High School Science Virtual Learning

Environmental Science

Maintenance through Conservation

May 14, 2020

High School Environmental Science
Lesson: May 14, 2020

Objective/Learning Target:
Students will be able to describe how maintenance through conservation can help with biodiversity loss.

1. What is an endangered species?

2. What are the two main reasons species become endangered?

1. An endangered species is a type of organism that is threatened by extinction.

2. Species become endangered for two main reasons: loss of habitat and loss of genetic variation.

Lesson Activity:

Directions:

1. Watch the video and read the article linked below. As you are doing that, take careful notes about conservation and how it is helping protect wildlife and ecosystems.
2. Come up with a plan that includes 5 steps of conservation that you can do. Each step should include what you are going to do, what that will look like, and why it will help. You should also include how you are going to attempt to get others to join in with you.

Link(s):

Video

Article

Practice

You will use the information from the activity on slide 5 to answer the following questions.

Practice Questions

1. What is conservation biology?
2. What is restoration ecology?
3. What are two types of biodiversity ecologists look at to help rehabilitate an ecosystem?
4. What is small-population conservation?
5. What is bioremediation?

Answer Key

Once you have completed the practice questions check with the work.

1. Conservation biology involves measuring the biodiversity of an ecosystem and determining how to protect it.
2. Restoration ecology is the science of restoring broken ecosystems.
3. Answers may vary: Genetic diversity and ecosystem diversity are two types of biodiversity that scientists look at when trying to repair an ecosystem that is in shambles.
4. This approach focuses on identifying species and populations that are really small and tries to help boost their numbers in genetic diversity.
5. Bioremediation is the use of other organisms to remove toxins or help fix an issue in the ecosystem.

More Practice

You will use the information from the activity on slide 5 to answer the following questions.

More Practice Questions

1. What are the four different ways to measure biodiversity?
2. What is an endemic species?
3. Why is inbreeding a bad issue for biodiversity?
4. How does inbreeding make genetic mutations more dangerous?
5. What is the major problem with removing invasive species?

Answer Key

Once you have completed the practice questions check with the work.

1. The four different ways to measure biodiversity is species richness, genetic diversity, endemic species, and ecosystem diversity.
2. An endemic species is a species that only occurs in the observed area and nowhere else in the world.
3. Inbreeding can cause genetic variability to be lost quite quickly which means it is harder for species to adapt to changes in the environment.
4. Many genetic mutations are deleterious, reducing the individual's chances of survival, but are also recessive, requiring the inheritance of one mutant gene from each parent to manifest their effect. This means that without inbreeding most would not inherit two recessive genes. Inbreeding magnifies the chance to inherit these recessive genes.
5. The major problem with removing invasive species is it is very expensive.

Additional Resources

This is an excellent video to show more of how conservation is important to protecting ecosystems: Conservation and the Race to Save Biodiversity

Want to know of different conservation groups that you may be able to help or that are doing good things? Here is a list of different groups that you may be interested in: Different Conservation Groups

Conservation can be confusing on what it is and what it looks like. Here is more information about what exactly conservation is if you are still confused: Conservation Explained