use of plants by herbivores, or the use of herbivores by carnivores, to support bodily function.
    2. The purification of air and water by living organisms.
    3. The spread of genetic material by pollinators.
    4. The use of nitrogen in the air for proteins by plants.   
         
       *Use the graph to the right for the next questions*
32. According to this graph, as Biodiversity decreases, Ecosystem Function
    1. Increases
    2. Decreases
    3. Remains Unchanged
33. A Type B Ecosystem could best be described as…
    1. The type of ecosystem where losses to biodiversity do not affect Ecosystem Function
    2. The type of ecosystem where losses to biodiversity are not noticeable until it is probably too late
    3. The type of ecosystem where losses to biodiversity are immediately detectable
    4. The type of ecosystem where losses to biodiversity may actually increase Ecosystem Function
34. A Type A Ecosystem could best be described as…
    1. The type of ecosystem where losses to biodiversity do not affect Ecosystem Function
    2. The type of ecosystem where losses to biodiversity are not noticeable until it is probably too late
    3. The type of ecosystem where losses to biodiversity are immediately detectable
    4. The type of ecosystem where losses to biodiversity may actually increase Ecosystem Function
35. Prior to modern civilization, there have been major mass extinctions in geological history
    1. No b. Two c. Five d. Ten
36. The extinction shows signs of causing the most rapid loss of species in geological history.
    1. Holocene b. Cretaceous c. Devonian d. Ordovician
37. The current rate of extinction is the normal sustainable rate of extinction.
    1. About the same b. Less than c. Slightly higher than d. Thousands of times higher than
38. According to an article published in *The American Scientist*, \_\_\_\_\_\_ species are going extinct every \_\_\_\_\_\_\_
    1. five/hour b. five/year c. three/hour d. three/year
39. Of the estimated 6 to 10 million living species on the planet, we have identified roughly…
    1. 1% b. 10-20% c. Half d. Almost all
40. Previous catastrophic extinctions, such as the one that wiped out the dinosaurs, took to happen.
    1. Decades b. Centuries c. Thousands of years d. Billions of years
41. Which of the following can best describe today’s rate of extinction?
    1. Lower than normal since the passage of the Endangered Species Act
    2. Roughly the same as the normal, sustainable rate of extinction
    3. Roughly the same as when the dinosaurs went extinct
    4. Faster than any known point in geological history, with half of all known species extinct in under 100 years (E. O. Wilson, 2002) as opposed to over many thousands of years with the dinosaurs.
42. What percent of large fish have disappeared in the past 50 years due to over fishing?
    1. 5% b. 30% c. 50% d. 75% e. 90%
43. What percentage of bird and mammal species are expected to be extinct in the next 200-300 years (if nothing changes)?
    1. 5% b. 30% c. 50% d. 75% e. 90%
44. Natural species are important because…
    1. One quarter of prescription medicines were developed from compounds found in living species.
    2. Newfound wild species have the potential to help us produce stronger, more productive crops
    3. Only 20 plants supply 90% of our food; each is susceptible to disease because of selective breeding
    4. All of the above
45. The value of ecosystem function and services is in the of dollars.
    1. Million b. Billions c. Trillions d. Thousands
46. As biodiversity decreases due to extinction, what happens to ecosystem function and services?
    1. They decrease b. They increase c. They’re unchanged
47. What are the four main causes of extinction today?
    1. Habitat loss, pollution, the hole in the ozone, and weakened solar radiation
    2. Litter, excess precipitation, invasive species, and overharvesting
    3. Habitat loss, pollution, invasive species, and overharvesting
    4. Litter, excess precipitation, the hole in the ozone, and weakened solar radiation
48. A habitat is…
    1. Any landscape that provides some of the needs of a species.
    2. Any place where we find vegetation such as trees or grass.
    3. The environment in which the specific needs of a species are met.
    4. All of the above.
49. Why does habitat loss represent one of the greatest causes of extinction?
    1. Living organisms have evolved over millions of years to have highly specific needs that are met only by their specific habitats.
