



OFFICE OF CURRICULUM AND INSTRUCTION

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Science High School Course Maps for Life Science: Biology Courses that will Culminate in a Corresponding Regents Examination in Science

Background

The New York State P-12 Science Learning Standards are based on guiding documents ([A Framework for K-12 Science Education](#)¹ and the [Next Generation Science Standards](#)²) grounded in the most current research in science and scientific learning. They reflect the importance of every student's engagement with natural scientific phenomena at the nexus of three dimensions of learning: Science and Engineering Practices, Disciplinary Core Ideas, and Cross-Cutting Concepts. Performance expectations are the way to integrate the three dimensions guiding student sense-making of science as discussed in the [New York State P-12 Science Learning Standards Introduction](#).

Development Process

The four high school science course maps have been developed by the Department to assist school districts in developing specific courses at the local level that align to the high school level (grades 9-12) performance expectations included in the [New York State P-12 Science Learning Standards](#). Each science course map (Life Science: Biology; Earth and Space Sciences; Physical Science: Chemistry; and Physical Science: Physics), delineates specific performance expectations for courses that culminate in a corresponding Regents examination in science.

The course maps were developed using a four course model to similar what is included in the [Next Generation Science Standards Appendix K, Table 7](#). The first step in mapping performance expectations to courses was to examine the Science and Engineering Practices, Cross-Cutting Concepts, and component idea level of the Disciplinary Core Ideas from the *A Framework for K-12 Science Education*. The course the associated performance expectations (as noted in the foundation boxes of the [New York State P-12 Science Learning Standards](#)) align was then decided. New York State subject area teacher experts provided input and feedback delineating the overlaps for each of the performance expectations for proposed high school science Regent's exam courses. The decisions were made through a careful reading of the grade-band endpoints for each component idea in the Framework and were reviewed by multiple committees made up of New York State teachers and administrators.

¹National Research Council. (2012). *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*. Washington, DC: The National Academies Press.

² National Research Council. (2013). *Next Generation Science Standards: For States, By States*. Washington, DC: The National Academies Press.



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Diagram 1: the New York State P-12 Science Learning Standards



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Table I contains the recommended performance expectations for guiding curriculum, programming, and instruction within four high school



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HS. Engineering Design	HS-ETS1-4.	Using Mathematics and Computational Thinking	ETS1.B: Developing Possible Solutions	Systems and System Models	
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