

**State Board of Education
New Jersey Student Learning Standards
Comment/Response Form**

This comment and response form contains comments received since the December 3, 2025, State Board of Education meeting when the re-adoption of the New Jersey Student Learning Standards in Science was discussed.

Topic: New Jersey Student Learning Standards-Science **Meeting Date:** June 3, 2026

Level: Adoption

Division: Teaching and Learning Services

Completed by: Office of Standards

Summary of Comments and Agency Responses:

The following is a summary of the comments received from members of the public and the Department of Education's (Department) responses. Each commenter is identified at the end of the comment by a letter or number that corresponds to the following list:

1. Lanfang "Lucy" Li, Scientist and Educator
2. Jane Losinger, Director of Curriculum and Instruction, Little Silver School District
3. Charles Weibel, Physics Teacher, New Brunswick Health Sciences Technology High School
4. Samantha Mattheiss Ph.D.
5. Ronald Maniglia, Science and Technology and Business Department Supervisor, Rancocas Valley Regional High School
6. Kathleen O'Flynn, Director of Curriculum and Instruction, Northern Valley Regional Schools Consortium
7. Joseph Spadola
8. Ronica Harris
9. Eveleth Roderer
10. Rick C.
11. AnnMarie Brown
12. Debra Kress
13. Michael Skelly, Sr., Unitarian Universalist Faith Action New Jersey
14. Robert Taschler
15. Stephanie Stern

16. Chris Schutz, Teacher, Mountain Lakes School District
17. Nihal Birdir
18. Stephanie Huang
19. Rachel Bier
20. Anonymous 1
21. Anonymous 2
22. Anonymous 3
23. Anonymous 4

1. **Comment:** The commenter expressed support for the proposed New Jersey Student Learning Standards in Science (NJSLs–S). **(12)**
Response: The Department appreciates the support.
2. **Comment:** The commenters expressed support for rigorous science instruction and emphasized the importance of science education. **(7, 8, 9, 10, and 11)**
Response: The Department agrees that a strong science education is essential for students. High-quality science education gives students the opportunity to carry out investigations, analyze data, draw conclusions, and communicate results — skills that are increasingly valuable in today’s workforce and society overall.
3. **Comment:** The commenter stated that the study of biology and genetics should be required. **(16)**
Response: The Department agrees that students should understand and be able to apply the disciplinary core ideas included within the NJSLs–S in Life Sciences, including molecules and organisms, ecosystems, heredity, and biological evolution.
4. **Comment:** The commenter stated that science is a quantitative discipline, and that alignment between learning in science and mathematics is essential. **(1)**
Response: The Department agrees. The Department has published, on the [Standards Transparency and Mastery Platform \(STAMP\) website](#), framework documents that identify those connections and model their integration in high quality instructional materials.
5. **Comment:** The commenter recommended shifting the conceptual framework of the NJSLs–S to one of “deep interdependence,” which emphasizes the fundamental interdependence of human and natural systems. **(13)**
Response: The Department disagrees with the recommendation to adopt a new framework emphasizing the interdependence of humans and natural systems. The existing NJSLs–S address this concept through performance expectations related to disciplinary core idea LS4.D Biodiversity and Humans. Beginning in the earliest grades, students develop increasingly sophisticated, evidence-based explanations for key questions such as: *What is biodiversity? How do human actions affect it? How does biodiversity, in turn, influence human life?* Because the current NJSLs–S already incorporate the concept of human–natural system interdependence, changes to the framework are not warranted.

