

## Science ~ Frequently Asked Questions

The responses presented below are provided to address frequently asked questions related to science education in New York State. The following source documents may be accessed using the accompanying website links:

- [The Regulations of the Commissioner of Education Relating to General Education and Diploma Requirements](#) – Part 100
- [Science Learning Standards](#)
- The following support documents are also available from the Department:
  - [School Administrators Manual \(SAM\)](#): Regents Exams

### **Learning Standards**

#### **1. What are learning standards?**

Learning Standards are defined as the knowledge, skills, and understandings that individuals can and do habitually demonstrate over time when exposed to high-quality instructional environments and learning experiences.

In 1996, the New York State Board of Regents approved the Learning Standards for Math, Science, and Technology. In 2016, the Board of Regents adopted the New York State P-12 Science Learning Standards to begin implementation effective July 1, 2017.

#### **2. Have the New York State science learning standards changed?**

In 2016, the Board of Regents adopted the New York State P-12 Science Learning Standards to begin implementation effective July 1, 2017. The New York State P-12 Science Learning Standards (2016) are based on guiding documents grounded in the most current research in science and scientific 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 (National Research Council, 2012) and the Next Generation Science Standards (National Research Council, 2013).

Additional information can be referenced in the [Introduction to the New York State P-12 Science Learning Standards](#). To learn more about implementation of the new science learning standards, please reference the [Science Standards Implementation Resources](#) webpage.

### **Curriculum / Instruction**

#### **3. Does the New York State Education Department have a required science curriculum?**

No. It is the local school district's responsibility to implement a curriculum which will provide students opportunities to achieve the science learning standards. For all grade levels and courses, science educators should review and align the appropriate science learning standards and/or core curriculum, where applicable. Schools and districts need to be cognizant of the transition from the Learning Standards for Math, Science, and Technology (1996) to the New York State P-12 Science Learning Standards (2016). Additional information can be referenced in the [Science Timeline](#).

For more information about the learning standards, refer to the [Science Learning Standards](#) webpage.

**4. Are there any resources available to assist schools in designing courses that culminate in Regents exams?**

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 (2016). 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 High School Course Maps can be referenced on the [Science Standards Implementation Resources](#) webpage.

**5. How can I learn more about education services for students with disabilities?**

The [Office of P-12 Special Education](#) is the best source of information regarding New York State law, regulation, and policy governing the education of students with disabilities.

**6. How can I learn more about education services for Multilingual Learners?**

The [Office of Bilingual Education and World Languages](#) provides support and technical assistance to districts, charter schools, non-public schools and other organizations (universities, State educational organizations, etc.) in the development, implementation, and evaluation of programs for Multilingual Learners (MLs).

### ***Diploma Requirements***

**7. What science requirements must be fulfilled to obtain a New York State high school diploma?**

In order to earn a local or Regents diploma, students must complete the following science requirements:

- Earn three units of credit of commencement level science
  - at least one course shall be life sciences
  - at least one in the physical sciences
  - the third may be either life sciences or physical sciences
- Pass one of the Regents examinations in science (or a Department-approved alternative)
  - Students must complete the laboratory requirement to qualify to take the Regents examination in science (Reference question 13 for additional information).

In order to earn a Regents diploma with advanced designation, students must complete the following additional requirements in science:

- pass one additional science Regents examination or Department-approved alternative, for a total of two Regents examinations in science, with at least one in life science and at least one in physical science

Additional information pertaining to graduation requirements can be referenced in the [Diploma/Credential Requirements](#) summary or via the [Diploma Types](#) webpage.

**8. What science courses satisfy the three credit diploma requirement?**

In order to earn diploma credit in science, courses must:

- meet the [unit of study requirements](#),
- align to the commencement-level learning standards in science, and
- be taught by an appropriately certified teacher.

If the course culminates in a Regents examination, students must complete the laboratory requirement to qualify to take the Regents examination in science (Reference question 13 for additional information).

Note, a commencement-level course in technology education may be used as the third unit of credit in science **or** mathematics but not both. For additional information, reference [Commissioner’s Regulations Relating to Technology Education](#).

The [NYS Comprehensive Course Catalog Workbook](#) includes all course codes with their descriptions that exist for both secondary and prior-to-secondary courses.

**9. What is the difference between a life science course, a physical science course, and an Earth and space science course?**

A physical science course primarily aligns to learning standards in the physical sciences and a life science course primarily aligns to learning standards in the life sciences.

Under the current regulations pertaining to diploma requirements, a course aligned to learning standards in the Earth and space sciences is considered to be a physical science course.

For more information about the learning standards, refer to the [Science Learning Standards](#) webpage.

**10. May a student earn credit by examination in science?**

Yes. A student may earn diploma credit without completing the unit of study if, based on past academic performance, the superintendent or chief administrative officer determines the student will benefit academically by exercising this option. In order to earn credit by examination in science, the student must:

- complete the 1,200 minute laboratory requirement,
- score an 85 or above on the Regents examination, and
- complete an oral exam or special project to demonstrate their proficiency of skills and abilities not measured by the assessment.

Note, this option only applies to courses that culminate in a Regents examination. Students cannot earn credit by examination using Department-approved alternative examinations.

Additional information can be referenced in the Commissioner’s Regulations ([8 CRR-NY §100.5\(d\)](#), Alternatives to specific Regents and local diploma requirements).

