

WHEP Indiana Academic Standards - Science

6.4.1	Explain that one of the most general distinctions among organisms is between green plants, which use sunlight to make their own food, and animals which consume energy-rich foods.
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 on 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.
7.4.9	Understand and explain that as any population of organisms grows, it is held in check by one or more environmental factors. These factors could result in depletion of food or nesting sites and/or increased loss to increased numbers of predators or parasites.
8.4.8	Describe how environmental conditions affect the survival of individual organisms and how entire species may prosper in spite of the poor survivability or bad fortune of individuals.
B.1.18	Explain that the regulatory and behavioral responses of an organism to external stimuli occur in order to maintain both short- and long-term equilibrium.
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 genera.
B.1.39	Describe how ecosystems can be reasonably stable over hundreds or thousands of years. Understand that if a disaster such as flood or fire occurs, the damaged ecosystem is likely to recover in stages that eventually result in a system similar to the original one.
B.1.40	Understand and explain that like many complex systems, ecosystems tend to have cyclic fluctuations around a state of rough equilibrium. However, also understand that ecosystems can always change with climate changes or when one or more new species appear as a result of migration or local evolution.
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.
B.1.43	Realize and explain that at times, the environmental conditions are such that plants and marine organisms grow faster than decomposers can recycle them back to the environment.
B.1.45	Recognize that and describe how the physical or chemical environment may influence the rate, extent, and nature of the way organisms develop within ecosystems.
B.1.46	Recognize and describe that a great diversity of species increases the chance that at least some living things will survive in the fact of large changes in the environment.
B.1.47	Explain, with examples, that ecology studies the varieties and interactions of

	living things across space while evolution studies the varieties and interactions of living things across time.
ES.1.20	Describe the relationship among ground water, surface water, and glacial systems.
ES.1.21	Identify the various processes that are involved in the water cycle.
ENV.1.2	Understand and describe that if a disaster occurs – such as flood or fire – the damaged ecosystem is likely to recover in stages that eventually result in a system similar to the original one.
ENV.1.3	Understand and explain that ecosystems have cyclic fluctuations, such as seasonal changes or changes in population, as a result of migrations.
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.
ENV.1.9	Diagram the cycling of carbon, nitrogen, phosphorus, and water.
ENV.1.10	Identify and measure biological, chemical, and physical factors within an ecosystem.
ENV.1.12	Explain the process of succession, both primary and secondary, in terrestrial and aquatic ecosystems.
ENV.1.19	Demonstrate and explain how factors such as birth rate, death rate, and migration rates of populations.
ENV.1.20	Demonstrate how resources, such as food supply, influence populations.
ENV.1.27	Understand and describe the concept of integrated natural resource management and the values of managing natural resources as an ecological unit.
ENV.1.34	Differentiate between natural pollution and pollution caused by humans and give examples of each.
ENV.1.35	Compare and contrast the beneficial and harmful effects of an environmental stressor, such as herbicides and pesticides, on plants and animals. Give examples of secondary effects on other environmental components.