

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

## Homework: Environmental Change

Answer the following questions about change to the environment.

1. Scientists fear that the burning of fossil fuels by humans will disrupt the stability of ecosystems around the world. One of the main concerns regards the production of greenhouse gases which are known to -

- A decrease the rate of photosynthesis.
- C trap heat in the lower atmosphere.
- B emit harmful gamma radiation.
- D poison the terrestrial biota.

2. Populations of Caribbean coral have decreased significantly over the past 30 years due to disease. Which of the following is most likely a major factor leading to the increased amount of disease in the coral?

- A Symbiotic algae are living in the coral cells.
- B Several different species of fish live on the coral reefs.
- C Levels of spawning have decreased and lowered reproductive rates.
- D Water temperatures have increased and favored the growth of microorganisms.

3. Which of the following human activities is most likely to cause the greatest disruption to the environment?

- A Replanting felled trees
- C Recycling cardboard boxes
- B Burning fossil fuels
- D Capturing solar energy

4. Humans have been using increasing amounts of land to build houses and construct roadways. Which statement below describes how this expansion affects organisms from these areas?

- A Species are quickly adapting to new habitats and different niches
- B The loss of habitat is reducing the population size of other animals
- C Carnivores are being forced to eat vegetation in lieu of meat
- D Animals are developing new habits that compliment human life

5. Global warming could cause the polar ice caps to melt increasing the amount of fresh water in the ocean and disrupting the flow of natural currents that cycle heat around the world. This change would most likely result in which of the following?

- A An increase in climate change
- C An increase in producer populations
- B The collision of tectonic plates
- D The reduction of ocean sediments

6. Deforestation has which of the following effects on the biomass and biodiversity of the plant and animal community in these ecosystems?

- A biomass and biodiversity both increase
- C biomass increases but biodiversity decreases
- B biomass and biodiversity both decrease
- D biomass decreases but biodiversity increases

7. Which of the following scenarios would have the most severe effect on a pond ecosystem?

- A Allowing animals to drink the water
- C Preventing fertilizers from entering the water
- B Having a prolonged regional drought
- D Limiting the use of the pond or fishing

8. Human activities release compounds into the environment which lower the pH of the surrounding soil and water supplies. This change to the ecosystem can cause a reduction in the producer populations and have a negative effect on all aquatic life. Which of the following contributes the most to these effects?

- A** Constructing water treatment plants that efficiently remove pollution and conserve water
- B** Precipitation carrying these pollutants from the atmosphere to the ground and water supply
- C** A reduction in the use of fossil fuels in favor of alternate, renewable energy sources
- D** Farming practices that reduce the use of fertilizers in favor of organic farming techniques

9. The use of fertilizers on farmland can eventually cause an overgrowth of algae to appear in surrounding aquatic ecosystems. What process contributes to the eutrophication of these water sources and the increased growth of algae?

- A** A decreased use of water by animals
- B** An increase in runoff after heavy rains
- C** An increase in the sedimentation of rivers
- D** A decrease in the erosion of creek beds

10. A large number of woodland animal populations are much smaller than they were 100 years ago. One of the primary reasons these populations have been reduced is –

- A** the loss of habitats
- B** the use of fertilizers
- C** a decline in poaching
- D** an increase in offshore drilling

11. Humans construct dams for many reasons including the creation of reservoirs for drinking water and irrigation as well as the production of hydroelectric power. Which of the following describes the effects of dams on the river they occupy?

- A** The amount of erosion occurring down the river is reduced
- B** The amount of sediments traveling past the dam greatly increases
- C** The amount of fish traveling up the river to spawn is increased
- D** The amount of nutrients traveling down the river is reduced

12. Overfishing can create problems in marine ecosystems including drastic increases in the population of phytoplankton and other algae. This increase in algae is mainly because –

- A** fishing allows more light to reach producers
- B** the reproduction of fish inhibits algae growth
- C** fishermen provide fertilizers to producers
- D** fish that consume algae are removed

**plankton** → **small fish** → **large fish** → **shorebird**

13. Which organism shown in the food chain has the highest concentration of pollutants?

- A** plankton
- B** small fish
- C** large fish
- D** shorebird

14. The gray wolf and mountain lion populations in the United States have sharply declined over the past two centuries. Both of these animals are carnivores, but ecologists have determined that the reduction of these species has caused adverse effects to the community of plants in the forest. What is most likely the reason for these changes to the plant community?

- A** New species of wolves and mountain lions formed which feed on the forest plants
- B** The smaller populations of carnivores have become omnivorous in order to survive
- C** The white-tailed deer population has grown unchecked and reduced forest foliage
- D** The removal of carnivores has increased the decomposition rates of animals and plants