Rule Overview

Date: November 18, 2026
Prepared By: Annie Armatage, Senior Policy Analyst II
Rule Citation: NMAC 6.64.5, Science Endorsement

Overview of Proposed Rule

Agency: Public Education Department
Rulemaking Action: Repeal and replace
Date of Notice: November 3, 2026
Public Comment Period: November 3, 2026, to December 4, 2026, at 5:00p.m. (MDT)
Rule's Purpose: The proposed rule would specify which licenses science endorsement requirements apply to and would update science teacher competencies.

Summary of NMAC 6.64.5: Science Endorsement

The Public Education Department (PED) gave notice of a proposed repeal and replacement of New Mexico Administrative Code (NMAC) 6.64.5. The proposed rule would clarify but not change science teacher endorsement requirements. However, the new language could create confusion about which types of licenses science endorsement requirements apply to.

The proposed rule would simplify science beginning teacher competencies. The proposed rule states the new competencies align with several national standards and benchmarks; however, LESC analysis found actual alignment is limited.

Endorsement Requirements

The proposed rule does not change science endorsement requirements for new or existing teachers. The current rule requires new teachers applying for a science endorsement to complete at least 24 to 36 semester hours in science and passage of a science content area test. Existing teachers may pass a content knowledge exam, complete at least 24 to 36 semester hours of coursework, or obtain certification in science from the National Board for Professional Teaching Standards. For both new and existing teachers, the proposed rule is clearer, specifying at least 24 semester hours, rather than 24 to 36 semester hours.

Competencies for Science Teachers

The proposed rule would simplify the competencies for beginning science teachers, which were adopted in 2000.

Both the original science teacher competencies and the proposed competencies are intended to align with state-adopted content standards and performance benchmarks for science, as well as several national science teacher standards. LESC analysis found the proposed science teacher competencies partially align with the state standards and the national standards. See **Table 1: Alignment of Proposed Science Teacher Competencies with National Standards** on the following page.

The proposed rule adds a definition for culturally and linguistically responsive and requires science teachers to plan and provide equitable and culturally and linguistically responsive learning opportunities.

Table 1: Alignment of Proposed Science Teacher Competencies with National Standards

	Alignment	Explanation
New Mexico State-Adopted Standards NM STEM Ready! Science Standards (Next Generation Science Standards plus New Mexico-Specific Standards)		
Dimension 1: Science and engineering	Partially aligned	Omits one of the eight practices (obtaining, evaluating, and communicating information).
Dimension 2: Cross-cutting concepts	Aligned	
Dimension 3: Disciplinary core ideas, and other features of the state standards	Partially aligned	None of the four disciplinary areas are named. Does not reference the six New Mexico-specific standards. Does not distinguish expectations by grade band or course.
National Science Teaching Association and Association for Science Teacher Education 2020 Standards for Science Teacher Preparation		
Standard 1: Content knowledge	Partially aligned	Omits one of the eight practices (obtaining, evaluating, and communicating information). Does not set content depth in the candidate's licensure field.
Standard 2: Content pedagogy	Partially aligned	Omits lesson design, differentiation, engaging students in engineering design, using technology in instruction, and identifying student misconceptions.
Standard 3: Learning environments	Not aligned	Omits lab, field, and community settings; student investigation and collaboration; and defending explanations.
Standard 4: Safety	Not aligned	Omits handling chemicals and materials, hazards and emergencies, safety law, and ethical treatment of living organisms.
Standard 5: Impact on student learning	Not aligned	Omits assessment design, formative and summative evidence, and analyzing results by student group.
Standard 6: Professional knowledge and skills	Not aligned	Omits reflective practice and professional learning.
National Research Council Framework for K-12 Science Education (the foundation for Next Generation Science Standards)		
Dimension 1: Scientific and engineering practicers	Partially aligned	Omits one of the eight practices (obtaining, evaluating, and communicating information).
Dimension 2: Crosscutting concepts	Aligned	
Dimension 3: Disciplinary core ideas in physical sciences; life sciences; earth and space sciences; and engineering, technology, and applications of science	Partially aligned	None of the four disciplinary areas are named. Links between engineering, science, technology, and society are not addressed.
Implementation: Curriculum, instruction, teacher development, and assessment	Partially aligned	Omits assessment and teacher development.
Equity and diversity	Aligned	

Source: LESC Files

Impact

The proposed rule language makes it unclear whether an individual seeking a license not named in the rule would be able to get a science endorsement.

Technical Issues

The proposed beginning teacher endorsement requirements would apply to teachers seeking an endorsement in science to an initial level 1 New Mexico teaching license in middle level education (grades five through nine), secondary education (grades seven through 12), or grades prekindergarten through 12. This would exclude

beginning teachers who hold a kindergarten through eighth grade license, a prekindergarten through third grade license, a blind and visually impaired birth through 12th grade license, a deaf and hard of hearing birth through 12th grade license, a secondary vocational-technical seventh through 12th grade license, or a special education prekindergarten through 12th grade license.

Overall, the proposed science teacher content knowledge competencies align with the national standards and performance benchmarks of the National Science Teaching Association, the National Research Council, and the Association for Science Teacher Education. However, the proposed rule omits nearly all pedagogical standards and competencies for science teachers, which are key to ensuring teachers graduate from educator preparation programs prepared to deliver high-quality science instruction.