    2. If a habitat is changed, it can no longer provide the conditions necessary for species to live.
    3. Without a habitat, a species cannot live under natural conditions.
    4. All of the above.
50. The specific role a species plays in its habitat is called…
    1. Carrying Capacity b. Community c. Ecosystem d. Niche
51. The maximum population that a habitat can sustainably support is called a…
    1. Carrying Capacity b. Community c. Ecosystem d. Niche
52. The interaction of living and non-living species in an area is called…
    1. Carrying Capacity b. Community c. Ecosystem d. Niche
53. The interactions of living species in a habitat is a…
    1. Carrying Capacity b. Community c. Ecosystem d. Niche
54. This niche is when one species gains resources at the expense of another species.
    1. Competition b. Predation/Parasitism c. Mutualism d. Symbiosis e. Commensalism
55. This niche is when species interact to the benefit of all involved.
    1. Competition b. Predation/Parasitism c. Mutualism d. Symbiosis e. Commensalism
56. This niche is when two species struggle to acquire the same resource.
    1. Competition b. Predation/Parasitism c. Mutualism d. Symbiosis e. Commensalism
57. This niche is when one species benefits without affecting another species.
    1. Competition b. Predation/Parasitism c. Mutualism d. Symbiosis e. Commensalism
58. This niche is where two species cooperate to the extent that they physically cannot survive without each other.
    1. Competition b. Predation/Parasitism c. Mutualism d. Symbiosis e. Commensalism
59. Which of the following best describes amensalism?
    1. When one species benefits another species without harming itself.
    2. When one species harms another species without benefiting itself.
    3. When one species benefits another species without benefiting itself.
60. Which of the following best summarizes the Competition Exclusion Principle?
    1. If two species occupy the same nice at the same time, both will go extinct.
    2. If two species occupy the same niche at the same time, they will cooperate to use the resources.
    3. If two species occupy the same niche at the same time, one species will eliminate the other over time.
    4. All of the above are accurate summaries.
61. A species with a very narrow niche is called a…
    1. Habitat generalist b. Habitat specialist c. Predator d. Threatened or endangered species
62. As habitats become , the impact of the Competitive Exclusion Principle
    1. Smaller; Increases b. Smaller; Decreases; c. Larger; Increases
63. How do invasive species affect the Competitive Exclusion Principle?
    1. Invasive species reduce competition within a niche, providing more ecosystem services to native species.
    2. Invasive species expand the number of niches in an ecosystem.
    3. Invasive species increase the competition within a niche, making it harder to acquire resources.
    4. All of the above.
64. The process in which a habitat undergoes natural, slow change is called…
    1. Succession b. Disturbance c. Resilience
65. The ability of a habitat to overcome threats and return to a normal state is known as…
    1. Succession b. Disturbance c. Resilience
66. When the normal function and transition of a habitat is threatened by an outside force, this is called…
    1. Succession b. Disturbance c. Resilience
67. How do human-caused disturbances differ from natural disturbances?
    1. They do not differ; both cause extensive damage and threaten biodiversity
    2. Natural disturbances tend to be rapid and temporary; human disturbances tend to have a longer impact.
    3. Human disturbances occur on a much smaller scale than natural disturbances
    4. Human disturbances are rare while natural disturbances occur much more often.
68. The the biodiversity of a habitat, the the resilience of that habitat.
    1. Greater; Greater b. Greater; Lower c. Lower; Greater
69. What is habitat fragmentation?
    1. When a habitat experiences a selective harvest of timber.
    2. When a habitat experiences a disturbance such as pollution or invasive species.
    3. When a habitat is broken into multiple smaller habitats that are isolated from each other.
    4. All of the above.
70. What is the difference between patchiness and edge?
    1. Patchiness is the amount of border a habitat has while edge is how broken up a habitat is.
    2. Edge is the amount of border a habitat has while patchiness is how broken up a habitat is.
    3. Patchiness is another word for fragmentation; edge is a result of the fragmentation.
    4. Edge is another word for fragmentation; patchiness is a result of the fragmentation.
71. Which of the following best summarizes the set-up of the Gonzalez experiment of 1998?
    1. Moss (habitat for insects) was selectively removed in different ways to model habitat fragmentation.
    2. Large tracts of forests were clear-cut to measure the impact on biodiversity.
    3. Rocks were used in place of vegetation to simulate fragmentation.
    4. Some guy named Gonzalez started throwing rocks at his friends to see how mad they’d get.
72. Which of the following best summarizes the findings of the Gonzalez experiment of 1998?
    1. Even if the same total area of a habitat remains, if that habitat is broken up, biodiversity will drop significantly.
    2. Corridors that connect isolated pieces of habitat can lessen the impact of fragmentation on biodiversity.
    3. Even a small break in a corridor will mostly eliminate the effectiveness of that corridor.
    4. All of the above.
73. The the size of the habitat, and the the biodiversity, the the habitat will be.
    1. Greater; Lower; Healthier b. Smaller; Lower; Healthier c. Greater; Higher; Healthier
74. The main causes of habitat fragmentation include…
    1. Succession, natural disturbances, pollution, and hunting.
    2. Road building, succession, natural disturbances, and conversion.
    3. Human development, succession, natural disturbances, and deforestation.
    4. Human development, road building, deforestation, and conversion.
75. Which of the following is NOT an outcome of fragmentation?
    1. Decreased populations due to lowered carrying capacities.
    2. Inbreeding and losses of genetic diversity.
    3. Increased predation, parasitism, and invasive species.
    4. Loss of specialist species with narrow niches.
    5. Increased species diversity due to evolution resulting from new selection pressures.
76. An invasive species is…
    1. A native species that has a large population
    2. An introduced species in a new environment
    3. An introduced species that reproduces quickly
    4. A species, native or introduced, that harms native species
77. Is an introduced species always invasive?
    1. Yes – introduced species always disrupt natural ecosystems
    2. No – most species that are introduced fail to become established
    3. Yes – *introduced* and *invasive* mean the same thing
    4. No – invasive species are always native
78. Do most introduced species become invasive?
    1. Yes – all introduced species become invasive
    2. Yes – nearly all introduced species become invasive
    3. No – only 1 out of 10 actually survive, and only 1 in 100 become invasive
    4. No – introduced species never become invasive because their adaptations are not suited for the new environment
79. How much estimated damage do invasive species cause in the US each year?
    1. $138,000 b. S138 million c. $138 billion d. $138 trillion
80. Which of the following is NOT a characteristic of an invasive species?
    1. They grow rapidly and compete with other plants or animals
    2. They cannot survive without specific habitat conditions
    3. They produce large numbers of seeds/offspring at a young age
    4. Their native region has a climate similar to the affected area of the US
81. What does it mean that an invasive species is a habitat generalist?
    1. They are only found in specific kinds of habitats
    2. They keep existing native species alive and coordinate their niches
    3. They can survive under many different kinds of conditions
    4. They cannot leave a particular habitat once they become established
82. Why is it that native species cannot compete with invasive species?
    1. Nature is inherently weak and needs human intervention to function
    2. There usually aren’t predators to control their the rate of reproduction of invasive species
    3. North American species are far less evolved than European or Asian species
    4. Humans want and depend on most invasive species and purposely release them
83. Which of the following is an example of an invasive species?
    1. Asian Longhorn Beetle b. Buckthorn c. Emerald Ash Borer d. All of these are invasive
84. Could a whitetail deer be an invasive species?
    1. No, it is native b. Yes, always c. Yes, if it displaces other native species. d. Only outside the US

*Use the curve above to answer the questions below*

