



New York State Science Education Consortium

A Cooperative Association of Professional Science Education Organizations

October 12, 2018

New York State Board of Regents
Room 211, Long Island University Post
720 Northern Boulevard
Brookville, NY 11548

Dear Regent _____,

On January 30, 2018, Steven Katz, Assistant Commissioner in the State Education Department's Office of State Assessment (OSA), told members of the New York State Science Education Steering Committee that the SED is committed to the development of high quality state science assessments that are aligned with the new adopted NYS P-12 Science Learning Standards. At the same time, Office of State Assessment Director Zachary Warner invited the Steering Committee to describe the kind of new science assessments that are needed to ensure this alignment. To paraphrase Mr. Warner, he said, "tell us what is needed and we will try to build it."

The attached document, "A School Science Assessment System to Enhance Learning: A White Paper with Recommendations for New York State" is a direct response to the assurances by Mr. Katz and the invitation by Mr. Warner nine months ago. We urge you to read it, as we believe it is the only document that provides a detailed account of how State and classroom science assessment must change in New York to ensure that the potential and promise of the new state science standards are realized. While this paper was not developed by the NYS Science Education Steering Committee, it was developed by the NYS Science Education Consortium, which has had official representation on the Steering Committee since its inception. Several other Steering Committee members are also active in the Consortium and/or in its constituent organizations. This white paper has also been shared with the Commissioner and her staff.

During our long-standing partnership with the Department, it has been the goal of the Consortium to give voice to the concerns and recommendations of leaders and members from 22 state and regional science education associations and networks in New York State. We speak on behalf of many thousands of science teachers, supervisors, teacher educators, researchers, and informal science educators across this state and have done so since 2000. Our mission has been to review reforms, requirements, policies, procedures, and products pertaining to P-16 science education and provide recommendations that will improve science teaching and learning to the Board of Regents, SED managers and staff, and other key policy makers and stakeholders. While the Consortium has provided reports from its to the Regents and NYSED staff in the past, this paper is among the most important documents we have presented for your consideration.

We appreciate that the NYS Science Education Steering Committee is also offering the Department recommendations on future large-scale state science assessments and a timeline for their development and administration. This 30-member Committee not only includes science educators but also school administrators, business leaders, and other stakeholders. If the advice of both the Steering Committee and

Consortium are based on sound research and best practices in science teaching and learning, you should note considerable convergence in the recommendations provided to the Regents and Department staff. Speaking on behalf of the Consortium, every effort has been made to prepare a white paper that reflects the current literature and experience from the field on the design and use of assessments aligned with the NYSP-12 Science Learning Standards.

We trust that you and your colleagues understand how critical new standards-aligned state and classroom-based assessments are to encouraging and supporting the significant changes in what and how we teach science to our children. In approving the NYS Strategic Plan for Science and the NYSP-12 Science Learning Standards, the Board of Regents has already demonstrated an understanding of why these changes are necessary and a commitment to achieving them in the very near future. We need to rethink our science assessment system and ensure that both state and local components are multidimensional, mutually supportive, and achieve the real purposes for which they are intended. A colleague and master biology teacher recently commented, “It’s much easier to ask a multiple-choice question to identify the cell structure that uses sugar to produce ATP than to provide a scenario about a mitochondrial disorder and expect students to identify appropriate questions, analyze data, make a claim using evidence and use scientific reasoning in constructing an explanation of the scenario, all while employing cross cutting concepts such as cause and effect, structure and function, and systems”. The NYSP-12 Science Learning Standards expect students to engage in such sense making and problem solving, not merely recall information or demonstrate basic skills or algorithms. These new expectations for learning clearly demand more challenging and probing assessments at all levels.

The attached white paper is not the “final word” in what a new school science assessment system should look like. Efforts at the national level and in many states continue to provide additional ideas about what elements, criteria, and processes are necessary to ensure that new state and classroom-based assessments are valid, reliable, and authentic indicators of student achievement of the new three-dimensional science standards. In our view, the recommendations in our white paper provide a reasonable and responsible overview of what is needed, and may also help to dissuade test development activities at the state and/or local level that will not result in the kind of assessments that will truly promote and evaluate deeper and richer learning by our students.

If you have any questions or concerns, please feel free to contact us at your convenience. On behalf of our 2.6 million P-12 students and 100,000 teachers of science, thank you for your leadership and continued support for science education reform in New York State.

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Long Island Stem Education Leadership Association – Rochester Area Science Education Leadership Team
Capital Area Science Supervisors Association – New York State Science Education Leadership Association
BOCES Science Representatives Network – Biology and Chemistry Professional Development Network