BACKGROUND

The mission of the New York State Education Department's standards work is to create a Statewide learning community to enhance science education and improve student achievement of the New York State science learning standards leading to career and college readiness and a scientifically literate population capable of addressing the needs of society, participating in a global economy, and sustaining the physical and living environment.

The vision of the New York State Education Department's standards work is to ensure the teaching and learning of science for all K–12 students by providing equitable access to exemplary teachers, science curriculum programming, instructional practices, and standards-based assessments that are reflective of research and best practices, along with quality resources and support from all stakeholders at large.

Department staff in collaboration with various stakeholders in science education across the state have engaged in a process over several years (2012–2016) to develop New York State K–12 Science Learning Standards (NYSK–12SLS)
The Statewide Leadership Team, Science Education Steering Committee, and Science Education Consortium have served in a formal advisory capacity to Department staff throughout the development process. The Department also gleaned valuable information from two public surveys; summer 2013 compared current state science standards to the NGSS using a set of criteria, and an public survey (opened December 8, 2015 closed February 8, 2016) on the draft NYSK–12SLS based on the same criteria. In conjunction with the three committees, Department staff worked alongside members to analyze quantitative and qualitative survey data and feedback to determine the necessary changes included in the current revised NYSK–12SLS under consideration and posted on the Department's website.

The NYSK–12SLS are based on guiding documents grounded in the most current research in science and learning; and reflect the importance of every student's engagement with natural scientific phenomenon at the nexus of three dimensions of learning; Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting concepts; A Framework for K–12 Science Education[1] and the Next Generation Science Standards[2]

In the recent 2015 report, Revisiting the STEM Workforce by the National Science Board[3], it is stated that "the STEM workforce is extensive and critical to innovation and competitiveness" and careers in these fields will only grow in the next decade making it essential for accessibility to equitable learning opportunities for all students to benefit. Over the past several decades as well as recently, streams of research studies, reports, and publications also document the under participation and often limited preparedness of many students across the United States in science, limiting inclusive opportunities to enter the Science, Technology, Engineering, and Mathematics (STEM) workforce and college pathways.

It is in this context that the proposed new state learning standards in science are well positioned to strengthen K–12 science education in our classrooms for all our students. The development and adoption of these new proposed NYSK–12SLS is a significant and an essential first

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NEW YORK STATE P-12 SCIENCE LEARNING STANDARDS IMPLEMENTATION ROADMAP		Phases
Goals & Objectives	Key Implementation Activities	I

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NEW YORK STATE P-12 SCIENCE LEARNING STANDARDS IMPLEMENTATION ROADMAP		Phases	
		I	III
Goals/Objectives	Key Implementation Activities	Raise Awareness and Build Capacity	Transition and

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NEW YORK STATE P-12 SCIENCE LEARNING STANDARDS IMPLEMENTATION ROADMAP		Phases		
Goals & Objectives	Key Implementation Activities	I Raise Awareness and Build Capacity	II Transition and Implementation	III Implementation and Sustainability
E. Materials and Resources Support Goal: Support regular and substantive teaching and learning of core science content, conceptual understandings, and practices through scientific inquiry and authentic engagement with natural phenomena by providing models of effective systems management and distribution of science materials.				
E1. Objective: Build the capacity of local educational agencies, higher education institutions, business and industry partners, and other profit and nonprofit organizations to connect teachers and students to relevant, real-world science applications that are aligned to the new P-12 NYS science				

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NEW YORK STATE P-12 SCIENCE LEARNING STANDARDS

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Goals/Objectives	Key Implementation Activities			

