



Kentucky Academic Standards Addressed By Zoo Program

SLIDE SHOW PRESENTATION — EVERGREEN WORLD

Program description:

Learn about the technologies CREW scientists are using in the preservation and propagation of some of the rarest plants on earth. This fascinating program reveals the mysteries of plant tissue culture (“cloning”) and cryopreservation...a frozen garden! Hear and see how science can save plants as well as animals.

Kentucky *Core Content for Science Assessment* standards addressed by this program:

SEVENTH GRADE – HIGH SCHOOL

Subdomain: Unifying Concepts

Organizer: Interdependence

Standards:

Seventh Grade

SC-07-4.7.1

Students will compare abiotic and biotic factors in an ecosystem in order to explain consequences of change in one or more factors.

The number of organisms an ecosystem can support depends on the resources available and abiotic factors (e.g., quantity of light and water, range of temperatures, soil composition). Given adequate biotic and abiotic resources and no diseases or predators, populations (including humans) increase at rapid rates. Lack of resources and other factors, such as predation and climate, limit the growth of populations in specific niches in the ecosystem.

Eight Grade

SC-08-4.7.1

Students will describe the interrelationships and interdependencies within an ecosystem and predict the effects of change on one or more components within an ecosystem.

Organisms both cooperate and compete in ecosystems. Often changes in one component of an ecosystem will have effects on the entire system that are difficult to predict. The interrelationships and interdependencies of these organisms may generate ecosystems that are stable for hundreds or thousands of years.

High School

SC-HS-4.7.1

Students will:

- Analyze relationships and interactions among organisms in ecosystems;
- Predict the effects on other organisms of changes to one or more components of the ecosystem.

Organisms both cooperate and compete in ecosystems. Often changes in one component of an ecosystem will have effects on the entire system that are difficult to predict. The interrelationships and interdependencies of these organisms may generate ecosystems that are stable for hundreds or thousands of years.

SC-HS-4.7.2

Students will:

- Evaluate proposed solutions from multiple perspectives to environmental problems caused by human interaction;
- Justify positions using evidence/data.

Human beings live within the world's ecosystems. Human activities can deliberately or inadvertently alter the dynamics in ecosystems. These activities can threaten current and future global stability and, if not addressed, ecosystems can be irreversibly affected.

SC-HS-4.7.5

Students will:

- Predict the consequences of changes in resources to a population;
- Select or defend solutions to real-world problems of population control.

Living organisms have the capacity to produce populations of infinite size. However, behaviors, environments and resources influence the size of populations. Models (e.g., mathematical, physical, conceptual) can be used to make predictions about changes in the size or rate of growth of a population.