1. A subspecies is a different group within a species that is able to interbreed but is usually prevented from doing so by geographical isolation. The Florida Panther is a subspecies of the American Cougar, and there are very few (less than 100) remaining in its population. When populations get this small, inbreeding results in low genetic diversity. The result is fewer beneficial adaptations that might help the animals survive environmental change, as well as an increase in the occurrence of genetic abnormalities. How can this subspecies of cougar be saved from extinction?
   1. Keep the existing population in a controlled environment until their population increases.
   2. Increase the genetic diversity by introducing other subspecies of cougar to the population.
   3. Relocate remaining Florida Panthers to the larger populations of cougar subspecies in Texas and California.
   4. Remove all the panthers with genetic abnormalities from the environment and leave only the healthy ones.
2. Florida Panthers are an endangered species. Because the remaining population of Florida Panthers is quite small and fairly closely related, there are concerns that there is not enough genetic variability within the population. How does greater genetic variability within the population affect the Florida Panthers' reproductive success?
   1. It reduces the need to keep Florida Panthers alive in captivity.
   2. It increases the rate of mutations that create helpful adaptations.
   3. It reduces the expansion of harmful traits that result from inbreeding.
   4. It increases the chance that the Florida Panther will be able to survive sea level rise.
3. Natural selection is a process that results in change within a species over time. Which of the following is NOT a condition required for natural selection to result in speciation?
   1. overpopulation of the species
   2. genetic equilibrium of the species
   3. genetic variation within the species
   4. competition for survival within the species
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