



Jones, Stephanie

From: Elizabeth Jarrard <elizabethjarrard@hotmail.com>
Sent: Thursday, June 10, 2021 3:37 PM
To: ED, State Board of Ed
Subject: [External] proposed PA Science Standards

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Dear Ms. Molchanow:

As a retired science teacher, I am extremely concerned that the omissions to proposed state standards regarding the environment, ecology and agriculture will not prepare our students with skills and knowledge for decisions that will greatly impact them and which will not be worthy of Pennsylvania's reputation as a leader in environmental education.

Specifically, it is of utmost importance that watersheds and wetlands, their cycles, role of watersheds, physical factors, characteristics and functions, and impacts be included in the proposed Pennsylvania Science Standards. Watersheds and wetlands are a vital part of the Commonwealth. Additionally, Science Standards should include renewable and nonrenewable resources, their uses and influential factors, environmental health and biological diversity, agricultural systems, technology and their integration with society which has been so important in the history of Pennsylvania. A complete science education should also include the effects, benefits and impacts of integrated pest management, the health risks and management practices. The teaching of ecosystems, their interactions and change over time should be essential in science education and the Standards as are the management strategies of threatened, endangered and extinct species. Students should also be expected to analyze how humans interact with the environment, including society's needs, sustainability and supply and demand concepts as well as environmental laws and regulations and their impacts on society and business.

Furthermore, the Proposed Science Standards do not address the NAAEE Guidelines regarding human systems, i.e. individuals and groups in society, culture, political systems and economic systems, nor decision-making and action skills, i.e. forming and evaluating personal views, evaluating need for action, planning and taking action, or evaluating results of action, nor personal and civic responsibility, i.e. recognizing rights and responsibilities, recognizing efficacy and developing agency, accepting personal responsibility. These are vital to the citizenry of Pennsylvania.

I appreciate your consideration to my plea to include these items in the proposed Pennsylvania Science Standards and consider them vital to the necessary education of the Commonwealth in the 21st. Century.

Respectfully,
Elizabeth Jarrard
Coudersport, PA 16915

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