

## Speciation Quiz

1. In order for speciation to occur, which of the following must be true?
  - a. There must be a barrier to gene flow between populations.
  - b. a population must be dispersed to an island.
  - c. The original population must become polyploid.
  - d. There must be some genetic variability in the population.
  - e. Answers A and D are correct.
  - f. Answers A and B are correct.
2. Within the past 2 million years in Lake Malawi, over 400 species of fish have descended from a single common ancestral species. Some of these species may have developed when fluctuating water levels isolated small sub-populations of the original ancestral species and prevented interbreeding. This is an example of what type of speciation?
  - a. allopatric
  - b. sympatric
  - c. parapatric
  - d. polypatric
3. The many species of finches that now inhabit the Galapagos Islands descended from one or a few species that reached the islands from the main land. After reaching the islands, speciation occurred rapidly to fill the many ecological niches that existed on the previously uninhabited islands. What term best describes this rapid speciation?
  - a. adaptive radiation
  - b. parapatric speciation
  - c. sympatric speciation
  - d. dispersal
4. Which of the following "species" cannot be tested via the biological species concept to see if all the individual organisms are in fact a single species?
  - a. yeast purchased at the grocery store
  - b. a dinosaur species
  - c. different populations of the same bird species
  - d. the so-called "races" of humans
  - e. different genetic strains of the same presumed fungus species
5. Which of these definitions of species most closely fit the biological species concept?
  - a. Members of the same species are all morphological species.
  - b. Members of the same species are all genetically identical.
  - c. Members of the same species look almost exactly alike.
  - d. For asexually reproducing organisms, members of the same species are whatever an expert says they are.
  - e. Members of the same species can mate and produce fertile offspring. Members of different species can't.
6. The Kaibab squirrel lives on the north side of the the Grand Canyon and the Abert squirrel lives on the south side. Even though these two species are only miles apart, their gene pools are kept isolated by their inability to cross the Grand Canyon. If these two species are derived from the same ancestral species, what mechanism probably accounts for their development into two separate species?
  - a. Allopatric speciation
  - b. Sympatric speciation
  - c. Gamete incompatibility
  - d. Hybrid infertility

# Noble Experiment Selection Quiz Answer Sheet

**Michael Rajnik**

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