



Karen B. Salmon, Ph.D.
State Superintendent of Schools

TO: Members of the State Board of Education
FROM: Karen B. Salmon, Ph.D.
DATE: January 28, 2020
SUBJECT: Environmental Education Instructional Programs for Grades Prekindergarten-12

PURPOSE:

The purpose of this item is to provide an update on the Environmental Education Instructional Program Standards for Grades Prekindergarten-12.

BACKGROUND/HISTORICAL PERSPECTIVE:

In 1989, Maryland became the first state to require a comprehensive, multidisciplinary program of environmental education. State standards for Environmental Literacy were adopted by the State Board and incorporated into COMAR 13A.04.17 in 1999. In 2008, then Governor Martin O'Malley issued an Executive Order establishing the Maryland Partnership for Children in Nature (CIN). This partnership led to the adoption and incorporation in 2009 of the current Standards for Environmental literacy to reflect recommendations made by CIN.

In accordance with the Regulatory Review and Evaluation Act, Article 10-130-139, Annotated Code of Maryland, the Maryland State Environmental Literacy Standards are due for review. Following the Board procedures enumerated in the May 23, 2017, Protocol for Developing and Revising Standards, the MSDE initiated a public survey to seek feedback on the current standards. A committee of teachers, district environmental literacy specialists, university representatives, and private citizens reviewed data from the survey. The committee recommended extensive revisions should be made to the existing Maryland Environmental Literacy Standards to remove existing redundancy with Maryland content standards from other disciplines including Maryland's Next Generation Science Standards, Social Studies, and Health. Based on these recommendations, the State Board in April 2019, granted permission for MSDE to revise COMAR 13A.04.17 *Environmental Education Instructional Programs for Grades Prekindergarten-12*. After completing the revisions, feedback was sought in regional meetings and from local school system science, environmental, health, and social studies supervisors. During that process, changes were also recommended for the COMAR language in which these standards are located. These changes include shifting from education to literacy and adjusting the student participation language so that it is consistent with COMAR for the other content areas.

EXECUTIVE SUMMARY:

The proposed amendments to Maryland's Environmental Education instructional program are the byproduct of consultation with the public, teachers, content supervisors, other state agencies, and non-profit environmental advocacy organizations. In addition, the other proposed amendments to COMAR 13A.04.17 *Environmental Education Instructional Programs for Grades Prekindergarten-12* bring clarity to the regulation.

ACTION:

For informational purposes.

ATTACHMENTS:

Attachment I: COMAR 13A.04.17 *Environmental Literacy Instructional Programs for Grades Prekindergarten-12*.

Attachment II: PowerPoint Presentation

Environmental Literacy Standards



STATE BOARD MEETING

January 28, 2020

Timeline

Date	Event
December 2017- February 2018	Public Survey
January 2018	Work Group Formation
June 2019	Work Group Recommendations Formulated
April 2019	Board Presentation of Work Group Recommendations
April-June 2019	Work Group Revisions
Summer 2019	Regional Feedback
Fall 2019	Content Supervisors Feedback

Review Panel Members

Mark Scallion, Center Director, Pickering Creek Audubon Center

Sarah Haines, Towson University

Peggy Eppig, MAEF/Goucher College

Melanie Parker, Anne Arundel County Public Schools

Frank Cardo, Cecil County Public Schools

Amy Towers, Caroline County Public Schools

JoAnn Roberts, Public stakeholder

Joanna Pi-Sunyer, Baltimore City Public Schools

Kevin Garner, Baltimore City Public Schools

Margarita Rochow, St. Mary's County Public Schools

Star Weaver, Salisbury University

Jemima Clark, Kent County Public Schools/Washington College

Lisa Goetz, Kent County Public Schools

Scott Irwin, Kent County Public Schools

Tracy Kloos, Washington County Public Schools

Katy Clemes, Anne Arundel County Public Schools

Stakeholder Input

Local School System Supervisors

- Science
- Social Studies
- Environmental Literacy

MSDE Stakeholders

- Science Coordinator
- Social Studies Coordinator
- Health Coordinator

Environmental Education Community

- Chesapeake Bay Program
- NOAA
- Maryland Department of the Environment
- Washington College Center for Environment & Society
- Alice Ferguson Foundation
- Shore Rivers
- Maryland Association for Environmental and Outdoor Education
- Chesapeake Bay Trust
- Maryland Agricultural Education Foundation

COMAR 13A.04.17.01: Significant Change #1

Change: 13A.04.17.01 (c.1-4)

Elimination of content redundancy with Maryland Next Generation Science Standards.

Rationale:

Redundancy was confusing and time consuming for curriculum supervisors and teachers. Removal fosters greater connections to disciplines outside of science and promotes greater fidelity to the multi-disciplinary approach intended by Environmental Literacy COMAR.

COMAR 13A.04.17.01: Significant Change #2

Change: 13A.04.17.01 (*Throughout*)

Replacing the term “education” with “literacy”

Rationale:

To align with the Maryland Next Generation Science Standards which calls for scientifically literate students. The change also aligns with COMAR 13A.03.02.03(D) which also addresses Environmental literacy.

