



NYSED's Office of Curriculum and Instruction

www.nysed.gov/curriculum-instruction

(518) 474-5922

EMSCURRIC@nysed.gov

Spring 2019



New York State
EDUCATION DEPARTMENT

Knowledge > Skill > Opportunity



Science Initiatives

www.nysed.gov/curriculum-instruction/science

Standards

— NYS P-12 Science Learning Standards

<http://www.nysed.gov/curriculum-instruction/2016-adopted-science-learning-standards>

- Updated Connection Boxes
- Intro to the NYS P-12 Science Learning
- Standards Organized by: All standards, and P-2, 3-5, MS, HS



Science Initiatives

www.nysed.gov/curriculum-instruction/science

NYS P-12 Science learning Standards Implementation Roadmap

<http://www.nysed.gov/common/nysed/files/programs/curriculum-instruction/nysedimplementation-roadmapv13.pdf>

- Overview

<http://www.nysed.gov/common/nysed/files/programs/curriculum-instruction/3-19-18roadmap-overview1.pdf>

Phase I – Raise Awareness Build Capacity 07/17- 08/2019

Phase II – Transition and Implementation 09/2019- 08/2021

Phase III – Implementation and Sustainability 09-2021-08/2024

Implementation Roadmap



Roadmap Activity A3c:

- Ensure that the six critical components - **Standards, Curriculum, Professional Development to Enhance Instruction, Assessment, Materials and Resource Support, and Administrative and Community Support** - of the 5-year strategic plan are addressed concurrently during the implementation process.

Focus Question:

- From your lens what Implementation Roadmap activities are a focus for the next school year?

Prioritizing Phase I - Roadmap - Activity 1

- Based on your professional role & responsibilities, and from the lens of the organization you represent, identify in priority order the Phase I activities most important to address.

Implementation Roadmap



Roadmap Activity A3c:

- Ensure that the six critical components - **Standards, Curriculum, Professional Development to Enhance Instruction, Assessment, Materials and Resource Support, and Administrative and Community Support** - of the 5-year strategic plan are addressed concurrently during the implementation process.

What Focus Question:

- Which implementation Roadmap activities are a priority at the local, regional, and state levels?

Prioritizing Phase I Roadmap - Activity 2

- Within your group, identify the priority activities at the local, regional and state levels in each of the key component areas.



Science Initiatives

www.nysed.gov/curriculum-instruction/science

Professional Development

– Grants

- Math/Science High School Projects
- Teachers of Tomorrow Math, Science and Bilingual Educators
- Math and Science Partnership Program – Projects

Resource Networks:

- NYS Science Education Ecosystems Network

<http://www.nysed.gov/curriculum-instruction/science-standards-implementation-resources>

ESEA Title II Part B Mathematics and Science Partnership Program 2018-19



- 1. Albany City School District**
Mathematics Grades 1-2
College of St. Rose
- 2. Batavia City School District**
Math & Science Grades K-12
SUNY Brockport
- 3. Beacon City School District**
Mathematics Grades 6-9
Clarkson University
- 4. Brentwood Union Free School District**
Science - STEM Grades 7-9
SUNY – Stony Brook University
- 5. Buffalo City School District**
Math & Science Grades 3-5
SUNY Buffalo State College
- 6. Cheektowaga Central School District**
Mathematics - High School
SUNY - Buffalo State College
- 7. Dundee Central School District**
Math & Science Grades K-12
University of Rochester
- 8. Dunkirk City School District**
Math Grades 6-8, Science Grades K-5
SUNY Fredonia

- 9. Geneva City School District**
Science Grades K-12
University of Rochester
- 10. Liberty Central School District**
Mathematics and Science Grades 6-12
SUNY Sullivan County Comm College
- 11. Lyons Central School District**
Mathematics Grades 5-12
University of Rochester
- 12. Newark Central School District**
Mathematics Grades K-5
University of Rochester
- 13. NYCDOE**
Math & Science Grades K-8
City College of NY - Science
Hunter College – Math
- 14. Peekskill City School District**
Mathematics Grades K-5
Pace University
- 15. Rochester City School District**
Math & Science Grades K-8
University of Rochester
- 16. Salmon River Central School District**
Mathematics Grades 6-12
Clarkson University

- 17. Schenectady City School District**
Mathematics Grades 6-12
University of Pittsburgh at Greensburg
- 18. Sodus Central School District**
Mathematics Grades 4-12
University of Rochester
- 19. Syracuse City School District**
Math & Science Grades 6-8
Lemoyne College - Science
Syracuse University – Mathematics
- 20. Waterloo Central School District**
Mathematics K-8
University of Rochester
- 21. Westbury Union Free School District**
Science Grades K-12
New York Institute of Technology
- 22. Yonkers City School District**
Science Grade 6
Mercy College



