



# **Leaf Pack Network**

## **West Virginia State Standards, Grade 5 Science**

Leaf Pack Network<sup>®</sup> curriculum meets the following West Virginia State Standards for grade 5:

### **Fifth Grade Science Content Standards and Objectives**

The Coordinated and Thematic Science (CATS) five objectives identify, compare, classify and explain our 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 the 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 Five reviews earth and the sky, life cycles and habitats of organisms, properties, positions and motions of objects and energy. New major concepts introduced at the fifth grade level include changes in properties of matter, structures, functions and adaptations of organisms, and the structure of the earth's system. 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**

SC5.1.1 Realize that scientists formulate and test their explanations of nature using observation and experiments.

SC5.1.2 Recognize scientific knowledge is subject to modification as new scientific information challenges current explanations.

#### **Standard 2: Science as Inquiry Objectives**

SC5.2.1 Cooperate and collaborate to ask questions, find answers, solve problems, conduct investigations to further an appreciation of scientific discovery.

SC5.2.2 Formulate conclusions through close observations, logical reasoning, objectivity, perseverance and integrity in data collection.

SC5.2.3 Apply skepticism, careful methods, logical reasoning and creativity in investigating the observable universe.

SC5.2.4 Use a variety of materials and scientific instruments to conduct explorations, investigations and experiments of the natural world (e.g., barometer, anemometer, microscope, computer).

SC5.2.5 Demonstrate safe techniques for handling, manipulating and caring for science materials, equipment, natural specimens and living organisms.

SC5.2.6 Utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, identifying dependent and independent variables).

SC5.2.7 Construct and use charts, graphs and tables to organize, display, interpret, analyze and explain data.

SC5.2.8 Use inferential reasoning to make logical conclusions from collected data.

### **Standard 3: Unifying Themes Objectives**

SC5.3.1 Compare and contrast the relationship between the parts of a system to the whole system (e.g., take a part or build mechanical, electrical, or biological systems).

SC5.3.3 Compare and contrast changes that occur in an object or a system to its original state.

### **Standard 4: Science Subject Matter/Concepts Objectives**

SC5.4.1 Demonstrate an understanding of the interconnections of biological, earth and space, and physical science concepts.

#### **Structure and Function in Living Systems**

SC5.4.3 Identify the structures of living organisms and explain their function.

#### **Populations and Ecosystems**

SC5.4.6 Explain how the different characteristics of plants and animals help them to survive in different niches and environments including adaptations, natural selection, extinction.

SC5.4.7 Explore the extinction of a species due to environmental conditions.

## **Structure of the Earth System**

SC5.4.19 Identify and describe natural landforms, how they change and impact weather and climate.

SC5.4.21 Compare and explain the different rates of weathering, erosion and deposition in certain materials.

SC5.4.22 Identify land features and elevations on a topographical map.

SC5.4.23 Identify resources as being renewable or non-renewable.

## **Standard 5: Scientific Design and Application**

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

## **Standard 6: Science in Personal and Social Perspectives Objectives**

SC5.6.1 Use scientific reasoning and the knowledge of science and technology to make informed personal decisions at the local and global levels.

SC5.6.3 Critically analyze the effects and impacts of science and technology on global and local problems (e.g., mining, manufacturing, recycling, farming, water quality).



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](http://www.stroudcenter.org)