



## Indiana Academic Standards Addressed By Zoo Program

### GUIDED TOUR — PROTECTING BIODIVERSITY (K-12)

Program description:

Develop an awareness of the dangers that animals and natural habitats now face. Discuss how we can help solve the problems.

Indiana Science and Social Studies Standards addressed by this program:

#### GRADES K-7<sup>th</sup> SCIENCE

##### **Standard 1:** The Nature of Science and Technology

*Technology and Science*

###### 2<sup>nd</sup> Grade

2.1.7

Recognize and describe ways that some materials — such as recycled paper, cans and plastic jugs — can be used over again.

###### 3rd Grade

3.1.8

Describe how discarded products contribute to the problem of waste disposal and that recycling can help solve this problem.

###### 5<sup>th</sup> Grade

5.1.7

Give examples of materials not present in nature, such as cloth, plastic, and concrete, that have become available because of science and technology.

###### 7<sup>th</sup> Grade

7.1.8

Explain that technologies often have drawbacks as well as benefits. Consider a technology, such as the use of pesticides, which helps some organisms but may hurt others, either deliberately or inadvertently.

##### **Standard 3:** The Physical Setting

*Earth and the Processes That Shape It*

###### 6<sup>th</sup> Grade

6.3.13

Identify, explain, and discuss some effects human activities, such as the creation of pollution, have on weather and the atmosphere.

6.3.16

Explain that human activities, such as reducing the amount of forest cover, increasing the amount and variety of chemicals released into the atmosphere, and farming intensively, have changed the capacity of the environment to support some life forms.

## **Standard 4: The Living Environment**

### *Diversity of Life*

#### 7<sup>th</sup> Grade

- 7.4.2 Describe that all organisms, including the human species, are part of and depend on two main interconnected global food webs, the ocean food web and the land food web.

### *Interdependence of Life and Evolution*

#### 3<sup>rd</sup> Grade

- 3.4.5 Give examples of some kinds of organisms that have completely disappeared and explain how these organisms were similar to some organisms living today.

#### 5<sup>th</sup> Grade

- 5.4.4 Explain that in any particular environment, some kinds of plants and animals survive well, some do not survive as well, and some cannot survive at all.

- 5.4.5 Explain how changes in an organism's habitat are sometimes beneficial and sometimes harmful.

#### 6<sup>th</sup> Grade

- 6.4.9 Recognize and explain that two types of organisms may interact in a competitive or cooperative relationship, such as producer/consumer, predator/prey, or parasite/host.

#### 7<sup>th</sup> Grade

- 7.4.14 Explain that the environment may contain dangerous levels of substances that are harmful to human beings. Understand, therefore, that the good health of individuals requires monitoring the soil, air, and water as well as taking steps to keep them safe.

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## **BIOLOGY I**

### **Standard 1: Principles of Biology**

#### *Ecology*

- B.1.37 Explain that the amount of life any environment can support is limited by the available energy, water, oxygen, and minerals, and by the ability of ecosystems to recycle the residue of dead organic materials. Recognize, therefore, that human activities and technology can change the flow and reduce the fertility of the land.
- B.1.38 Understand and explain the significance of the introduction of species, such as zebra mussels, into American waterways, and describe the consequent harm to native species and the environment in general.
- B.1.41 Recognize that and describe how human beings are part of Earth's ecosystems. Note that human activities can, deliberately or inadvertently, alter the equilibrium in ecosystems.

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## **ENVIRONMENTAL SCIENCE, ADVANCED**

### **Standard 1: Principles of Environmental Science**

#### *Environmental Systems*

- ENV.1.4 Understand and explain that human beings are part of Earth's ecosystems and give examples of how human activities can, deliberately or inadvertently, alter ecosystems.

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## **GRADES K-12<sup>th</sup> SOCIAL STUDIES**

### **Standard 3: Geography**

#### *Environment and Society*

##### Kindergarten

K.3.7

Recommend ways that people can improve their environment at home, in school and in the neighborhood.

##### 6<sup>th</sup> Grade

6.3.13

Explain the impact of humans on the physical environment and human populations in specific areas of Europe and the Americas.

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## **GEOGRAPHY AND HISTORY OF THE WORLD**

### **Standard 9: Human and Environmental Interactions: Resources, Hazards and Health**

GHW.9.3

Identify and describe ways in which humans have used technology to modify the physical environment in order to settle areas in different world regions. Evaluate the impact of these technologies on the physical and human environments affected (Human Environment Interactions, Spatial Interaction, Change over Time, Physical Systems)

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## **WORLD GEOGRAPHY**

### **Standard 5: Environment and Society**

WG.5.1

Identify and describe the effect of human interaction on the world's environment. (Economics; Government; Individuals, Society and Culture)

WG.5.2

Identify solutions to problems caused by environmental changes brought on by human activity. (Economics; Government; Individuals, Society and Culture)