1. Which of the following statements are supported by the Invasion Curve above?
   1. The most effective method of eradicating invasive species is to prevent them from becoming established
   2. When most people become aware of an invasive species, it is already too late to eradicate them
   3. The cost of invasive species increases from their introduction to the point of public awareness
   4. All of the above would be supported by the Invasion Curve
2. What are the two primary ways in which humans enable the spread of invasive species?
   1. Pollution and Habitat Disturbance
   2. Habitat Disturbance and Transportation
   3. Transportation and Overhunting of native species
   4. Overhunting of native species and Pollution
3. A habitat disturbance is when…
   1. A habitat slowly transitions from one type to another
   2. A habitat is destroyed by a natural disaster, such as a flood or volcano or is rapidly changed by human activity
   3. A habitat resists the impact of an outside threat
   4. Both B and C are correct
4. Which of the following is most likely to become invasive to Wisconsin?
   1. A rodent from China that reproduces quickly
   2. A slow-growing coniferous tree from northern Europe
   3. A warm-weather insect from Costa Rica
   4. A large grazing mammal from the Mideast
5. Which of the following would be most effective in preventing your answer above from becoming invasive?
   1. Informing the public about its potential as an invasive species
   2. Removing it once it arrives
   3. Banning transportation
   4. Preventing its arrival through trade bans and shipping inspections
6. When are invasive species good?
   1. Invasive species are never good
   2. When they aid human activity
   3. When they help native species
   4. When they eradicate other invasive specie
7. Which of the following would count as a “field” in environmental science.
   1. A forest b. A prairie c. A riverbed d. All of the above
8. Which of the following would be a representative sample of insects in a river?
   1. A sample that includes only the most prevalent species of insects.
   2. A sample that includes equal amounts of every species of insect.
   3. A sample that includes amounts of species of insects that are similar to what is found in the river.
   4. All of the above.
   5. None of the above.
9. An environmental scientist is sampling the lagoon at the right. If they were to pull four samples from this lagoon, which four would provide the most representative sample of the lagoon as a whole?
   1. A,B,C
   2. A,E,F
   3. D,E,F
   4. All of the above would be equally representative
10. This is the portion of the population from which a sample was taken.
    1. Target population b. Sampled Population c. Sample d. Measurement Protocol
11. This is the population, habitat, or ecosystem being measured in its entirety.
    1. Target population b. Sampled Population c. Sample d. Measurement Protocol
12. This is the portion of a target population that was actually measured or analyzed.
    1. Target population b. Sampled Population c. Sample d. Measurement Protocol
13. This is the procedure used to analyze the data collected.
    1. Target population b. Sampled Population c. Sample d. Measurement Protocol
14. This kind of measurement protocol involves an expert coming to a conclusion based on their experiences and observations.
    1. Probability-based measurement b. Judgmental Measurement c. Both d. Neither
15. This kind of measurement protocol involves collecting and analyzing data to come to a conclusion.
    1. Probability-based measurement b. Judgmental Measurement c. Both d. Neither
16. This measurement protocol could include quadrat sampling, transect analysis, or composite sampling.
    1. Probability-based measurement b. Judgmental Measurement c. Both d. Neither
17. This kind of sampling involves combining samples to get values that are representative of the entire area sampled.
    1. Simple Random Sampling b. Systematic/Grid Sampling c. Composite Sampling d. All of the above
18. This kind of sampling involves choosing a sample at random.
    1. Simple Random Sampling b. Systematic/Grid Sampling c. Composite Sampling d. All of the above
19. This kind of sampling involves taking data at regular points determined by intersecting lines that have been measured in a habitat.
    1. Simple Random Sampling b. Systematic/Grid Sampling c. Composite Sampling d. All of the above
20. This is a measurement of accuracy of data that included variability and sample size.
    1. Standard Deviation b. Standard Error c. Error Bars
21. This is a measurement of variability only.
    1. Standard Deviation b. Standard Error c. Error Bars
22. This visually shows the margin of error.
    1. Standard Deviation b. Standard Error c. Error Bars
23. When it comes to data & accuracy, we want \_\_\_\_\_\_ variability and a \_\_\_\_\_\_\_ population size.
    1. Maximum; Maximum b. Maximum; Minimum c. Minimum; Minimum d. Minimum; Maximum
24. The \_\_\_\_\_ our data varies, the more reliable it is. The \_\_\_\_\_ data we have, the more reliable it is.
    1. Less; Less b. Less; More c. More; Less d. More; More

Two graphs are shown below. Use these graphs to answer the following questions.

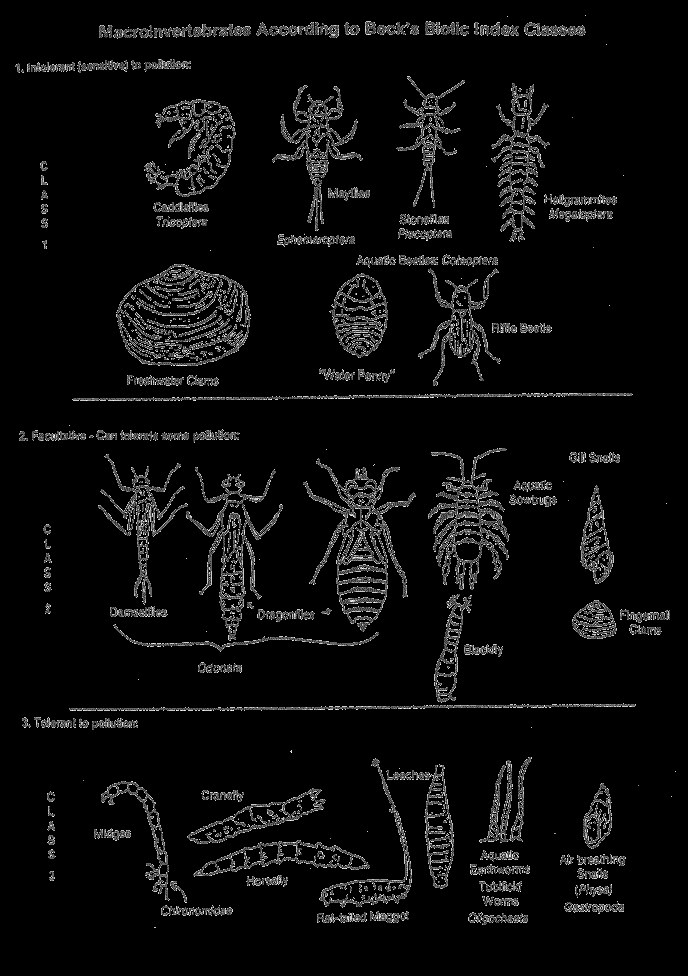
1. In which graph are the two sets of data statistically different from each other?
   1. Left b. Right
2. In which graph do the error bars overlap?
   1. Left b. Right

Use the graph below to answer the last questions. This graph shows the recorded biodiversity scores for the WUHS Environmental Center. “**Quadrat 1**” is the average biodiversity scores for the quadrats placed **1 meter** off of the outside trail. “**Quadrat 2**” shows the average biodiversity score **25 meters** from the trail, and “**Quadrat 3**” is at **50 meters**.

