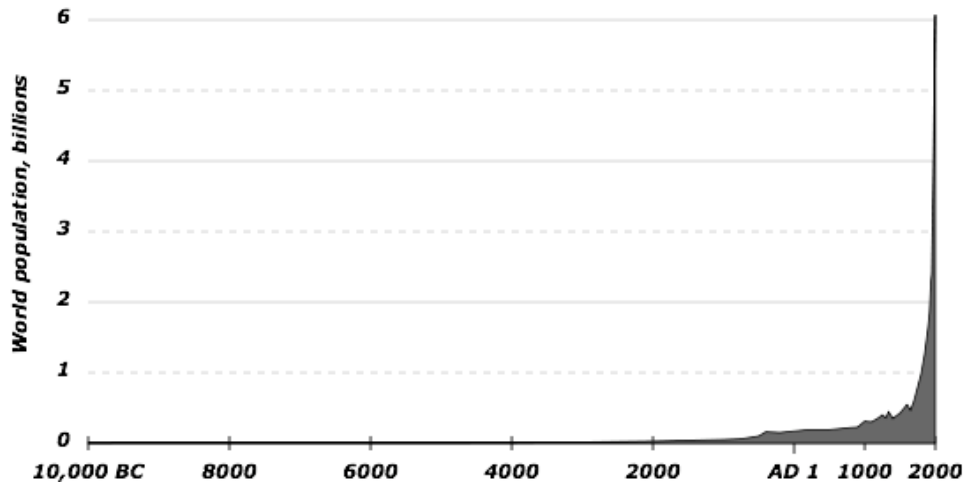


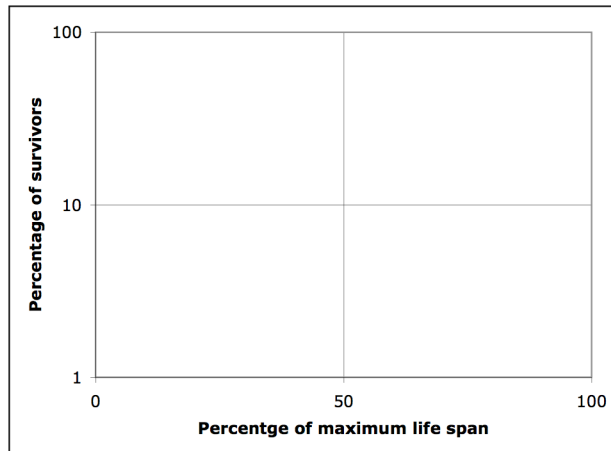
Biology 11A Test 5 Study Guide

1. If $G = rN$, what type of growth is the chart below chart representative of? What kind of curve is it?



2. The human population on Earth is currently greater than 6.7 billion. If in 50 years the population levels off at K , the maximum number the Earth can support, what is that called?
3. What are three ways that we can change human population growth?
4. List the five limiting factors to population growth discussed in class:

5. On the graph, sketch survivorship curves for early loss, late loss, and constant loss:



6. Predation can lead to “Boom and Bust” cycles in both predator and prey. What does this mean?

7. Put the following levels of ecological organization in order of increasing complexity.

Ecosystem Population Biosphere Community Species

8. Match the population distribution with its characteristics:

- | | |
|------------|---|
| a. Uniform | i. No social organisms, plenty of resources |
| b. Clumped | ii. Organisms work together, resources unevenly distributed |
| c. Random | iii. Territorial organisms, scarce resources |

9. There two terms we use to describe interspecific competition. Label each example:

- Two species of barnacle need the same resources and so can't coexist in the same place:

- Two similar kinds of lizards live in the same place but have different niches:

10. Identify the type of defense mechanism used by the prey:

a) A Leafy Sea Dragon looks like a piece of floating seaweed:

b) A harmless Scarlet Kingsnake has coloration similar to the deadly Coral Snake:

c) The soldiers of *Globitermes sulphureus* termites are “Kamikazes” that ram their exploding heads into attackers, covering them with caustic chemicals:

11. Match the term with the example/definition:

a) Producer

i. Humans

b) Decomposer

ii. Both organisms benefit

c) Consumer

iii. Flowers and trees

d) Mutualism

iv. One species benefits, the other is harmed

e) Parasitism

v. Fungus and lichens

f) Commensalism

vi. One organism benefits, the other is unaffected

12. If a trophic pyramid has phytoplankton at the bottom and orcas at the top, where is the lowest amount of energy going to be?

13. Fertilizer runoff into a lake causes a bloom of algae, killing the other living organisms in the lake. Of what is this an example?

14. Given the choice of two eggs, a bird will innately sit on the larger, even if it is not one of its own. What is this programmed behavior called?

15. Match the type of learned behavior with the example:

Habituation Imprinting Association Imitation Problem-solving

- a) New Caledonian crows will modify sticks into tools to get to hidden grubs
- b) A baby elephant seal learns the call of its mother immediately after being born
- c) Pavlov's dogs learned that bell-ringing meant they were going to be fed
- d) Rescued orangutans wash clothes in a river after watching people do it
- e) You learn to ignore the constant back-up alarm of bulldozers on campus

16. Most people have a biological clock that makes them tired at night and awake during the day. This is because of the _____ rhythm.

17. Search and Rescue dogs are trained to use their _____ skills to find people buried in rubble. Falcons use a _____ _____ to quickly spot prey from high above.

18. What is Altruism? Give an example from class.

19. Complex communication uses all the senses. Give an example of an organism that we discussed in that uses such communication.

20. Classify the following as biotic or abiotic factors:

- a) parasitic worms
- b) soil pH
- c) air temperature
- d) space competition between trees

21. What effect does the angle of the sun's rays on Earth have on the temperature of the poles and the equator?

22. Define these three types of biome:

Freshwater:

Estuary:

Wetland:

23. What is the most diverse kind of aquatic biome? What is the most diverse terrestrial?

24. What's the difference between a desert and a tundra?

25. "What's so special about the rainforest, anyway? I ain't never seen one, and I sure as heck don't need it!" What do we need biodiversity for?

26. In China, 40% of all mammal species are endangered. For plants, 70% of all nonflowering plants and 85% of all flowering plants are considered threatened species. What is the top cause of extinction in the world?

27. Animals that live close to unnatural borders are subject to the _____, _____, and require a "buffer zone" for conservation.

495. We can now use specialized bacteria to clean up our toxic oil spills. This is an example of what kind of ecological restoration?

29. Costa Rica is home to 3% of the world's plant species, and 4.7% of the world's mammal species. Fortunately, over 25% of Costa Rica is designated National Park or protected land. (you don't need to know any of these numbers for the test). What kind of development is this called?

Go over the powerpoints, read your book, look at the study guide and lecture notes. Don't save it all for the night before...you should be sleeping and getting a good breakfast in the morning! It's not about luck, it's about knowing your stuff! Go get 'em, *Panthera tigris*! Heeya!

Questions? Comments? Laments? cabrillio11a@gmail.com