Science Initiatives

www.nysed.gov/curriculum-instruction/science

Curriculum, Professional Development

– Collaborations

- Teacher Centers – 126 Regional Centers

<http://www.nysed.gov/curriculum-instruction/teacher-centers/>

<http://www.nysteachercenters.org/> MAP/Centers

- BOCES – SCDN Science State-wides - PD Sessions

<http://www.p12.nysed.gov/ds/jmt.html>

- DEC Invasive Species – K-12 Educators Resources

<https://dec.ny.gov/animals/114620.html>

DEC's Invasive Species Pilot Curriculum

https://www.dec.ny.gov/docs/lands_forests_pdf/iscurriculumfinal.pdf



Science Initiatives

www.nysed.gov/curriculum-instruction/science

Curriculum, Professional Development

– Collaborations

- NY State Museum - Cultural Education Center

<http://www.nysm.nysed.gov/>

- SUNY Master Teachers Program

<https://www.suny.edu/masterteacher/>

- Science Professional Organizations

<http://www.nysed.gov/curriculum-instruction/science-associations>

- PAEMST

<http://www.nysed.gov/curriculum-instruction/awards-and-scholarships>

NY State Science Education Ecosystems Network



[Board of Cooperative Education Services/SCDN/BOCES](#)

The 37 BOCES regions are colored in different shades on the map with pins linking to the website.



[Science Teachers Association of New York State/STANYS](#)

The 16 STANYS sections are outlined in red. Each region links to a section website/contact.



[New York State Teacher Centers](#)

Pins mark and link to centers that indicated science standard support as a 2017-2018 focus area.



[New York State Master Teacher Program](#)

Pins mark the location and link to regional websites/contacts.



[Parks, Recreation + Historic Preservation](#)

Pins mark the locations and link to websites for the New York State Nature Centers.



[PBS Learning Media](#)

Pins mark the locations and link to websites for local TV stations.



[STEM Partnerships](#)

[STEM Ecosystems](#)

Collaborations offering an array of learning opportunities. Designed pathways enable young people to become engaged, knowledgeable and skilled in the STEM disciplines.



[New York State STEM Hubs](#) interconnect business, higher education, community organizations

[New York State Department of Environmental Conservation; Environmental Education Centers](#)

Pins mark the locations and link to websites for the regional Environmental Education Centers.



[New York State Science Education Consortium](#)

A Cooperative Association of Professional Science Education Organizations. Their website contains collated resources to facilitate standards implementation.



[Math Science Partnership \(MSP\) Programs](#)