1. Which of the following best describes the relationship between Quadrat 1 and Quadrat 2?
   1. Quadrat 2 has more biodiversity than Quadrat 1.
   2. Quadrat 1 has more biodiversity than Quadrat 2.
   3. Quadrat 1 and 2 are too similar to say there is a significant difference between them.
   4. All of the above.
   5. None of the above.
2. Which of the following best describes the relationship between Quadrat 2 and Quadrat 3?
   1. Quadrat 3 has more biodiversity than Quadrat 2.
   2. Quadrat 2 has more biodiversity than Quadrat 3.
   3. Quadrat 2 and 3 are too similar to say there is a significant difference between them.
   4. All of the above.
   5. None of the above.
3. Based on this graph, what conclusion can we come to (with 95% or more accuracy)?
   1. Biodiversity continuously increases as we go deeper into the environmental center.
   2. Quadrat 2 has more biodiversity than Quadrat 1.
   3. Quadrat 3 has more biodiversity than Quadrat 2.
   4. All of the above can be supported by the graph above.
   5. None of the above can be supported by the graph above.
4. Which conclusion is most supported by the graph above?
   1. Biodiversity increases at a steady rate as you get deeper into the environmental center.
   2. Biodiversity decreases at a steady rate as you get deeper into the environmental center.
   3. Biodiversity does not change as you go deeper into the environmental center.
   4. Biodiversity does not increase significantly until you are more than 25 meters from the edge.
5. *All* pollution can be summarized in one word:
   1. Toxicity b. Chemicals c. Litter d. Waste
6. This kind of pollution occurs when the pollution come from many sources.
   1. Litter b. Runoff c. Nonpoint Pollution d. Point Pollution
7. This kind of pollution occurs when the pollution comes from one source.
   1. Litter b. Runoff c. Nonpoint Pollution d. Point Pollution
8. This kind of pollution involves anything that is a gas and is not nitrogen, oxygen, or water vapor.
   1. Water pollution b. Air pollution c. Land pollution d. Noise pollution e. Light pollution
9. This kind of pollution can affect the migration and feeding patterns of wildlife due changes in their detection of night and day and/or direction.
   1. Water pollution b. Air pollution c. Land pollution d. Noise pollution e. Light pollution
10. Much of this kind of pollution is comprised of household garbage and industrial waste.
    1. Water pollution b. Air pollution c. Land pollution d. Noise pollution e. Light pollution
11. This kind of pollution cannot be seen or smelled but can upset the navigation of aquatic species and cause high blood pressure and stress-related disorders in humans.
    1. Water pollution b. Air pollution c. Land pollution d. Noise pollution e. Light pollution
12. The Dead Zone in the Gulf of Mexico is the result of this kind of pollution.
    1. Water pollution b. Air pollution c. Land pollution d. Noise pollution e. Light pollution
13. The Cuyahoga River in Cleveland was important in the history of addressing pollution because it…
    1. Dried up b. Reversed its current c. Caught fire d. Lost all living species
14. The Great Smog of 1952 was one of the most deadly and notable examples of pollution.
    1. Water b. Land c. Air d. Light e. Noise
15. *Silent Spring*, by Rachel Carson, was a detailed description of the impact of pollutants on…
    1. Air b. Water c. Wildlife e. Soil
16. How did DDT specifically cause bald eagle populations to drop?
    1. It weakened their bones b. It made them infertile c. It weakened their egg shells d. None of these
17. Love Canal was a tragic example of the impact of on human populations.
    1. Water Pollution b. Industrial Waste Disposal c. Air Pollution d. Noise pollution
18. This piece of legislation required the testing of pesticides before approval for sale.
    1. Clean Air Act ‘63 b. Toxic Substance Control Act c. Clean Air Act ’70 d. Pesticides Control Act
19. This piece of legislation established federal air quality standards.
    1. Clean Air Act ‘63 b. Toxic Substance Control Act c. Clean Air Act ’70 d. Pesticides Control Act
20. This piece of legislation made clean air a protectable resource.
    1. Clean Air Act ‘63 b. Toxic Substance Control Act c. Clean Air Act ’70 d. Pesticides Control Act
21. This piece of federal legislation regulated toxic substances
    1. Clean Air Act ‘63 b. Toxic Substance Control Act c. Clean Air Act ’70 d. Pesticides Control Act
22. This piece of federal legislation created federal action to restore US waterways.
    1. Clean Water Act ’64 b. Ocean Dumping Act ’72 c. Safe Drinking Water Act ’74
23. This piece of federal legislation created federal standards for consumable water.
    1. Clean Water Act ’64 b. Ocean Dumping Act ’72 c. Safe Drinking Water Act ’74
24. This piece of federal legislation lessened the pollution from raw sewage in coastal cities.
    1. Clean Water Act ’64 b. Ocean Dumping Act ’72 c. Safe Drinking Water Act ’74
25. This piece of federal legislation established the Superfund.
    1. Clean Water Act ‘64
    2. Toxic Substances Control Act ‘76
    3. Resource Conservation and Recovery Act ‘76
    4. The Comprehensive Environmental Response, Compensation, and Liability Act ‘80
26. What is the “Super Fund”?
    1. A federal program that uses tax dollars to clean up a site instead of the company.
    2. The federal program that ensures that industrial waste sites are cleaned up by the polluting company.
    3. A federal program that lets polluting companies use taxpayer money to harm the environment.
    4. A federal program that uses industry money to pay for government-caused pollution.
27. This pollutant is widely used because it is dense, malleable, and does not corrode. It can also bioaccumulate in the body, leading to miscarriage, stillbirth, low birth weights, premature births and birth defects.
