



## Teacher Notes

In AP Biology, the topic of Biodiversity in terms of Conservation Biology and Restoration Ecology are often given as independent work. The purpose of this lesson is to serve as a template for a quick and easy lesson about this important topic.

The lesson is comprised of an Introductory Activity and a Biodiversity Jeopardy game.

**The introductory activity begins with the PowerPoint provided which is made of image slides representing biodiversity topics: 3 levels of biodiversity, importance, threats, and solutions.** The teacher will show the PowerPoint and then have students (in groups of four) brainstorm answers to the essential questions given on the worksheet provided. Student groups will be allowed to review the PowerPoint as needed during the brainstorming time.

At the end of the introductory activity, students will share their answers and the teacher will take the students through the PowerPoint one last time, discussing the meaning of the slides.

### Teacher's Guide to the Biodiversity PowerPoint Presentation

- The slide show begins with slides 2-8 representing the **3 levels of biodiversity**: species diversity, genetic diversity, and ecosystem diversity
- Slides 2-4 are representative of the species diversity showing different species of: bacteria, worms, and bears.
- Slides 5-6 are representative of genetic diversity with a picture of alleles on genes (concept of chromosomes, genes and mutation) and the light and dark moths (the link between genes and natural selection)
- Slides 7-8 are examples of ecosystem diversity, showing the Rainforest (Amazon river) and desert biomes
- Slides 9-10 focus on the **Importance** of biodiversity and give the examples of medicinal plants and prescription medicines (25% come from natural sources) on slide 9. Cotton and Fabrics are shown on slide 10 showing the importance of biodiversity to products that humans rely on daily.
- Slides 11-13 - **The four major threats to biodiversity** are habitat destruction, invasive or introduced species, overexploitation and disruption of interaction networks.  
Slide 11 shows the habitat destruction by rabbits in Australia after they were introduced there as a non-native species. Slide 12 depicts the destruction of the Tropical Rainforest in Brazil. Slide 13 is a global temperature graph showing the global warming trend.
- Slide 14-15: **Some potential solutions** to the decreasing biodiversity. Slide 14 shows a windmill – clean energy. Slide 15 shows a protected public land.

In the High Peaks Wilderness Area in Adirondack Park in Northeastern New York.