COMAR 13A.04.17.01: Significant Change #3

Change: 13A.04.17.01 (*Throughout*)

Replacing the term “curriculum” with “standards”

Rationale:

MSDE does not provide curriculum but develops standards that local school systems use to develop curriculum.

COMAR 13A.04.17.01: Significant Change #4

Change: 13A.04.17.01 (b)

The addition of the phrase “with opportunities for outdoor learning experiences”

Rationale:

To ensure that students get outside without requiring a formal field trip to complete the standards.

COMAR *13A.04.17.01*: Significant Change #5

Change: *13A.04.17.01 (e)*

Changing the language in the Student Participation section to eliminate the phrase “regulation to meet their graduation requirement in environmental literacy.”

Rationale:

The graduation requirement for Environmental Literacy is found in COMAR *13A.03.02.03(D)* and thus this phrase was not necessary. The change also aligns the language with COMAR for other subject areas.

Attachment 1: 13A.04.17.01

.01 Environmental [Education] Literacy Instructional Programs for Grades Pre-Kindergarten-12.

- A. Each local school system shall provide in public schools a comprehensive, multi-disciplinary environmental [education] literacy program infused within current curricular offerings and aligned with the Maryland Environmental Literacy [Curriculum] Standards.
- B. The Maryland Environmental [Education] Literacy Program shall:
- (1) Provide a developmentally appropriate instructional program *with opportunities for outdoor learning experiences*;
 - (2) Advance students' knowledge, confidence, skills, and motivation to make decisions and take actions that **[create and maintain an optimal relationship between themselves and the environment, and]** preserve and protect the unique natural resources of Maryland, **[particularly those of]** the Chesapeake Bay, and its watershed[.];
 - (3) **[This comprehensive instructional program shall]** Provide for the diversity of student needs, abilities, and interests at the early, middle, and high school learning years[,] and shall include all of **[the standards from]** the Maryland Environmental Literacy [Curriculum] Standards as set forth in §C of this regulation.
- C. Maryland Environmental Literacy [Curriculum] Standards.
- (1) Environmental Issue[s] *Investigation & Action.* **[The student shall:]** *Environmentally literate students investigate environmental issues in order to develop and implement local actions that protect, sustain or restore the natural environment.*
 - [(a) Investigate and analyze environmental issues ranging from local to global perspectives and;**
 - (b) Develop and implement a local action project that protects, sustains, or enhances the natural environment.]**
 - (2) **[Interactions of Earth's Systems. The student shall analyze and apply the properties of systems thinking and modeling to the study of earth's systems.]** *Human Dependence on Earth Systems and Natural Resources. Environmentally literate students construct and apply understanding of how Earth's systems and natural resources support human existence.*
 - (3) **[Flow of Matter and Energy. The student shall analyze and explain:]** *Environmental Impact of Human Activity. Environmentally literate students construct and apply*

understanding of the environmental impact of human activities on Earth's systems and resources.

[(a) The movement of matter and energy through interactions of each of the following earth systems:

(i) Biosphere;

(ii) Geosphere;

(iii) Hydrosphere;

(iv) Atmosphere; and

(v) Cryosphere; and

(b) The influence of this movement on weather patterns, climatic zones, and the distribution of life.]

(4) [Populations, Communities, and Ecosystems. The student shall use physical, chemical, biological, and ecological concepts to analyze and explain the interdependence of humans and organisms in populations, communities, and ecosystems.] *Consequences of Environmental Change on Human Health and Well-Being. Environmentally literate students construct and apply understanding of the consequences of human-induced environmental change on individual and collective health and well-being.*

(5) [Humans and Natural Resources. The student shall use concepts from chemistry, physics, biology, and ecology to analyze and interpret both positive and negative impacts of human activities on earth's natural systems and resources.] *Individual and Collective Responses to Environmental Change. Environmentally literate students construct and apply understanding of individual, collective, and societal responses to human-induced environmental change.*

[(6) Environment and Health. The student shall use concepts from science, social studies and health to analyze and interpret both positive and negative impacts of natural events and human activities on human health.

(7) Environment and Society. The student shall analyze how the interactions of heredity, experience, learning and culture influence social decisions and social change.

(8) Sustainability. The student shall:

(a) Make decisions that demonstrate understanding of natural communities and the ecological, economic, political, and social systems of human communities; and

(b) Examine how their personal and collective actions affect the sustainability of these interrelated systems.]

- D. Each local school system shall establish a support system to enable teachers and administrators to engage in high quality professional development in content knowledge, instructional materials, and methodology related to environmental **[education]** *literacy*.
- E. Student Participation. All students shall have the opportunity to participate in the comprehensive environmental **[education]** *literacy* program required by this *chapter* **[regulation to meet their graduation requirement in environmental literacy]**.

COMAR 13A.04.17.02

.02 Certification Procedures.

By September 1, 2015 and each 5 years after, each local school superintendent of schools shall certify to the State Superintendent of Schools that the instructional program in environmental **[education]** *literacy* meets, at a minimum, the requirements set forth in Regulation .01 of this chapter.