    1. Mercury b. Lead c. DDT d. Chromium-6 e. Carbon Dioxide
28. This pollutant is a greenhouse gas, and has nearly doubled in concentration as a result of the Industrial Revolution.
    1. Mercury b. Lead c. DDT d. Chromium-6 e. Carbon Dioxide
29. This carcinogen is used for industrial processes to make steel, dyes, plastics, and leather. It can cause lung cancer when inhaled.
    1. Mercury b. Lead c. DDT d. Chromium-6 e. Carbon Dioxide
30. This pollutant is largely from emissions from burning fossil fuels and can biomagnify. It is known to cause kidney failure, immune system impairment, brain & spinal cord damage, and can alter the function of DNA.
    1. Mercury b. Lead c. DDT d. Chromium-6 e. Carbon Dioxide
31. This pollutant, now banned in the US, was a widely-used pesticide that could biomagnify and was a major cause in the near-extinction of the bald eagle.
    1. Mercury b. Lead c. DDT d. Chromium-6 e. Carbon Dioxide
32. If a pollutant can biomagnify, this means that…
    1. It will increase in concentration in water or air once emitted.
    2. It will increase in concentration as it moves up the food chain to top predators.
    3. It will decrease in concentration in water or air once emitted.
    4. It will decrease in concentration as it moves up the food chain to top predators.
33. Which of the following would be at MOST risk to a pollutant that can biomagnify?
    1. Zooplankton b. Herbivores such as deer c. Bears, sharks, and other predators d. All of the above
34. Which of the following is NOT needed for a substance to biomagnify?
    1. Fat-soluble b. Long-lived c. Mobile d. Synthetic/man-made
35. Eutrophication is the process in which…
    1. HIGH levels of nutrients in the water cause oxygen levels to drop.
    2. LOW levels of nutrients in the water cause oxygen levels to drop.
    3. HIGH levels of oxygen in the water cause nutrient levels to drop.
    4. LOW levels of oxygen in the water cause nutrient levels to drop

*For each of the following four questions, only one option is directly caused by the item in the question.*

