SLA Student Learning Activity

Limiting Factors

1. Explain the difference between density-dependent and density-independent limiting factors.

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2. Each of the statements below involves a situation that will affect the growth of a population. Classify each of the statements as DD (density-dependent) or DI (density-independent) and give a reason for your choice.

   a. A lion and a cheetah attempt to occupy the same niche. The more aggressive lion survives; the cheetah does not.

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   b. Coyotes cross the winter pack ice and enter Newfoundland. The moose population starts to decline.

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   c. A severe frost wipes out 50 percent of the coffee crop in Brazil.

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   d. A forest fire destroys much of the wildlife in an area of northern Manitoba.

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   e. Due to severe overcrowding in an Asian village, many children do not survive to reach adulthood.

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f. Since lynx prey on hares, an increase in the hare population causes an increase in the lynx population.

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g. A severe flood in the Red River valley causes a decline in the deer population.

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h. Due to stress, large numbers of female lemmings miscarry their young and fail to reproduce.

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i. Travelers who visit a crowded African village become infected with a disease caused by parasites.

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j. Many fish die due to a change in the winds and the appearance of the El Niño ocean current off the coast of Peru and Chile.

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k. Because rabbits in Australia have no natural enemies, their population increases rapidly.

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l. Fish on a coral reef stake out their territory and chase away any younger fish that try to live there.

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m. An extensive drought on the Serengeti Plain threatens wildebeest, giraffe, zebra, and springbok populations.

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