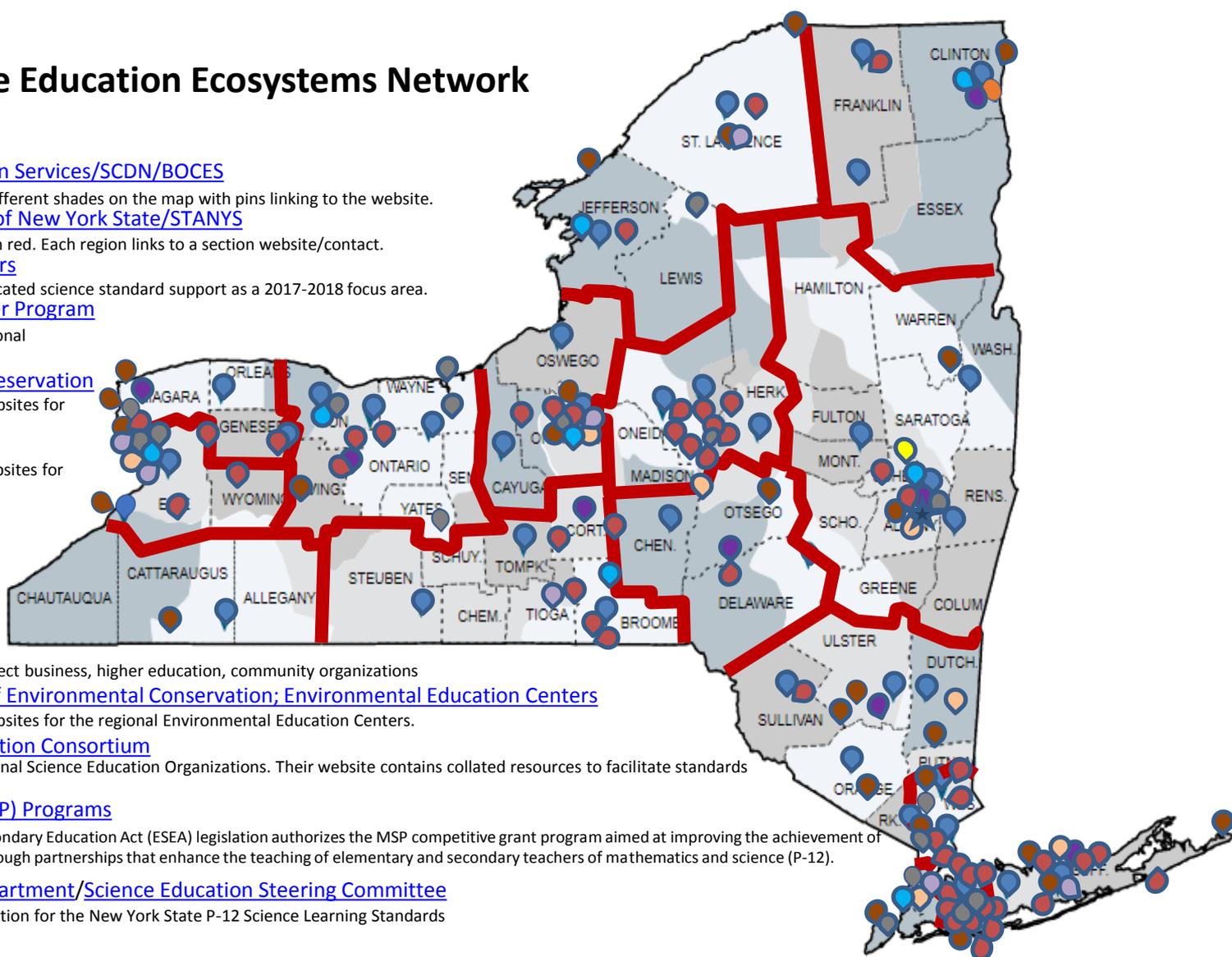
Title II, Part B of the Elementary and Secondary Education Act (ESEA) legislation authorizes the MSP competitive grant program aimed at improving the achievement of students in mathematics and science through partnerships that enhance the teaching of elementary and secondary teachers of mathematics and science (P-12).



[New York State Education Department/Science Education Steering Committee](#)

Webpage and most up to date information for the New York State P-12 Science Learning Standards

[New York State Museum](#)



Pin locations are approximations.

Science Course Maps




STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234
 OFFICE OF CURRICULUM AND INSTRUCTION
 Room 800 EBA
 Phone: (518) 474-5922

Science High School Course Maps for **Physical Sciences: Physics** 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 phenomenon 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


STATE EDUCATION DEPARTMENT / THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234
 OFFICE OF CURRICULUM AND INSTRUCTION
 Room 800 EBA
 Phone: (518) 474-5922

Table 1 contains the recommended performance expectations for guiding curriculum programming and instruction within four high school science courses aligned to Regents examinations. Please note: no course sequences have been assumed in this model and the map does not preclude other performance expectations from being taught.

| Topic | PE # | A Framework for K-12 Science Education: Scientific and Engineering Practices | A Framework for K-12 Science Education: Disciplinary Core Ideas | A Framework for K-12 Science Education: Crosscutting Concepts | For performance expectations that appear in more than one course the specific concepts for the performance expectation within this course are outlined. |
|--|--------------------------------|--|---|---|---|
| Topic area the Performance expectation is categorized under. | Performance expectation number | Scientific and Engineering Practice that is part of the Performance Expectation. | Disciplinary Core Idea that is part of the Performance Expectation. | Crosscutting Concept that is part of the Performance Expectation. | Information provided for ONLY performance expectations that appear in more than 1 high school course. |