1. High nutrient levels in water directly cause this.
   1. Formation of dense algae mats on the water’s surface.
   2. Decreases in the water’s dissolved oxygen levels.
   3. Slowing or stopping of photosynthesis beneath the water.
   4. Clear water levels and cool water temperatures.
2. Growth of thick algae mats on the water surface directly causes this.
   1. Formation of dense algae mats on the water’s surface.
   2. Decreases in the water’s dissolved oxygen levels.
   3. Slowing or stopping of photosynthesis beneath the water.
   4. Clear water levels and cool water temperatures.
3. Increased rates of decomposition in the water directly cause this.
   1. Formation of dense algae mats on the water’s surface.
   2. Decreases in the water’s dissolved oxygen levels.
   3. Slowing or stopping of photosynthesis beneath the water.
   4. Clear water levels and cool water temperatures.
4. Elimination of underwater photosynthesis causes this.
   1. Formation of dense algae mats on the water’s surface.
   2. Decreases in the water’s dissolved oxygen levels.
   3. Slowing or stopping of photosynthesis beneath the water.
   4. Clear water levels and cool water temperatures.
5. Which of the following would be an accurate description of thermal pollution?
   1. The reduction of dissolved oxygen in a body of water due to high nutrient levels
   2. The increase in water temperature due to human activity
   3. The decrease in water temperature due to human activity
   4. When fish start wearing bulky winter clothes that really aren’t flattering
6. How are dissolved oxygen and water temperature related?
   1. Oxygen levels peak at room temperature but are lower at higher or lower temperatures
   2. The colder the water, the lower the dissolved oxygen
   3. The warmer the water, the lower the dissolved oxygen
   4. Dissolved oxygen and water temperature are unrelated
7. How does warm water affect dissolved oxygen levels?
   1. As the water warms, oxygen levels increase because of increased rates of photosynthesis
   2. As the water warms, its ability to hold gases like oxygen is reduced.
   3. As the water warms, rates of decomposition increase, lowering oxygen rates.
   4. Both B and C are correct
8. Nitrates are most commonly introduced into aquatic ecosystems from what sources?
   1. Manure, sewage, and poorly constructed feedlots
   2. Industrial waste, leaky landfills, and electronics
   3. Water used for cooling factory machines
   4. Parking lots and asphalt roadways
9. High levels of nitrates in a waterway causes…
   1. Eutrophication
   2. Biomagnification
   3. Thermal pollution
   4. Acid rain
10. Methemoglobinemia results from high nitrate levels; methemoglobinemia causes…
    1. Birth defects and growth disorders
    2. Pancreatic failure
    3. The inability of red blood cells to carry oxygen
    4. Weakened, brittle bones
11. High levels of phosphates in a waterway causes…
    1. Eutrophication b. Biomagnification c. Thermal pollution d. Acid rain
12. Heavy metals are ….
    1. Always toxic to living organisms
    2. Needed by organisms in trace amounts
    3. Needed in large amounts by organisms
    4. Unlikely to cause environmental problems
13. High levels of lead in an organism are likely to result in what problems?
    1. Bioaccumulation leading to liver and kidney failure
    2. Replacement of calcium in the bones
    3. Displacement of oxygen on red blood cells
    4. High levels of this substance are unlikely to cause physical problems in an organism.
14. High levels of mercury in an organism are likely to result in what problems?
    1. Bioaccumulation leading to liver and kidney failure
    2. Replacement of calcium in the bones
    3. Displacement of oxygen on red blood cells
    4. High levels of this substance are unlikely to cause physical problems in an organism.
15. Macroinvertebrates are…
    1. Small fish b. Single-celled aquatic organisms c. Aquatic bugs d. Predator fish
16. Macroinvertebrates are advantageous for indicating water quality because…
    1. They can help us determine the exact cause of water pollution problems
    2. They change color when the water is polluted
    3. They are always found at the same amounts in every aquatic habitat
    4. They can provide information about the long-term health of an aquatic habitat
17. pH is the measure of…
    1. Hydroxide ion concentrations
    2. The acidity of a substances
    3. How basic a substance is
    4. All of the above are true
18. Significant changes to the pH of a body of water indicates…
    1. That pollutants may have been introduced
    2. Thermal pollution is occurring
    3. Eutrophication is occurring
    4. Nothing at all
19. Acid rain is caused by…
    1. Nitrates and phosphates
    2. Temperature change to a body of water
    3. Heavy metals
    4. Exhaust from automobiles and power plants
20. How does acid rain affect an ecosystem?
    1. It leaches nutrients from the soil, harms the tissue of living organisms, and can cause the toxic buildup of metals in a waterway
    2. It lowers dissolved oxygen
    3. It heats up a body of water.
    4. It causes an overgrowth of algae.

***Stream X*** *has Freshwater Clams, Water Pennies, Dragonflies,  
 Gill Snails, and Mayflies*

***Stream Y*** *has Aquatic Earthworms, Flat-tailed Maggots,   
Leeches, Sowbugs, and Snails*

***Stream Z*** *has Riffle Beetles, Damselflies, Fingernail Clams,   
Craneflies, Leeches, and Sowbugs*

1. *Which stream is healthiest?*
   1. Stream X b. Stream Y c. Stream Z
2. Overharvesting and overhunting of living species is \_\_\_\_\_ of species extinction.
   1. The biggest cause b. One of the four biggest causes c. Not a major cause
3. Before being driven to extinction, the passenger pigeon….
   1. Was only found in small areas of the US.
   2. Was more numerous than any other bird.
   3. Was not native to North America.
   4. All of the above.
   5. None of the above.
4. Wildlife management is…
   1. The practice of isolating wildlife populations from any kind of human interference.
   2. The use of the science of ecology in regard to both animal and human needs.
   3. Eliminating the hunting and trapping of wildlife.
   4. Maximizing wildlife populations so that they exceed their carrying capacities.
5. Which of the following is NOT an example of wildlife management?
   1. setting game limits
   2. fragmentation of habitat
   3. building and maintaining habitat
   4. controlling invasive species
   5. public education
6. This is an example of passive habitat management.
   1. Banning human activity of any kind in an ecosystem.
   2. Building nesting boxes for wood ducks.
   3. Hunter safety education.
   4. Banning DDT to prevent the loss of bald eagles.
7. This is a reason why passive habitat management is usually not the best course of action for a habitat.
   1. Human populations have damaged many ecological processes, requiring the aid of human intervention.
   2. Many species experience ‘boom and bust’ population cycles, resulting in large disruptions to ecosystem function when populations collapse.
   3. The spread of pollutants and invasive species have reduced the ability of many species to self-regulate their own populations.
   4. All of the above.
   5. None of the above.
8. This is the use of any human activity and intervention to ensure that a species of wildlife remains at a healthy level.
   1. Featured Species Approach b. Species Richness Approach c. Active Management d. Mark-Recapture
9. This is the kind of active management where biologists base their decisions on the needs of a specific species.
   1. Featured Species Approach b. Species Richness Approach c. Active Management d. Mark-Recapture
10. This is the kind of active management where decisions are based on maximizing all biodiversity.
    1. Featured Species Approach b. Species Richness Approach c. Active Management d. Mark-Recapture
11. This is a widely-used method of determine a species’ population level by trapping and releasing species.
    1. Featured Species Approach b. Species Richness Approach c. Active Management d. Mark-Recapture
12. This is a method of determining population that involves collection of genetic material to determine the presence of a species.
    1. Complete Counts b. Incomplete Counts c. Indirect Counts d. DNA Testing
13. This is a method of determining population that involves aerial surveys and visual counts.
    1. Complete Counts b. Incomplete Counts c. Indirect Counts d. DNA Testing
14. This is a method of determining population that involves using calls, tracks, and nests determine the presence of a species.
    1. Complete Counts b. Incomplete Counts c. Indirect Counts d. DNA Testing
15. This is a method of determining population that involves counting the number of species in a representative area and multiplying to estimate the population for the entire area.
    1. Complete Counts b. Incomplete Counts c. Indirect Counts d. DNA Testing
16. You are trying to determine the number of pheasants in a local preserve. You set traps and capture 20 pheasants. You mark and release them. You then reset the traps and capture 20 individuals again. 10 of these are marked from your first trapping. How many pheasants are in this preserve?
    1. 20 x 20 x 10 = 4000
    2. 10 ÷ 20 x 20 = 10
    3. 20 x 20 ÷ 10 = 40
    4. 20 x 10 ÷ 20 = 10
17. You are trying to determine the number of walleye in a local lake. You set capture 7 walleye and notch their fins. You release them and return a week later. You catch 10 fish, of which 4 have notched fins. How many walleye are in this lake?
    1. 10 x 4 ÷ 7 = 5 or 6 walleye
    2. 10 x 7 ÷ 4 = 17 or 18 walleye
    3. 7 x 4 ÷ 10 = 2 or 3 walleye
    4. None of the above are correct
18. This best describes a carrying capacity.
    1. The population that a species cannot exceed at any point in time.
    2. The minimum level needed in order for a species to ‘carry itself’ and avoid extinction.
    3. The point at which a species reaches an ecological balance with other species.
    4. The maximum number of individuals a specific habitat can support for a specific species.
19. If a species’ population is above its carrying capacity, a wildlife manager should….
    1. Seek strategies to increase the population.
    2. Seek strategies to decrease the population.
    3. Seek strategies to maintain the population at its current level.
    4. None of the above.
20. If a species’ population is just below its carrying capacity, a wildlife manager should….
    1. Seek strategies to increase the population.
    2. Seek strategies to decrease the population.
    3. Seek strategies to maintain the population at its current level.
    4. None of the above.
21. The carry capacity for a species varies from month to month. Which value for carrying capacity should a wildlife manager use to make decisions?
