



CINCINNATI ZOO & BOTANICAL GARDEN



Indiana Academic Standards Addressed By Zoo Program

GUIDED TOUR — INSECT (Grades K-6th & Advanced Life Science)

Program description:

Learn about one of the most important groups of animals on the planet in our award-winning Insectarium. A live insect demonstration is included. A perfect cold weather tour.

Indiana Science Standards addressed by this program:

GRADES K-6th

Standard 1: The Nature of Science and Technology

Scientific Inquiry

Kindergarten

K.1.1 Raise questions about the natural world.

1st Grade

1.1.2 Investigate and make observations to seek answers to questions about the world, such as “in what ways do animals move?”

2nd Grade

2.1.2 Use tools – such as thermometers, magnifiers, rulers, or balances – to gain more information about objects.

2.1.3 Describe, both in writing and verbally, objects as accurately as possible and compare observations with those of other people.

3rd Grade

3.1.2 Participate in different types of guided scientific investigations, such as observing objects and events and collecting specimens for analysis.

3.1.3 Keep and report records of investigations and observations using tools, such as journals, charts, graphs, and computers.

The Scientific Enterprise

Kindergarten

K.1.2 Begin to demonstrate that everyone can do science.

1st Grade

1.1.3 Recognize that and demonstrate how people can learn much about plants and animals by observing them closely over a period of time. Recognize also that care must be taken to know the needs of living things and how to provide for them.

Standard 2: Scientific Thinking*Communication Skills*1st Grade

1.2.6 Describe and compare objects in terms of number, shape, texture, size, weight, color, and motion.

4th Grade

4.2.4 Use numerical data to describe and compare objects and events.

6th Grade

6.2.6 Read simple tables and graphs produced by others and describe in words what they show.

Standard 3: The Physical Setting*Earth and the Processes That Shape It*2nd Grade

2.3.4 Investigate by observing and then describe how animals and plants sometimes cause changes in their surroundings.

Standard 4: The Living Environment*Diversity of Life*Kindergarten

K.4.2 Observe plants and animals, describing how they are alike and how they are different in the way they look and in the things they do.

1st Grade

1.4.2 Observe and describe that there can be differences, such as size or markings, among the individuals within one kind of plant or animal group

2nd Grade

2.4.1 Observe and identify different external features of plants and animals and describe how these features help them live in different environments.

3rd Grade

3.4.1 Demonstrate that a great variety of living things can be sorted into groups in many ways using various features, such as how they look, where they live, and how they act, to decide which things belong to which group.

6th Grade

6.4.3 Describe some of the great variety of body plans and internal structures animals and plants have that contribute to their being able to make or find food and reproduce.

*Interdependence of Life*1st Grade

1.4.3 Observe and explain that animals eat plants or other animals for food.

1.4.4 Explain that most living things need water, food, and air.

2nd Grade

2.4.2 Observe that and describe how animals may use plants, or even other animals, for shelter and nesting.

2.4.3 Observe and explain that plants and animals both need to take in water, animals need to take in food and plants need light.

2.4.4 Recognize and explain that living things are found almost everywhere in the world and that there are somewhat different kinds in different places.

- 2.4.5 Recognize and explain that materials in nature, such as grass, twigs, sticks, and leaves, can be recycled and used again, sometimes in different forms, such as in birds' nests.

Interdependence of Life and Evolution

4th Grade

- 4.4.2 Investigate, observe, and describe that insects and various other organisms depend on dead plant and animal material for food.
- 4.4.3 Observe and describe that organisms interact with one another in various ways, such as providing food, pollination, and seed dispersal.
- 4.4.6 Explain how in all environments, organisms are growing, dying, and decaying, and new organisms are being produced by the old ones.

5th 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.

6th Grade

- 6.4.8 Explain that in all environments, such as freshwater, marine, forest, desert, grassland, mountain, and others, organisms with similar needs may compete with one another for resources, including food, space, water, air, and shelter. Note that in any environment, the growth and survival of organisms depend on the physical conditions.
- 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.

Standard 5: Mathematical World

Shapes and Symbolic Relationships

1st Grade

- 1.5.3 Observe and describe similar patterns, such as shapes, designs, and events that may show up in nature, such as honeycombs, sunflowers, or shells. See similar patterns in the things people make, such as quilts, baskets, or pottery.

Standard 6: Common Themes

Models and Scale

Kindergarten

- K.6.1 Describe an object by saying how it is similar to or different from another object.

Constancy and Change

1st Grade

- 1.6.2 Observe that and describe how certain things change in some ways and stay the same in others, such as in their color, size, and weight.

ADVANCED LIFE SCIENCE: ANIMALS (L) STANDARDS

Standard: Animal Genetics and The Environment

Evolution

- AS.4.14 Compare and contrast adaptations of animals for survival in different environmental conditions.