

Welcome Chaperones!

Thank you for choosing to spend time with your child's class at the Museum. Your role as chaperone is essential to insuring that your group has a positive experience. To help you get started, this guide asks questions about a few exhibits related to students' curriculums. You also can help students find answers to their OWN questions by reading exhibit labels and talking with Museum staff. Remember: students must stay with chaperones at all times.

For more information on planning your visit, please visit the Museum's Web site: www.naturalsciences.org

Second Floor

Go to the Mountains to the Sea gallery
In the Piedmont area, find the panel labeled "From Forest to Field and Back Again." The early settlers cleared the original forests to create farmland. Later, they abandoned the farms, and the plants and animals started re-establishing themselves in a process called succession.

- 1 The first year after abandonment, herbs were the predominant plants. Why?
- 2 Why did it take broomsedge and asters two to five years to outcompete the early colonizers?
- 3 How did broomsedge and asters outcompete the early herbaceous plants?
- 4 Five to 50 years after the area was abandoned, pine trees, red cedar and other species dominated. Later, hardwoods replaced these species. How did the hardwoods reach the canopy?
- 5 Name three clues that show a natural area was once a farm.



Paul Mirocha

Third Floor

Go to the Tropical Connections gallery
Find the exhibit called "The Role of People." Go to the panel labeled Overpopulation. Over-population can be a result of unchecked population growth.

- 6 How would you define overpopulation?
- 7 Which problems can overpopulation cause for
 - A. Humans?
 - B. Earth's ecology?

Look at the graph of Mexico's population growth rate.

- 8 How did Mexico reduce its growth rate during the latest decades?

Stay in the Tropical Connections gallery
Now, find the Biodiversity display. You can find the information you need on the central pillar of the exhibit.

- 9 What does biodiversity mean?

Biodiversity can arise when species interact with each other, when species become isolated from one another, or when species become extinct.

- 10 Find an example of biodiversity that may have arisen because animal species have interacted with plant species.
- 11 How can the extinction of species increase biodiversity?
- 12 Does this mean that we shouldn't worry about life forms becoming extinct because of human activities?

Answers to questions

- 1 Herbs already were present in the crop fields as weeds and dormant or wind-spread seeds. They grow rapidly.
- 2 It takes them longer to establish themselves—they need at least one year to flower and seed.
- 3 They shade out the earlier plants.
- 4 Hardwood seedlings, such as oak, hickory and maple, are more shade-tolerant than those of earlier tree species such as pine. Over time, hardwoods replace pines because pines can't reproduce in the forest shade.
- 5 Piled rocks (area once cleared for tilling or pasture); garden flowers (area was once a garden); rusty wire going through a tree (tree was once used as fence post); relict plow furrows.
- 6 An area is overpopulated when there are more people than the area's natural resources can support.
- 7 A. poverty, malnourishment and epidemics; B. deforestation, pollution, extinction and depletion of fisheries.
- 8 They provided family planning and access to birth control. (Answer is on the back of the cylinder!)
- 9 Bio means life, and diversity means variety. Thus, biodiversity is "variety of life."
- 10 The display titled "Food that Fits the Bill" shows three hummingbird species that may have diversified in response to three flower species.
- 11 The extinction of species can vacate ecological niches, making way for the appearance of new species.
- 12 No! Extinctions that are human-caused occur at a much higher rate than natural extinctions. The process of biodiversification cannot keep up with the rate of human-caused extinctions.