    1. The carrying capacity that occurs during the month in which it is the highest.
    2. The carrying capacity that occurs during the month in which it is the lowest
    3. The carrying capacity that occurs during the month in which the population of the animal is the highest.
    4. The carrying capacity that occurs during the month in which the population of the animal is the lowest.
22. This would be an example of a species with a Type 1 Survivorship Curve.
    1. Human beings tend to live for decades and produce few offspring.
    2. Invasive species tend to reproduce rapidly, producing large numbers of offspring early in life.
    3. Bald eagles have a fairly constant chance of dying at all life stages.
23. This would be an example of a species with a Type 2 Survivorship Curve.
    1. Human beings tend to live for decades and produce few offspring.
    2. Invasive species tend to reproduce rapidly, producing large numbers of offspring early in life.
    3. Bald eagles have a fairly constant chance of dying at all life stages.
24. This would be an example of a species with a Type 3 Survivorship Curve.
    1. Human beings tend to live for decades and produce few offspring.
    2. Invasive species tend to reproduce rapidly, producing large numbers of offspring early in life.
    3. Bald eagles have a fairly constant chance of dying at all life stages.
25. This is the growth model in an ideal environment for a species in which their population growth occurs faster as the population grows larger.
    1. Logarithmic Growth b. Exponential Growth c. K-selection d. r- selection e. Density-independent
26. This growth model is a more realistic predictor because it incorporates the carrying capacity of a habitat.
    1. Logarithmic Growth b. Exponential Growth c. K-selection d. r- selection e. Density-independent
27. This is when conditions favor selection for traits that enable a species to thrive at high-population conditions.
    1. Logarithmic Growth b. Exponential Growth c. K-selection d. r- selection e. Density-independent
28. This is when conditions favor selection for traits that enable a species to thrive at low population conditions.
    1. Logarithmic Growth b. Exponential Growth c. K-selection d. r- selection e. Density-independent
29. This is the condition when a species exhibits traits that prevent it from slowing its population growth regardless of the size of the population.
    1. Logarithmic Growth b. Exponential Growth c. K-selection d. r- selection e. Density-independent
30. This is NOT an example of negative feedback in species population,
    1. A species will exhaust its niche due to its population growth being independent of population size.
    2. Resources become more limited as species’ populations increase, reducing growth and reproduction.
    3. A species may become more aggressive and territorial overall as populations increase.
    4. Disease and starvation becomes more prevalent as species populations increase.
    5. None of the above. All of these are examples of negative feedback.
31. Which of the following would be a legitimate motivation for a wildlife manager to keep a species’ population well below its carrying capacity?
    1. Disease b. Density-independence c. Reduced-size of game species d. All of the above
32. What is a keystone species?
    1. A species that exerts an unusually strong control on the structure and function of an ecosystem.
    2. A species that has the most impact on a habitat because it is the most abundant species in that habitat.
    3. A species that alters a habitat by filling all of that habitat’s niches.
    4. All of the above.
    5. None of the above.
33. This is the process in which farmers are paid for 10-15 year contracts in which they convert fields into habitat to aid in the recovery of species and improve water and soil quality.
    1. Threatened species b. Endangered species c. Recovery d. CRP
34. This is a species that is in danger of extinction in the foreseeable future throughout all or most of its range.
    1. Threatened species b. Endangered species c. Recovery d. CRP
35. This is the process in which the decline of a species is reversed and threats are removed.
    1. Threatened species b. Endangered species c. Recovery d. CRP
36. This is a species that could become in danger of being extinct throughout all or most of its range.
    1. Threatened species b. Endangered species c. Recovery d. CRP
37. This is the long-term average of the weather in a given place.
    1. Global Warming b. Climate Change c. Weather d. Climate e. All of the above
38. This is the recent ongoing rise in global average temperatures.
    1. Global Warming b. Climate Change c. Weather d. Climate e. All of the above
39. This is the day-to-day or hour-to-hour changes in temperature, wind, and precipitation.
    1. Global Warming b. Climate Change c. Weather d. Climate e. All of the above
40. This is the term for all of the changes that have occurred from greenhouse gases.
    1. Global Warming b. Climate Change c. Weather d. Climate e. All of the above
41. An atmosphere with more greenhouse gases is expected to cause more…
    1. Flooding b. Droughts c. All of the above d. None of the above
42. Which of the following is NOT true?
    1. The rate at which the earth is warming is faster than any point in measurable history.
    2. Sea ice has declined by about a 1/5 since the 1970s.
    3. The warmest years on record have all occurred since the late 1990s.
    4. The changes we are experiencing today are similar to previous changes to the earth’s climate.
    5. All of the above are true.
43. What is the primary cause of climate change?
    1. Changes to the sun’s energy output b. Milankovitch cycles c. Greenhouse gases d. CFCs
44. How do greenhouse gases cause an increase in the temperature of the earth’s surface?
    1. Greenhouse gases do not actually affect the temperature. They only worsen other sources of pollution.
    2. Greenhouse gases give off heat as they decompose in the atmosphere.
    3. Greenhouse gases give off heat as they combust in the atmosphere.
    4. Greenhouse gases absorb solar radiation and re-emit it, slowing its movement from earth to space.
    5. None of the above are accurate.
45. Which of the following is NOT true? Vostok ice core data shows that…
    1. Greenhouse gas levels did not fluctuate until the start of the Industrial Revolution.
    2. Greenhouse gases used to fluctuate but are now steady since the start of the Industrial Revolution.
    3. Greenhouse gas levels stayed under a max of 300 ppm but since the Industrial Revolution have climbed steadily to 400 ppm.