Physical Sciences: Physics
 -Instructional sequences are not assumed-

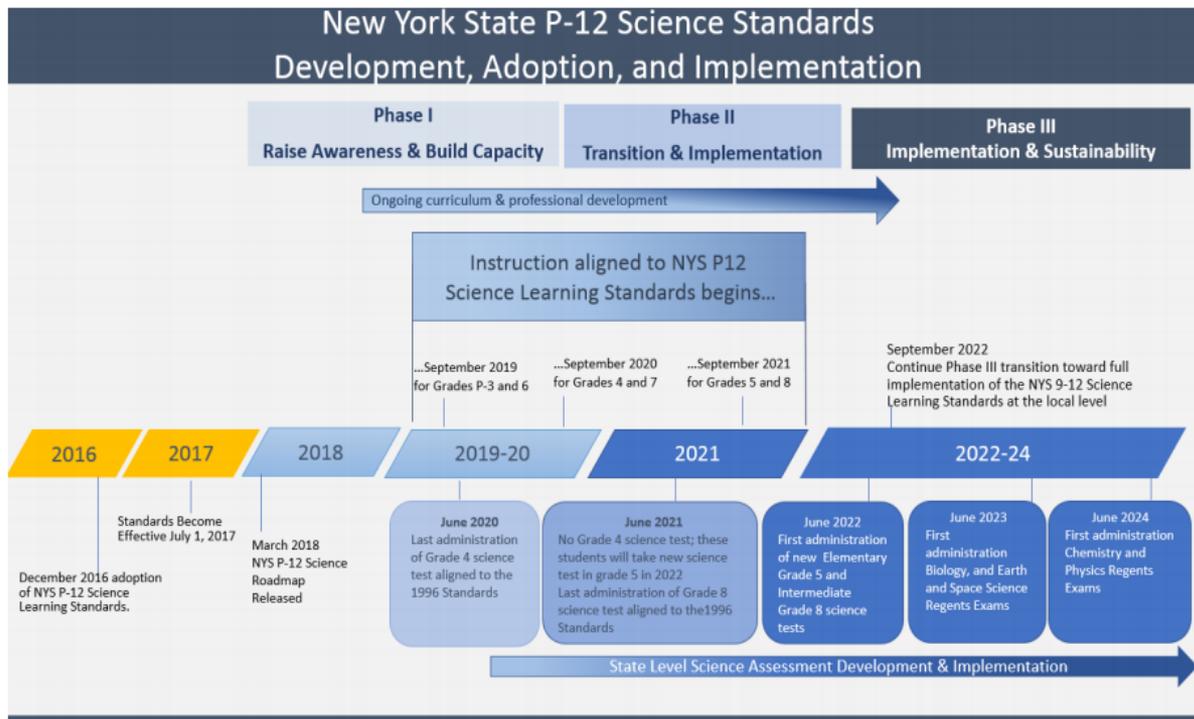
| Topic Area | PE # | K-12 Science Education Framework: Scientific and Engineering Practices | K-12 Science Education Framework: Disciplinary Core Ideas | K-12 Science Education Framework: Crosscutting Concepts | For performance expectations that appear in more than one course, the specific concepts for the performance expectation within this course are outlined. |
|--|-----------|--|---|---|--|
| HS. Structure and Properties of Matter | HS-PS1-8. | Developing and Using Models | PS1.C: Nuclear Process | Energy and Matter | Scale of energy released. |
| HS. Forces and Interactions | HS-PS2-1. | Analyzing and Interpreting Data | PS2.A: Forces and Motion | Cause and Effect | |

5

- Aligned to new Regents examinations in science
- Aligned to the New York State P-12 Science Learning Standards
- Includes:
 - Earth and Space Sciences
 - Life Sciences: Biology
 - Physical Sciences: Chemistry
 - Physical Sciences: Physics

<http://www.nysed.gov/curriculum-instruction/science-standards-implementation-resources>

Science Learning Standards Implementation Timeline



- Details development, adoption, and implementation timeline for the NYS P-12 Science Learning Standards

Includes rollout of new science assessments

- Grade 5
- Grade 8
- Regents Examinations in Science



Science Initiatives

www.nysed.gov/curriculum-instruction/science

Assessment

- Science Assessments Timeline included in Science Learning Standards Timeline
- Interested educators who wish to participate in test development activities can complete an on-line application at <http://www.p12.nysed.gov/assessment/teacher/home.html>
- Assessment Questions? Email EMSCASSESSINFO@nysed.gov

Educator Opportunity



Office of State Assessment

Interested educators who wish to participate in test development activities can complete an on-line application at <http://www.p12.nysed.gov/assessment/teacher/home.html>

The screenshot displays the NYS Office of State Assessment (OSA) website. The main heading is "New York State Education Department Teacher Participation Opportunities". The page explains that the NYS Department asks all educators who wish to participate in test development activities to complete an online application. It lists various opportunities including:

- Item Writing/Development
- Educational Passage Review
- Test Form Construction
- Item Review
- Final Eyes Review
- Bias Review
- Range-finding/Marker Response
- Standard Setting and Verification
- Performance Level Description Development
- Scoring Material Development

The page also includes a sidebar with navigation links for various assessment types and a "Teacher Participation Opportunities" section with a "Please complete our online application" button.



NYSED's Office of Curriculum and Instruction

www.nysed.gov/curriculum-instruction

(518) 474-5922

EMSCURRIC@nysed.gov

Spring 2019



New York State
EDUCATION DEPARTMENT

Knowledge > Skill > Opportunity