



Leaf Pack Network

Maryland State Standards, Grade 12

Leaf Pack Network[®] curriculum meets the following Maryland State Standards for grade 12.

Skills and Processes (1.0)

Scientific Inquiry

By the end of the specified grade level students know and are able to do everything required at earlier grades and:

- 1.12.1 Access and process information from readings, investigations, and/or oral communications.
- 1.12.2 Formulate questions that lead to a testable hypothesis, which demonstrates the logical connections between the scientific concepts and the design of an investigation.
- 1.12.3 Use observations, research and select appropriate scientific information to form predictions and hypotheses.
- 1.12.4 Design experimental approaches, which answer scientific questions.
- 1.12.5 Demonstrate safety when conducting an investigation.
- 1.12.6 Use mathematical processes (measuring, calculating, etc.) when conducting investigations, analyzing information, and/or displaying information.
- 1.12.7 Collect, organize, and display data in multiple ways that fit the context using appropriate instruments to effectively convey the information (e.g., calculators, spreadsheets, and databases and graphing programs).
- 1.12.8 Analyze appropriate data to identify trends to form conclusions and apply what has been learned to evaluate the hypothesis.
- 1.12.9 Interpret and communicate findings through speaking, writing, and drawing in a form suited to the purpose and audience, in a form suited to the purpose and audience, using developmentally appropriate methods including technology tools and telecommunications.

Critical Thinking

1.12.11 Construct various classification systems and infer degree of divergence and/or kinship of various objects, materials, concepts, actions, and organisms.

1.12.12 Critique scientific information in order to detect bias and analyze the source of the bias.

1.12.13 Analyze the adequacy of the supporting evidence used to form conclusions, devise a plan, or solve a practical problem.

1.12.14 Provide supporting evidence when forming conclusions, devising a plan or solving a practical problem.

1.12.16 Analyze conclusions and modify ideas based on new information from developmentally appropriate readings, data, and the ideas of others.

1.12.17 Describe to others how scientific information was used.

Applications of Science

By the end of the specified grade level students know and are able to do everything required at earlier grades and:

1.12.18 Apply scientific principles and/or concepts to understand a new situation.

1.12.19 Apply skills, processes, and concepts of biology, chemistry, physics, and earth/space science to societal issues.

1.12.20 Defend a position on a scientific issue and take into account the different types of risks and benefits in formulating a plan of action.

Life Science (3.0)

Ecology

By the end of the specified grade levels students know and are able to do everything required at earlier grades and:

3.12.12 Analyze the interdependence of diverse living organisms and their interactions with the components of the biosphere.

3.12.13 Analyze the consequences of extinction and introduction of exotic species within ecosystems.

Environmental Science (6.0)

Interdependence of Organisms

6.12.2 Use physical, chemical, biological and ecological concepts to analyze and explain the interdependence of organisms within the environment.

Natural Resources and Human Needs

6.12.4 Use concepts from chemistry, physics, biology and ecology to analyze and interpret the impact both positive and negative of human activities on earth's resources.

Environmental Issues

6.12.5 Investigate and analyze environmental issues from local to global perspectives.



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