



Leaf Pack Network

West Virginia State Standards, Grade 6 Science

Leaf Pack Network[®] curriculum meets the following West Virginia State Standards for grade 6:

Sixth Grade Science Content Standards and Objectives

The Coordinated and Thematic Science (CATS) Six objectives demonstrate, differentiate, and apply concepts of the living and designed worlds. Through a spiraling, inquiry-based program of study, all students will demonstrate scientific literacy in the fields of biology, chemistry, physics, and earth and space sciences. The subject matter is delivered through a coordinated, integrated approach with an emphasis on the development of major science themes of systems, changes and models. Students will engage in active inquiries, investigations and hands-on activities for a minimum of 50% of the instructional time to develop conceptual understanding and research/laboratory skills. Safety instruction is integrated in all activities. CATS Six reviews changes in the properties of matter, structures, functions and adaptations of organisms, and the structure of the earth's systems. New major concepts introduced at the sixth grade level include motions and forces, ecosystems, diversity of life, energy transformations, plate tectonics, earth's resources and weather. West Virginia teachers are responsible for analyzing the benefits of technology for learning and for integrating technology appropriately in the students' learning environment. See the related grade-level Technology Standards and Objectives.

Standard 1: History and the Nature of Science Objectives

SC6.1.1 Explain that scientists formulate and test their explanations of nature using observation and experiments.

SC6.1.2 Recognize that scientific knowledge is subject to modification as new scientific information challenges current theories.

Standard 2: Science as Inquiry Objectives

SC6.2.1 Cooperate and collaborate to ask questions, find answers, solve problems, conduct investigations to further an appreciation of scientific discovery.

SC6.2.2 Formulate conclusions through close observations, logical reasoning, objectivity, perseverance and integrity in data collection.

SC6.2.3 Apply skepticism, careful methods, logical reasoning and creativity in investigating the observable universe.

SC6.2.4 Use a variety of materials and scientific instruments to conduct explorations, investigations and experiments of the natural world (e.g., barometer, anemometer, microscope, computer).

SC6.2.5 Demonstrate safe techniques for handling, manipulating and caring for science materials, equipment, natural specimens and living organisms.

SC6.2.6 Utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, identifying dependent and independent variables).

SC6.2.7 Construct and use charts, graphs and tables to organize, display, interpret, analyze and explain data.

SC6.2.8 Use inferential reasoning to make logical conclusions from collected data.

SC6.2.9 Use appropriate technology solutions to gather data; graph data; interpret data; and analyze information.

Standard 3: Unifying Themes Objectives

SC6.3.1 Compare and contrast the relationship between the parts of a system to the whole system (e.g., take apart or build mechanical, electrical, or biological systems).

SC6.3.3 Compare and contrast changes that occur in an object or a system to its original state.

Standard 4: Science Subject Matter/Concepts Objectives

SC6.4.1 Demonstrate an understanding of the interconnections of biological, earth and space and physical science concepts.

Structure and Function in Living Systems

SC6.4.2 Describe the interactions of various cycles that provide energy through decomposition, photosynthesis, respiration, transpiration in the food web; nitrogen cycle.

SC6.4.3 Classify living organisms according to their structure and functions.

Populations and Ecosystems

SC6.4.8 Demonstrate changes in populations of organisms due to limiting environmental factors (e.g., food supply, predators, disease, habitat).

SC6.4.9 Analyze the ecological consequences of human interactions with the environment (e.g., renewable and non-renewable resources).

Standard 5: Scientific Design and Application

* Demonstrate an understanding of the interdependence between science and technology;

* Demonstrate the ability to utilize technology to gather data and communicate designs, results and conclusions.

Standard 6: Science in Personal and Social Perspectives Objectives

SC6.6.1 Use scientific reasoning and the knowledge of science and technology to make informed personal decisions at the local and global levels.

SC6.6.3 Critically analyze the effects and impacts of science and technology on global and local problems (e.g., mining, manufacturing, recycling, farming, water quality).

SC6.6.5 Analyze the positive and negative effects of technology on society and the influence of societal pressures on the direction of technological advance



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