6. **Comment:** The commenter recommended shifting the NJSLS–S from focusing on theoretical design and toward meaningful civic action by adopting the *North American Association for Environmental Education’s Guidelines for Excellence*, which emphasize developing the dispositions and motivation needed for students to take informed action. **(13)**
Response: The Department disagrees with the recommendation to include developing the dispositions and motivation needed for students to take informed action in the NJSLS–S. Dispositions and motivation describe personal attitudes, values, and internal inclinations, which are not directly observable or objectively measurable.
7. **Comment:** The commenter recommended that the NJSLS–S introduce the new terms “environmental justice” and “overburdened communities.” **(13)**
Response: The Department disagrees. The terms do not meet the criteria to be identified as disciplinary core ideas. In the NJSLS–S, disciplinary core ideas are the fundamental, essential ideas in science and engineering that have broad importance across multiple disciplines, providing a key tool for understanding or investigating complex ideas and solving problems. They are designed to be taught over multiple years, building in complexity from kindergarten through grade 12.
8. **Comment:** The commenter stated that the ancillary information regarding the science and engineering practices, disciplinary core ideas, and crosscutting concepts that appeared in the 2014 and 2020 NJSLS–S is not included in the draft 2026 NJSLS-S. **(6)**
Response: As part of the review and readoption process for the entire set of NJSLS, the Department elected, when possible, to standardize the format of all 2026 NJSLS. This standardized format did not allow for the inclusion of information about the science and engineering practices, disciplinary core ideas, or crosscutting concepts that informed the development of each performance expectation. To support educators, the Department has provided more detailed information about each performance expectation in the framework documents published on the [Department’s STAMP website](#).
9. **Comment:** The commenter expressed concern about the omission in the NJSLS–S the science and engineering practices, disciplinary core ideas, and crosscutting concepts. The commenter stated that New Jersey Quality Single Accountability Continuum (NJQSAC) requires school districts to document these dimensions as part of Instruction and Programs Indicators 9 through 17. The commenter requested that the Department provide a detailed crosswalk for each dimension of the performance expectations to ensure compliance with NJQSAC requirements. **(6)**
Response: The Department disagrees with the commenter’s assertion. The science and engineering practices, disciplinary core ideas, and crosscutting concepts are intentionally embedded within each performance expectation in the NJSLS–S, which is consistent with the structure of the Next Generation Science Standards and the National Research Council’s *A Framework for K–12 Science Education*. Each performance expectation reflects the integration of the three dimensions, which are designed to be taught and assessed together.
NJQSAC does not require separate documentation of science and engineering practices, disciplinary core ideas, and crosscutting concepts apart from the performance expectations themselves. School districts demonstrate alignment to the NJSLS-S through implementation of the performance expectations, which already incorporate these dimensions. Therefore, additional crosswalk documentation is not necessary and revisions are not warranted at this time.

9. **Comment:** The commenter recommended adding performance expectations related to motion in grade bands for grades six through 8 (6-8) and grades nine through 12 (9-12). **(3)**
Response: The Department disagrees with the recommendation because the recommended change is not supported by published evidence. The NJSLS–S are based on the National Research Council’s 2012 publication *A Framework for K-12 Science Education: Practices, Crosscutting Concepts and Core Ideas*. The *Framework* and the NJSLS-S include the disciplinary core idea PS2.A Forces and Motion. Learning progressions for Forces and Motion are documented in the *Framework*.
10. **Comment:** The commenter recommended redistributing selected content from grades 9–12 physical science standards into the grades 6–8. The commenter also suggested identifying portions of the high school physics standards that could be introduced at the middle school level instead of high school by evaluating their alignment with the NJSLS-Mathematics (NJSLS-M). **(1)**
Response: The Department disagrees because the NJSLS–S are grounded in the National Research Council’s *A Framework for K–12 Science Education: Practices, Crosscutting Concepts, and Core Ideas* (2012), which establishes grade-band learning progressions. The commenter’s recommendation does not align with the *Framework*’s progressions.
11. **Comment:** The commenter recommended that quantitative science be introduced in middle school. **(1)**
Response: The Department disagrees. The intersections between the NJSLS–S and the NJSLS-M begin in kindergarten. To support this alignment, the Department has published, on the [Department's STAMP website](#), framework documents that identify the mathematics standards corresponding to specific science performance expectation.
12. **Comment:** The commenter recommended that HS-PS2-4, which is the use mathematical representations of Newton’s Law of Gravitation and Coulomb’s Law to describe and predict the gravitational and electrostatic forces between objects, be revised to focus on only gravitation and gravitational fields. The commenter also recommended the creation of a separate performance expectation for electricity and magnetism. **(3)**
Response: The Department disagrees because the recommended changes are not supported by published evidence. The NJSLS–S are based on the National Research Council’s 2012 publication *A Framework for K-12 Science Education: Practices, Crosscutting Concepts and Core Ideas*.
13. **Comment:** The commenter recommended reassigning standard HS-PS2-6, which is to communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials, to HS-PS1: Matter and Its Interactions. The commenter stated that HS-PS1 focuses on how molecular structure affects how materials work, rather than on motion and forces. **(3)**
Response: The Department disagrees because the recommended change is not supported by published evidence. The NJSLS–S are based on the National Research Council’s 2012 publication *A Framework for K-12 Science Education: Practices, Crosscutting Concepts and Core Ideas*. The NJSLS–S are not organized like a traditional list of topics where each concept belongs in only one place. Instead, they are designed to show how scientific ideas connect and work together. HS-PS2-6 includes ideas about materials and molecular structure, but its location is appropriate because it supports students in understanding broader concepts about forces, interactions, and design. Moving it to HS-PS1 would break the intended connections and make the framework less coherent overall. In

