Species:

Common Misconception:

Directions: Answer the following questions in **COMPLETE** sentences.

The Living Earth

The biosphere is made of many different environments. The environments on Earth are home to many different kinds of organisms. For example, the Rio Grande Valley receives very little rain. Cacti, lizard, coyotes, javelinas and many other organisms live in this type of environment. On the other hand, rain forests receive plenty of rain. Parrots, monkeys, large trees, and thousands of others live in the rain forest. There are many other environments all over the world.

If you visit Laguna Atascosa National Wildlife Refuge, you might see something like the pictures. A hawk lands on a plant. The hawk lives off of snakes in the grass. A butterfly pollinates the plant.

These pictures are part of an ecosystem. An ecosystem includes all of the living and non-living things in an area. Ecology is the study of how organisms and non-living things interact in an environment. Ecologists are scientists who study ecosystems.

1. What are two synonyms for living and nonliving things (hint- think more scientific terms)?
2. What are three examples of nonliving factors in an ecosystem?

3) Select one of the nonliving factors you mentioned above and describe how it would affect living organisms in an ecosystem.

Imagine you are an ecologist. You might study how cougars move from place to place and how they care for their young. You would be studying the members of a population. A population is made of all the

organisms in an ecosystem that are from the same species (the same type of organism). For example, all the hawks in Laguna Atascosa make up one population. All the monarch butterflies make up another population. All the border lilies make up yet another population.

1. How does a population differ from an ecosystem?

Another ecologist might be studying how butterflies pollinate border lilies. Yet another ecologist might be studying how the snake population reacts to an increase in the hawk population. These ecologists are studying how different populations interact; in other words, they are studying a community. A community is made of all the populations in an ecosystem. This means that it includes all living organisms in the ecosystem. A rainforest community would include all the parrots, monkeys, trees, and other living organisms in the rainforest. An arctic community might include populations of fish, seals that eat the fish, and polar bears that eat the seals.

1. How does a community differ from a population?

The New York Times

By Austin Ramzy

10/14/15

HONG KONG — Australian officials have responded to criticism from animal rights activists and celebrities, including the former actress [Brigitte Bardot](http://topics.nytimes.com/top/reference/timestopics/people/b/brigitte_bardot/index.html?inline=nyt-per) and the singer Morrissey, that a government plan to protect threatened species by killing millions of feral *(wild)* cats is unnecessarily cruel.

Gregory Andrews, [Australia](http://topics.nytimes.com/top/news/international/countriesandterritories/australia/index.html?inline=nyt-geo)’s threatened species commissioner, has written [open letters](http://environment.gov.au/biodiversity/threatened/publications/factsheet-tackling-feral-cats) to Ms. Bardot and Morrissey saying that feral cats prey on more than 100 of the country’s threatened species and that they were a “major contributor” to the extinction of at least 27 mammal species in the country over the past 200 years.

The Australian Department of the Environment says that feral cats are the biggest threat to the country’s mammals, ahead of foxes and habitat loss. The government plan would use poison and traps to kill the cats.

1. Why does the Australian government want to curb *(control)* the feral cat population?
2. Feral cats are preying on endangered species. Is this predation occurring within a community or a population? Explain?

In announcing the plan in July, Greg Hunt, the environment minister, [said](https://www.environment.gov.au/minister/hunt/2015/mr20150716.html) that he wanted two million feral cats culled *(reduce the population of a wild animal by selective slaughter)* by 2020. Australia has an estimated 20 million feral cats, which are an [invasive species](http://topics.nytimes.com/top/news/science/topics/invasive_species/index.html?inline=nyt-classifier) brought by European settlers. Calls to exterminate the cats have been floated before, including [one in the 1990s](http://www.nytimes.com/1997/01/28/world/the-stray-cats-of-australia-9-lives-seen-as-9-too-many.html) that called for killing all feral cats by 2020.

1. Do you believe that the Australian government should cull (slaughter) cats in order to protect endangered species? Why or why not?
2. Do you believe there is a better solution other than killing cats? If so, what? If not, why not?

Homework: Research an ecosystem that is native to New York State. Draw a food web from the ecosystem that includes at least two producers, three consumers and one decomposer.