Biology Review Sheet

Ecology

Test Date = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| Suppose a farmer was using pesticides to kill all of the mice in his barn. Which population(s) would be most affected by this practice?  What do the arrows in the diagram above represent? |  |
| Using the diagram in the previous question, what is the relationship between the deer and the rabbit? |  |
| List the three types of symbiotic relationships. |  |
| Which type of symbiotic relationship occurs when **both** organisms **benefit**? |  |
| Which type of symbiotic relationship occurs when one organism benefits and the other is not affected in any way? |  |
| Which type of symbiotic relationship occurs when one organism is harmed and the other benefits? |  |
| What is the original source of almost all the energy in most ecosystems? |  |
| Which of the above graphs best illustrates a bacterial colony that has reached its carrying capacity? Explain why. |  |
| The graph below represents changes in the human population over a period of 2000 years.    What type of growth is illustrated in the above graph? |  |
| The diagram below shows the flow of carbon in a terrestrial ecosystem.    What would most likely happen to the amounts of carbon dioxide if the producers were removed from the carbon cycle?  What natural process removes carbon dioxide from the air?  What natural process adds carbon dioxide to the air? |  |
| Of the following organisms listed, which would be at the TOP of the food pyramid?  Shrimp, green algae, trout, alligator |  |
| List the two types of factors that make up an ecosystem. |  |
| Which type of factor is living?  Give an example that could be found in YOUR backyard. |  |
| Which type of factor is nonliving?  Give an example that could be found in YOUR backyard. |  |
| What do all of the biotic and abiotic factors combine to form? (Think about the levels of ecology.) |  |
| Which branch of biology deals with interactions among organisms and their environment? |  |
| List the 5 levels of ecology from smallest to largest. |  |
| Which type of organism is needed to return the nutrients of a dead tree to the surrounding soil? |  |
| What term is used to describe the maximum number of individuals an ecosystem can support?  What is likely to happen in an ecosystem if addition this is exceeded?  What will happen to the growth rate of a population once the carrying capacity is met?  Which type of growth curve is exhibited by a population that reaches a carrying capacity? |  |
| What is the energy source of a(n):   * Autotroph * Omnivore * Carnivore * Herbivore * Decomposer |  |
| What is an non-native/exotic species? Give an example. |  |
| Which type of organism are at the bottom of ANY energy/food pyramid? |  |
| What type of relationship is being illustrated in the graph below?  http://educationally.narod.ru/graphpred.gif |  |
| Using the graph in the previous question, what happens to the moose population when the wolf population….   1. Increases? 2. Decreases? | (a)  (b) |
| What is the carrying capacity of this population of rabbits?  What is likely to happen to the death rate of this population after September?  What is likely to happen to the birth rate of this population after September? |  |
| How are a habitat and a niche of an animal different?  Describe the habitat and niche of a brown squirrel |  |
| Suppose there are 5000 units of energy at level IV. How much energy would be available at the following levels?   * Level III * Level II * Level I   What happens to the energy that is not transferred to the next energy level?  Which level(s) would contain autotrophs?  Which level(s) would contain consumers?  Which level would receive the highest amount of energy from the sun? |  |
| What is biomagnification?  Does biomagnification increase as you go up a food chain?  Give an example of a compound that we discussed in class that illustrates the concept of biomagnifications.  Which organism would have the highest concentration of a poison in the following food chain?  Grass 🡪Grasshopper 🡪 Frog 🡪 Hawk |  |
| What cycle is being illustrated in the diagram above? Which two processes are a key to this cycle? |  |
| The place where an organism lives out its life is known as \_\_\_\_. |  |
| The role an organism plays is known as \_\_\_\_\_\_. |  |
| What must happen to the birthrate with relation to the death rate in order for a population to grow? |  |
| According to the U.N. scientists, which gas is the greatest culprit in regards to global warming? |  |
| Which type of organism feeds only on plants? |  |
| Which type of organism is capable of making its own food? |  |
| Which type of organism eats both plants and animals? |  |
| Which type of organisms eat only animals? |  |
| What is the general term given to an organism that can NOT carry out photosynthesis? |  |
| What is the term used to describe an interaction in which one organism captures and feeds on another organism? |  |
| What is another word for autotroph? |  |
| What is another word for heterotroph? |  |
| Which part of a food chain/web feeds on dead/decaying matter? |  |
| What are some possible things that would explain why the size of a population would start to decrease all of a sudden? |  |
| List the three processes that occur in living things that are involved in the carbon cycle. |  |
| How are plants classified in a food chain? |  |
| What is the term used to describe all of the members of a particular species that live on one area? |  |
| What would the graph look like for a population that grows until it reaches its carrying capacity? (What shape would the graph have?) |  |
| Which organisms in an energy pyramid receives the highest percentage of energy from the sun? |  |
| How could competition within a population be reduced? |  |
| How is acid rain formed? |  |
| The increase in the Earth’s temperature due to the build up of carbon dioxide and other gases is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |  |
| How many parents are involved in asexual reproduction? |  |
| Gametes are involved in which type of reproduction. |  |
| How many parents are involved in sexual reproduction? |  |
| How do the offspring of asexual reproduction compare to the parent? Each other? |  |
| How do the offspring of sexual reproduction compare to the parents? Each other? |  |
| List the examples of density dependent limiting factors that we discussed in class. |  |
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| What role do bacteria play in the nitrogen cycle? |  |
| Where are bacteria involved in the nitrogen cycle located in an ecosystem? |  |
| When plants lose water through their stomata, this is known as \_\_\_\_\_. |  |
| Which organisms are xylem and phloem found in? What is the function of xylem and phloem? |  |
| Which type of animal behavior:   * A dog receives a treat when it sits on command * Shown by desert animals when it is really hot and dry in their environment * Shown by animals during the long, cold winter months * The seasonal movement of animals * An attachment between a baby duck and the mother duck * An animal uses to get food from its mother * An aggressive behavior to protect against an animal’s space, feeding area or breeding ground * Exhibited by animals of the same species before mating * A response towards or away from a stimulus * Chemical signals given off by animals as a way of communication. |  |