addition, the NJSLS–S are not meant to dictate where or when teachers cover specific content. School districts have flexibility to teach molecular structure as part of a unit on matter, even if the performance expectation appears within a different disciplinary concept. Maintaining the current placement preserves the structure of the larger framework while still allowing instructional flexibility.

14. **Comment:** The commenter stated that the high school Motion and Stability (HS-PS2) performance expectations for HS-PS2: Motion and Stability, do not explicitly address foundational concepts of motion, such as velocity, position, and acceleration. The commenter also stated that the current performance expectations focus primarily on forces, energy, and interactions without first establishing an understanding of motion itself. The commenter recommended adding a performance expectation focused on representing and interpreting motion (e.g., through graphs, models, and equations) because it is a critical prerequisite for understanding forces. The commenter further stated that prior grade-level standards do not sufficiently develop these concepts at an appropriate level, which the commenter indicated may lead to gaps in student understanding and influence curriculum pacing decisions. **(3)**
- Response:** The Department disagrees. The NJSLS–S are intentionally designed to reflect a kindergarten-through-grade-12 (K-12) learning progression in which students develop increasingly sophisticated understandings of motion and forces over time, rather than introducing all related concepts within a single high school standard. Beginning in the elementary grades, students are introduced to motion through observation and description (e.g., patterns of motion and predicting future motion). In middle school, students build on this foundation by analyzing relationships among position, motion, and forces in increasingly quantitative ways. By the time students reach high school, the standards assume this prior conceptual development and shift the focus to explaining and applying relationships among force, mass, and acceleration, as well as more complex interactions such as momentum, energy, and fields. Within this progression, HS-PS2 is designed to deepen and extend students’ understanding by applying Newton’s Laws and related concepts to explain how and why motion changes, rather than reintroducing the foundational definitions of motion. The NJSLS-S are also not intended to prescribe a specific course sequence; school districts and educators retain flexibility to include instruction on motion, velocity, and acceleration, such as kinematics, at appropriate points within a course to support student understanding of the performance expectations. For these reasons, the current performance expectations appropriately reflect the intended K-12 progression of learning related to motion and forces, and no revisions are warranted at this time.
15. **Comment:** The commenter recommended adding performance expectations related to practical, pro-environmental skills that would require students to demonstrate the ability to repair everyday items such as bicycles and appliances, engage in gardening and the planting of native species to support local ecosystems, apply practical environmental skills to strengthen personal agency, self-efficacy, and community wellbeing, and reflect on how caring for and beautifying natural spaces fosters prosocial behavior and collective flourishing. **(4)**
- Response:** The Department disagrees. The NJSLS–S already include disciplinary core ideas for Ecosystems: Interactions, Energy, and Dynamics, which require students to explain how and why organisms interact with their environment and the resulting effects of those interactions. Additionally, the disciplinary core ideas in Human Impacts on Earth Systems (ESS3.C) require students to construct evidence-based accounts of how humans affect the planet. Furthermore, the Critical Awarenesses (CA) strand in the proposed NJSLS–Career Readiness, Life Literacies, and Key Skills (CLKS) focuses on content application in authentic settings: “By the end of grade 12, students cultivate an understanding of shared spaces, community resources,

