

# ENVIROCIRCLES

## 2010 IDOE Content Standards

**NOTE:** Literacy standards have not been included in this list because they are too numerous and vary in session versions. Please inquire if this is a standard you want to cover in the session. Health and wellness standards also apply but are not listed here.

### **GRADE 3 Core Standards**

#### **Standard 2: Earth Science**

Observe and describe how natural materials meet the needs of plants and animals (including humans).

3.2.5 Describe natural materials and give examples of how they sustain the lives of plants and animals.

3.2.6 Describe how the properties of earth materials make them useful to humans in different ways. Describe ways that humans have altered these resources to meet their needs for survival.

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### **GRADE 4 Core Standards**

#### **Standard 2: Earth Science**

Describe how the supply of natural resources is limited and investigate ways that humans protect and harm the environment.

4.2.4 Investigate earth materials that serve as natural resources and gather data to determine which ones are limited by supply.

4.2.5 Describe methods that humans currently use to extend the use of natural resources.

4.2.6 Describe ways in which humans have changed the natural environment. Explain if these changes have been detrimental or beneficial.

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#### **Standard 3: Life Science**

Observe, describe and ask questions about structures of organisms and how they affect their growth and survival.

4.3.2 Observe, compare and record the physical characteristics of living plants or animals from widely different environments. Describe how each plant or animal is adapted to its environment.

4.3.3 Design investigations to explore how organisms meet some of their needs by responding to stimuli from their environments.

4.3.4 Describe a way that a given plant or animal might adapt to a change arising from a human or non-human impact on its environment.

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### **GRADE 5 Core Standards**

#### **Standard 2: Earth Science**

Observe, describe and ask questions about patterns in the sun-moon-earth system.

Recognize that our earth is part of the solar system in which the sun, an average star, is the central and largest body. Observe that our solar system includes the sun, moon, seven other planets and their moons, and many other smaller objects like asteroids and comets.

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#### **Standard 3: Life Science**

Observe, describe and ask questions about how changes in one part of an ecosystem create changes in other parts of the ecosystem.

- 5.3.1 Observe and classify common Indiana organisms as producers, consumers, decomposers, predator and prey based on their relationships and interactions with organisms in their ecosystem.
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### **GRADE 6 Core Standards**

#### **Standard 3: Life Science**

Describe that all organisms, including humans, are part of complex systems found in all biomes (i.e. freshwater, marine, forest, desert, grassland and tundra).

- 6.3.1 Describe specific relationships (i.e. predator and prey, consumer and producer, and parasite and host) between organisms and determine whether these relationships are competitive or mutually beneficial.
- 6.3.2 Describe how changes caused by organisms in the habitat where they live can be beneficial or detrimental to themselves or to native plants and animals.
- 6.3.2 Describe how certain biotic and abiotic factors—such as predators, quantity of light and water, range of temperatures and soil composition—can limit the number of organisms an ecosystem can support.
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#### **BIOLOGY Standard 4: Interdependence**

Describe the relationship between living and nonliving components of ecosystems and describe how that relationship is in flux due to natural changes and human actions.

- B.4.1 Explain that the amount of life environments can support is limited by the available energy, water, oxygen and minerals and by the ability of ecosystems to recycle the remains of dead organisms.
- B.4.2 Describe how human activities and natural phenomena can change the flow and of matter and energy in an ecosystem and how those changes impact other species.
- B.4.3 Describe the consequences of introducing non-native species into an ecosystem and identify the impact it may have on that ecosystem.
- B.4.4 Describe how climate, the pattern of matter and energy flow, the birth and death of new organisms, and the interaction between those organisms contribute to the long-term stability of an ecosystem.