    4. Greenhouse gas levels stayed above 400 ppm but since the start of the Industrial Revolution have stayed under 300 ppm.
46. What is deuterium and how does it relate to temperature?
    1. Deuterium is a **greenhouse gas**; as the atmosphere warms, there is more of it in the air.
    2. Deuterium is a heavy form of **hydrogen**; as the atmosphere warms, there is more of it in the air.
    3. Deuterium is a **greenhouse gas**; as the atmosphere warms, there is less of it in the air.
    4. Deuterium is a heavy form of **hydrogen**; as the atmosphere warms, there is less of it in the air.
47. Which is TRUE?
    1. CO2 levels have increased 70% in the past 150 years.
    2. Methane levels have increased 148% in the past 150 years.
    3. Greenhouse gas levels are higher now than any point in measurable atmospheric history.
    4. Greenhouse gas levels have increased faster today than any point in measurable atmospheric history.
    5. All of the above are true.
48. From 1980-2010, the output of the sun’s energy has while the temperature of the earth has
    1. Increased; Increased
    2. Decreased; Increased
    3. Cycled between predictable highs and lows each decade; Increased
    4. Increased; cycled between predictable highs and lows each decade
49. Based on data on the sun’s output of energy and the change in the temperature of the earth’s surface, which conclusion is most supported by this evidence?
    1. The warming of the earth is entirely due to the sun’s energy output.
    2. The warming of the earth may be due in part to changes in the sun’s energy output.
    3. The warming of the earth is largely unrelated to changes in the sun’s energy output.
50. What are the Milankovitch Cycles?
    1. The changes to the shape of the earth’s orbit from circular to oval.
    2. The changes to the “wobble” of the earth as it spins.
    3. The changes to the tilt of the earth’s axis as it spins.
    4. All of the above.
    5. None of the above.
51. What is the relationships between the Milankovitch Cycles and climate change?
    1. The Milankovitch Cycles are a *probable* cause of climate change.
    2. The Milankovitch Cycles are a *possible* cause of climate change.
    3. The Milankovitch Cycles occur over tens or hundreds of thousands of years; climate change is occurring in decades, indicating that they are unrelated to the current rate of change.
    4. Climate change occurs over tens or hundreds of thousands of years; the Milankovitch Cycles occur over decades, indicating they are a major factor in the current rate of change.
52. What are the predicted changes for precipitation as a result of climate change?
    1. The northern US will become wetter.
    2. The southern US will become drier.
    3. Droughts will become more frequent.
    4. Floods will become more frequent.
    5. All of the above.
53. What are the predicted changes to agriculture as a result of climate change?
    1. Crops will become more productive because of increased CO2 levels.
    2. Wetter springs will make planting easier for farmers.
    3. Changes to soil nutrient levels, soil moisture, and heat and weather patterns will decrease crop yields
    4. Insect levels should decrease as winters become more mild, reducing the spread of disease.
    5. All of the above.
54. Warmer temperatures are expected to increase the rate of maturation of crops. This is a thing because…
    1. Bad thing because faster maturation means *less* food produced per field.
    2. Good thing because faster maturation means more food produced per field.
    3. Good thing because faster maturation means less energy needed to produce food.
    4. All of the above.
    5. None of the above.
55. Why are the ocean levels rising?
    1. The polar ice caps are melting, adding water that was formerly frozen as ice.
    2. Water expands as it warms; as the oceans warm, they rise.
    3. There is more liquid water and less frozen ice today.
    4. All of the above.
    5. None of the above.
56. How are warming oceans affecting biodiversity?
    1. Warmer ocean water can better support increased levels of biodiversity.
    2. As the oceans rise, more ocean habitat will be created. Given the oceans contain much of the world’s biodiversity, this will increase biodiversity globally.
    3. As the oceans warm, they become more acidic. This reduces the ability of shellfish and coral to produce their shells and skeletons, reducing large amounts of biodiversity.
    4. None of the above.
57. What are the thermohaline currents?
    1. The movement of ocean water caused by the movement of air in the atmosphere.
    2. The sinking of warm ocean water due to evaporation.
    3. When colder, saltier water sinks due to the formation of ice, pulling up warmer water to take its place.
    4. The sinking of colder ocean water due to evaporation.
    5. None of the above.
58. How is climate change expected to affect the thermohaline currents?
    1. As the water warms, the currents will be sped up due to increased evaporation.
    2. As the water warms, the currents will slow down due to more sinking of cold water.
    3. As polar ice melts, it dilutes the colder, saltier water which may interrupt the currents altogether.
    4. As polar ice melts, the water will warms, causing more of it to sink faster, speeding up the currents.
    5. None of the above.
59. If we eliminated excess CO2 emissions today, what would be the most likely outcome.
    1. Because CO2 stays in the atmosphere for a century or more, the earth would still continue to warm over the next decades.
    2. We would see immediate improvement to the climate and a return to normal historical temperature ranges.
    3. Improvement would occur within a decade but would slowly get better.
    4. Once CO2 is in the atmosphere, it is there permanently; this is an irreversible problem.
60. In order to keep CO2 levels at or below 400 ppm (the current level), what is necessary?
    1. CO2 levels in the atmosphere would need to be less than half of what they were in 2000.
    2. We would have to remove all CO2 from the atmosphere.
    3. We would have to minimize how much CO2 emissions continue to increase.
    4. We would have to stop increases to CO­2 emissions.
61. What can you do to slow the effects of climate change?
    1. Write to your elected officials.
    2. Switch traditional lightbulbs for CFLs.
    3. Run your dishwasher only when it is full.
    4. Tell people about the realities of this problem.
    5. All of the above are things I can personally do to make things better
62. Which of the following shows the correct order of survival needs from greatest to least?
    1. Shelter, Water, Positive mental attitude, Air
    2. Positive mental attitude; Air; Shelter; Water
    3. Water, Shelter, Air, Positive Mental Attitude
    4. Air, Water, Shelter, Positive Mental Attitude