and diverse cultures, reflecting on their role in promoting fairness, sustainability, and cross-cultural understanding at local and global levels.” The existing and proposed NJSLS–CLKS sufficiently address the concepts raised by the commenter.

- 16. Comment:** The commenter recommended adding performance expectations related to nutrition and brain health. The commenter stated that the performance expectations would require students to identify major macronutrients and micronutrients and describe their roles in human health; explain how nutrition affects mood, attention, learning, and emotional regulation; and apply nutritional knowledge to make informed food choices that support personal and collective well-being in both school and home environments. **(4)**

Response: The Department disagrees with the recommendation because nutrition and brain health are addressed within the NJSLS-Comprehensive Health and Physical Education.
- 17. Comment:** The commenter recommended adding performance expectations that would require students learn how brain development is shaped by environmental factors—such as stress, poverty, social connection, and enrichment—and apply this understanding to cultivate compassion, forgiveness, and prosocial behaviors that promote individual and collective well-being. **(4)**

Response: The Department disagrees because brain science and compassion do not meet the criteria for inclusion in the NJSLS-S. High-quality academic standards are designed to be focused, manageable, and centered on the most essential knowledge and skills students need to learn. For a concept to be included in the NJSLS-S, it must demonstrate broad importance across multiple scientific disciplines, function as a tool for investigating complex ideas, connect to societal or personal concerns, and be teachable across multiple grade levels with increasing sophistication.

Some of the noted elements are located in the NJSLS–CLKS. The K-12 progression of key competencies focuses on students developing the personal and social skills needed to set goals, collaborate effectively, adapt to change, and build respectful relationships that support success in academic, social, and workplace environments.
- 18. Comment:** The commenter recommended that the NJSLS–S be revised to significantly increase the emphasis on field-based, hands-on, and action research throughout all grade levels. **(20)**

Response: The Department disagrees that revisions are necessary. The NJSLS–S are intentionally designed around a three-dimensional approach that inherently embeds hands-on, inquiry-based, and applied learning experiences across all grade levels. The science and engineering practices, which are integrated within each performance expectation, require students to actively engage in activities such as planning and carrying out investigations, analyzing data, constructing explanations, and designing solutions. These practices naturally support field-based learning, experimentation, and real-world application of scientific concepts.
- 19. Comment:** The commenter recommended that the science performance expectations be aligned with NJSLS-M to enable students to see authentic applications of mathematics and, therefore, make it more relevant. **(1)**

Response: The Department agrees that the NJSLS-S and the NJSLS-M are aligned. To demonstrate this alignment, the Department has published, on the [Department’s STAMP website](#), framework documents that identify the mathematics standards corresponding to each science performance expectation.
- 20. Comment:** The commenter requested that the implementation date for NJSLS–S be extended from September 2026 to September 2027. **(2)**

Response: Of the 208 performance expectations spanning K-12 in the revised NJSLS-S, only four were revised. Updates to K-ESS3-3, K-2-ETS1-1, and 3-ESS3-1 were made to better align the performance expectations with their respective disciplinary core ideas and will require only minor local curriculum adjustments. HS-ESS3-2 was revised to explicitly include conservation as a strategy for managing and using energy and mineral resources, and “cost-benefit ratio” was replaced with “the associated economic, social, environmental, and geopolitical costs and risks, as well as benefits” to reflect the complexity of real-world decision-making. Given the limited scope of the revisions, the Department is confident that school districts will be prepared to meet the September 2026 implementation deadline.