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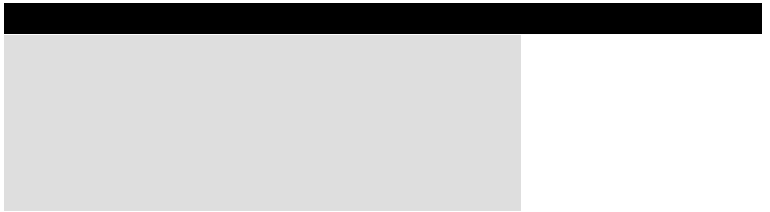
PHASE I: NEW YORK STATE P-12 SCIENCE LEARNING STANDARDS ROADMAP		Actions	Phase I 07/2017-08/2019
Goals/Objectives	Key Implementation Activities	Stakeholder Groups, Networks, and Partnerships NYSED, Professional Learning Networks, Big 5 School Districts, BOCES, School Districts, Institutes of Higher Education Partners, Business and Industry Partne	



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PHASE I: NEW YORK STATE P-12 SCIENCE LEARNING STANDARDS ROADMAP		Actions Stakeholder Groups, Networks, and Partnerships NYSED, Professional Learning Networks, Big 5 School Districts, BOCES, School Districts, Institutes of Higher Education Partners, Business and Industry Partners	Phase II 09/2019-08/2023
Goals/Objectives	Key Implementation Activities		Transition and Implementation
	Next Generation Mathematics Learning Standards (2017) and New York State Next Generation English Language Arts Learning Standards (Revised 2017) to strengthen, support, and reinforce the development of scientific literacy.		
C. Professional Development to Enhance Instruction: Goal: Initiate, build, and sustain collaborations and partnerships to provide specific and focused professional development to support the teaching and learning of core science content, conceptual understandings, and practices P-12.			
C1. Objective: Provide opportunities for local educational agencies to collaborate and partner with STEM education stakeholders to develop and implement effective professional development models that are based upon the new P-12 NYS science learning standards.	C1c. Build the capacity of interested business and industry experts to effectively partner with local educational agencies by promoting pertinent professional learning opportunities and resources.		Also Phase I
	C1d. Engage local, state, and national professional and science education associations to lead and sustain STEM-related professional development opportunities for face-to-face and online collaboration.		Phase II
C2. Objective:			

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Goals/Objectives	Key Implementation Activities		Transition and Implementation
D2. Objective: Understand and use relevant student achievement data from State science assessments to initiate data-driven professional development, curriculum, instruction, and assessment.	D2a. Collaborate with science education stakeholders statewide, regionally, and locally to provide professional development for teachers and leaders that is focused on understanding and analyzing student achievement data for improving science teaching and learning. D2b. Provide professional development opportunities for		Also Phase I and III

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Goals/Objectives	Key Implementation Activities		Transition and Implementation
the equitable access and implementation of exemplary, cost-effective curriculum programming and instructional materials that are aligned to the new P-12 NYS science learning standards	E2c Seek funding opportunities for instructional technologies that support core science and engineering content, conceptual understandings, and practices.		Phase II
	E2d Seek funding opportunities to acquire equipment, materials, and supplies to support the development, implementation, and sustainability of P-12 science curriculum and instructional programming at the local and regional levels.		Phase II
F. Administrative and Community Support Goal: Build the capacity to enhance science education and ensure career readiness by involving STEM stakeholder partnerships and alliances between school districts, institutions of higher education, science education professional organizations, business and industry, informal education organizations, government agencies, and the larger learning communities: local, regional, state, national, and international arenas.			
F1. Objective: Identify science education stakeholders to lead the development and continued growth of			

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PHASE I: NEW YORK STATE P-12 SCIENCE LEARNING STANDARDS ROADMAP			
Goals/Objectives	Key Implementation Activities	Actions Stakeholder Groups, Networks, and Partnerships NYSED, Professional Learning Networks, Big 5 School Districts, BOCES, School Districts, Institutes of Higher Education Partners, Business and Industry Partners	Phase III 09/2023-ongoing Implementation and Sustainability
and instructional resources to broaden accessibility.	B3c. Build student resources by establishing community-based programs that provide relevant STEM		

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