



Leaf Pack Network

Delaware State Standards, Grades 4-5

Leaf Pack Network[®] curriculum meets the following Delaware State Standards for grades 4-5.

Standard 1: Nature and Application of Science and Technology

The practice of science and the development of technology are critical pursuits of our society. These pursuits have involved diverse people throughout history and have led to continuous improvement in the quality of life and in our understanding of nature. Students will study the processes of scientific inquiry and technology development and the history and context within which these have been carried out.

Science as Inquiry

1. Curiosity about nature and the world around us leads scientists to ask questions in a way that requires scientific investigation in order to develop an explanation. The breadth and style of this investigation depend on the questions asked.
2. In science, answering certain questions requires observation and simple testing to generate additional information and enable a more complete investigation.
3. The ability to observe and gather data is enhanced by using a variety of instruments.
4. Collaboration, communication, and comparison are important parts of science. Graphs, charts, maps, equations, and oral and written reports can be used to share the results of a scientific investigation and facilitate discussion about it.

Standard 5: Earth's Dynamic Systems

Earth's features provide a record of how Earth has changed over time. This dynamic history can be documented and explained by a variety of physical, chemical, biological and geological processes. Students will study and learn to identify components of the various Earth systems and understand the changes and patterns that result from interactions within and between these systems.

Components of Earth

3. Water exists in the air as water vapor (e.g., clouds and fog) and is found on the surface as a liquid or solid, and below the surface as ground water. Water moves throughout Earth's systems by changing phase as a result of condensation and evaporation.

Standard 7: Diversity and Continuity of Living Things

The natural world consists of a diversity of organisms that transmit their characteristics to future generations. Students will study how living things reproduce, develop and transmit traits, and how these theories of evolution explain the unity and diversity of species found on Earth. Students will also study how knowledge of genetics, reproduction and development is being applied to improve agriculture and human health.

Diversity

1. Organisms have many distinct and unique features which they use for survival. Specialized features include those for finding food, building shelters, evading predators, and reproducing. Scientists use similarities and differences in these features to classify and group organisms.

Evolution

1. Organisms of the same species have variations which may provide an advantage in reproduction and survival.

Standard 8: Ecology

Organisms are linked to one another in an ecosystem by the flow of energy and the cycling of materials. Humans are an integral part of the natural system and human activities can alter the stability of ecosystems. Students will acquire a basic understanding of the structure of ecosystems and how they function and change. They will also study how humans can apply scientific and technological knowledge about ecosystems in making informed decisions about the use of natural resources.

Interactions Within the Environment

1. All living organisms interact with the living and non-living parts of their surroundings to meet their needs for survival. These interactions lead to a constant exchange of matter and energy. Plants derive energy from the sun for growth and survival. Animals eat plants or other animals that have also eaten plants to satisfy energy needs. Dead plants and animals are eaten by decomposers.

Changes in the Environment

1. Organisms adapt in order to live and reproduce in certain environments. Those organisms that are best suited for a particular environment have adaptations that allow them to compete for available resources and cope with the physical conditions of their immediate surroundings.
2. Changes in an organism's environment can either be beneficial or harmful. Organisms may be affected by other organisms, by various physical factors (e.g., rainfall, temperature), by physical forces (e.g., storms, earthquakes), and by daily, seasonal, and annual cycles.
3. Pollution and human activities can change the environment and adversely affect the health and survival of humans and other species. Careful planning and safe practices are required in waste disposal, recycling and waste management, pest control, and use of resources to ensure the wellbeing of humans and the environment.

Technology and Its Influence on the Environment

1. Various technologies are used to access resources or to create conveniences needed by society. In many cases there are significant environmental impacts and resource limitations that need to be considered. Such activities include logging; building of highways, shopping centers, and dams; introduction of one species to control another species; spraying of insects; as well as some aspects of farming.



The Leaf Pack Network is an initiative of Stroud™ Water Research Center. The Stroud Center seeks to advance knowledge and stewardship of freshwater systems through global research, education, and watershed restoration. Learn more at www.stroudcenter.org