21. **Comment:** The commenter asked the Department not to institute top-down mandates that would harm the commenter’s science, technology, engineering, and mathematics (STEM) program. **(11)**

Response: The NJSLS–S do not impose top-down mandates or prescribe specific program structures or delivery. Rather, the NJSLS-S outline expectations for student learning while allowing district boards of education the flexibility to design and implement STEM programs that reflect local priorities and support innovation.

22. **Comment:** The commenter raised concerns about the revised science graduation requirements and urged the State Board of Education to reconsider readopting former N.J.A.C. 6A:8-5.1. The commenter stated that replacing traditional course titles with vague, non-measurable terms like “evidence-based” reduces clarity, consistency, and enforceability, may create confusion for credit transfers and admissions, diminishes hands-on lab learning by removing required laboratory credits, and could increase inequities between resource-rich and high-need school districts. **(5)**

Response: The commenter’s concerns about the revised science graduation requirements found at N.J.A.C. 6A:8-5.1 are beyond the scope of the review and re adoption of the NJSLS-Science. Additional guidance regarding the revised graduation requirements for science are available on the [Department’s STAMP website](#).

23. **Comment:** The commenter recommended increasing protected instructional time for science. **(1)**

Response: The comment is outside the scope of the review and re adoption of the NJSLS-S. District boards of education determine instructional time allocation pursuant to N.J.A.C. 6A:8-3.1.

24. **Comment:** The commenter requested that the Department provide extensive hands-on physics and reasoning education. **(14)**

Response: The comment is outside the scope of the review and re adoption of the NJSLS-S. District boards of education retain discretion over curriculum design and implementation.

25. **Comment:** The commenter stated that curriculum should prioritize building resilience to climate challenges and fostering innovative approaches to product development. **(15)**

Response: The comment is outside the scope of the review and re adoption of the NJSLS-S. District boards of education are responsible for designing and implementing curriculum and instruction in ways that ensure all students can meet the expectations set forth in the NJSLS–S.

26. **Comment:** The commenters recommended that physics be introduced earlier—either in middle school or in ninth grade. The commenters also recommended that curriculum should follow a sequence of physics, then chemistry, then biology. **(21 and 23)**
Response: The comment is outside the scope of the review and readoption of the NJSLS–S. District boards of education are responsible for designing and implementing curriculum and instruction in ways that ensure all students can meet the expectations set forth in the NJSLS–S.
27. **Comment:** The commenter noted that students benefit most when lessons are organized and delivered in a well-structured, sequential order. **(8)**
Response: The comment is outside the scope of the review and readoption of NJSLS–S. District boards of education retain discretion over curriculum design and sequencing.
28. **Comment:** The commenter stated the Department should ensure students have access to the high-quality education they deserve and prevent the need for remediation for any students. **(8)**
Response: While the comment is outside the scope of the review and readoption of NJSLS–S, the Department agrees that all students deserve access to a high-quality education.
29. **Comment:** The commenter recommended optimizing the sequence of science instruction. **(1)**
Response: The comment is outside the scope of the review and readoption of NJSLS-Science. District boards of education retain discretion over curriculum design and sequencing.

Agency-initiated Changes

1. The Department proposes at Grade 2, Physical Science to edit a typographical error in the heading, as it requires a possessive pronoun. The change is as follows:

[1-]PS1: Matter and [[It's]] ***Its*** Interactions
2. The Department proposes at High School, Physical Science, PS4: Waves and Their Applications in Technologies for Information Transfer, to remove one instance of a repeated statement that was omitted when revisions were presented. The same statement was marked for deletion for every other disciplinary core idea but was unintentionally retained. The deletion is as follows:

[[Students who demonstrate understanding can:]]
3. The Department proposes to relocate the Developmental Progressions tables within the front matter of the document to supplemental guidance materials in the [Standards Transparency and Mastery Platform \(STAMP\)](#). The removal of this content improves the clarity, usability, and overall readability of the NJSLS-S document.