**11. What assessments are approved as alternatives to the Regents examinations in science?**

A current listing of [Department-approved alternative examinations](#) in science is maintained by the Office of State Assessment and posted on the Department’s web site.

## 12. Are transfer students eligible for any exemptions in science?

Out-of-state transfer students who enter a New York State high school for the first time in grade 12 may be exempted from the requirement for the Regents examination in science. This option also applies to out-of-state transfer students who re-enter in grade 12 after spending three or fewer semesters in a New York State high school. This option does not apply to students transferring between New York State schools. Additional information can be referenced on the [Transfer Students](#) webpage.

Additionally, the [Interstate Compact on Educational Opportunity for Military Children](#) outlines flexibilities that exist for military families in transition.

### **Laboratory Requirements**

## 13. What is the laboratory requirement to qualify to take a science Regents examination?

To qualify to take a Regents examination in any of the sciences, a student must complete 1,200 minutes of laboratory experiences with satisfactory documented laboratory reports.

In September 2022, the Board of Regents approved the following item for emergency action, [Proposed Amendment to Section 100.5\(b\) of the Regulations of the Commissioner of Education Relating to the Laboratory Experience Required in Order to Take a Science Regents Examination](#). This allows any combination of hands-on and simulated laboratory experiences to satisfy the 1,200 minute laboratory requirement for admission into a Regents exam in science. Additional guidance can be referenced in the [Frequently Asked Questions Related to Virtual Laboratory Experiences and the 1,200-minute Laboratory Requirement](#).

The 1,200 minutes of laboratory experience must be in addition to the required classroom instruction associated with earning a unit of credit. This requirement can be referenced in the Commissioner's Regulations ([8 CRR-NY 100.5\(link is external\)](#), Diploma Requirements).

## 14. How can schools plan and prepare for safety in the science learning environment?

Science safety is paramount whether student learning occurs in the school, in the home, or in other learning environments such as virtual settings. Schools and districts must consider science safety measures when planning and developing science curriculum programming and instructional materials, including hands-on science and laboratory activities, to assure they are conducive to various learning environments and follow health and safety guidelines established by the [New York State \(NYS\) Department of Health, Centers for Disease Control and Prevention \(CDC\)](#), and the [NYS Education Department](#).

Education Law 2503(4)(c), [Powers and duties of board of education](#), affords local control for the authorization of courses of study and their associated content. With respect to science courses, schools and districts are also responsible for:

- aligning laboratory experiences specific to each science course;
- determining the mode or modes of instruction; and
- identifying a viable vetted list of acceptable labs that a student would need to complete for each science course.

In addition, schools and districts should review their current science safety plans and protocols so teachers and students can safely continue to engage in science learning through activities and investigations, no matter the learning environment. To support such review, educators can consult the following resources:

- National Science Teaching Association (NSTA)
  - [Safety for Hands-On Science Home Instruction](#)
- Council of State Science Supervisors
  - [Supporting Students' Science Learning in the Era of COVID-19](#)

**15. Must the laboratory requirement be met prior to admission to a State Regents examination in science?**

Yes. Schools are permitted to establish a target date for the completion and submission of the laboratory requirement.

Once a student meets the laboratory requirement, for a specific science Regents exam, it does not expire. Students do not need to re-take the laboratory requirement to be admitted into a future science Regents exam. Reference question 13 for additional information.

**16. May a school administrator or teacher exempt a student from the laboratory requirement?**

No. All students must complete the laboratory requirement. Additional information pertaining to the laboratory requirement can be referenced in question 13.

***Part 100 Regulations / Other Requirements***

**17. What are the program requirements in science?**

Program requirements for each grade level can be referenced on the [General Resources](#) webpage.

**18. What is AIS - Academic Intervention Services?**

AIS is additional instruction intended to assist students who are at risk of not achieving the State learning standards in English language arts, mathematics, social studies, and/or science. For additional information, please refer to the [Commissioner's Regulations pertaining to General School Requirements](#) (8 CRR-NY 100.2(ee), Academic Intervention Services).

**19. May a student earn high school credit in the sciences prior to entering grade 9?**

Yes. Students may be accelerated in a commencement-level science course in Grade 8 if they meet local criteria set by the school district and/or the State Education Department. This course must culminate in a Regents examination in science at the conclusion of Grade 8. Additional information can be referenced in the Commissioner's Regulations pertaining to [Grade 8 Acceleration for Diploma Credit](#) (8 CRR-NY 100.4(d)).

## State Assessments

### 20. When will the New York State science assessments be aligned to the New York State P-12 Science Learning Standards (2016)?

#### *Elementary*

The Elementary New York Science Test (Grade 5), aligned to the New York State P-12 Science Learning Standards (2016), will first be administered in Spring 2024.

#### *Intermediate*

The Intermediate New York State Science Test (Grade 8), aligned to the New York State P-12 Science Learning Standards (2016), will first be administered in Spring 2024.

#### *High School (Commencement)*

The Regents exams in Earth & Space Sciences and Biology, aligned to the New York State P-12 Science Learning Standards, will first be administered in June 2025. The Regents exams in Chemistry and Physics, aligned to the New York State P-12 Science Learning Standards (2016), will first be administered in June 2026.

Additional information can be referenced in the [Science Timeline](#).

### 21. Are there any resources available to assist schools in designing courses that culminate in Regents exams?

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The High School Course Maps can be referenced on the [Science Standards Implementation Resources](#) webpage.

## Contact Information

For additional information about science education in New York State, please contact:

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