TITLE 6 PRIMARY AND SECONDARY EDUCATION
CHAPTER 64 SCHOOL PERSONNEL – [~~COMPETENCIES FOR LICENSURE~~] LICENSURE ENDORSEMENTS
PART 5 [~~COMPETENCIES FOR ENTRY-LEVEL SCIENCE TEACHERS~~] SCIENCE ENDORSEMENT

6.64.5.1 ISSUING AGENCY: Public Education Department (PED), hereinafter the department.
[6.64.5.1 NMAC – Rp, 6.64.5.1 NMAC, 12/22/2026]

6.64.5.2 SCOPE: All institutions of higher education in New Mexico that establish or maintain a curriculum for persons seeking an endorsement in science to a [~~state~~] New Mexico educator license. These requirements are K-12 expectations and are specifically designed to inform K-12 teacher preparation programs.
[6.64.5.2 NMAC – Rp, 6.64.5.2 NMAC, 12/22/2026]

6.64.5.3 STATUTORY AUTHORITY: Sections 9-24-8, 22-2-1, 22-2-2, [~~and~~] 22-10A-3, and 22-10A-6 NMSA 1978.
[6.64.5.3 NMAC – Rp, 6.64.5.3 NMAC, 12/22/2026]

6.64.5.4 DURATION: Permanent
[6.64.5.4 NMAC – Rp, 6.64.5.4 NMAC, 12/22/2026]

6.64.5.5 EFFECTIVE DATE: [~~January 14, 2000~~] December 22, 2026, unless a later date is cited in the history note at the end of a section.
[6.64.5.5 NMAC – Rp, 6.64.5.5 NMAC, 12/22/2026]

6.64.5.6 OBJECTIVE: [~~This rule establishes entry-level science competencies that are based on what beginning science teachers must know and be able to do to provide effective science programs in New Mexico schools. These competencies shall be incorporated into all college or university curricula for persons seeking a science endorsement to their state educator license. The competencies were developed to ensure alignment with the New Mexico's content standards and benchmarks for science and with the national standards of the national science teachers association. In addition, the national science education standards developed by national research council and the American association for the advancement of science benchmarks were used as guidelines for the development of the entry-level science competencies.~~] This rule is adopted by the department to establish science competencies that are based on what beginning science teachers must know and be able to do to provide effective science programs in New Mexico schools. The competencies were developed to ensure alignment with the state-adopted content standards and performance benchmarks for science, the national standards of the national research council, benchmarks from the national science teaching association, and association of science teacher education.
[6.64.5.6 NMAC – Rp, 6.64.5.6 NMAC, 12/22/2026]

6.64.5.7 DEFINITIONS:
~~**[A. "Applied science"** means such disciplines as agriculture, health fields, forensics, engineering and technology.~~
~~**B. "Design technology"** means developing the ability to design a solution to a problem and understanding the relationship of science and technology and the way people are involved in both. This standard helps establish design as the technological parallel to inquiry in science. Like the science as inquiry standard, this standard begins the understanding of the design process, as well as the ability to solve simple design problems.~~
~~**C. "Inquiry"** means a multifaceted activity that involves making observations; posing questions; examining books and other sources of information to see what is already known; planning investigations; reviewing what is already known in light of experimental evidence; using tools to gather, analyze, and interpret data; proposing answers, explanations, and predictions; and communicating the results. Inquiry requires identification of assumptions, use of critical and logical thinking and consideration of alternative explanations. Students will engage in selected aspects of inquiry as they learn the scientific way of knowing the natural world, but they also should develop the capacity to conduct complete inquiries.~~]
A. "Culturally and linguistically responsive" means validating and affirming an individual's home culture and language to create connections with other cultures and languages in various social contexts.

B. "Crosscutting concepts" means overarching themes that transcend the boundaries of individual scientific disciplines and engineering fields by providing a framework for students to organize, connect, and deepen their understanding of science concepts through different lenses to analyze and interpret the natural and designed world.

[6.64.5.7 NMAC – Rp, 6.64.5.7 NMAC, 12/22/2026]

6.64.5.8 REQUIREMENTS:

A. Beginning teachers seeking an endorsement in science to an initial level 1 New Mexico teaching license in middle level education (grades 5-9), secondary education (grades 7-12), or grades Pre K - 12 [~~must~~] shall satisfy all [~~of~~] the requirements of the license as provided in [~~PED~~]department rule for that license, which includes, among other requirements, [~~24-36~~] 24 semester hours in science and passage of a content area test in science.

B. Teachers seeking to add an endorsement in science to an existing New Mexico teaching license of any level shall meet one of the following requirements:

(1) pass the content knowledge test(s) of the New Mexico teacher assessments as provided in 6.60.5.8 NMAC, or predecessor New Mexico teacher licensure examination or accepted comparable licensure test(s) from another state in science; [~~or~~]

(2) successfully complete an undergraduate academic major comprising at least [~~24-36~~] 24 semester hours, or coursework equivalent to an undergraduate major or a graduate degree in science; or

(3) obtain certification in science for the appropriate grade level of New Mexico licensure from the national board for professional teaching standards.

[6.64.5.8 NMAC – Rp, 6.64.5.8 NMAC, 12/22/2026]

6.64.5.9 COMPETENCIES FOR [~~ENTRY-LEVEL~~] SCIENCE TEACHERS: CONTENT KNOWLEDGE AND SKILLS FOR TEACHING SCIENCE

[~~**A.** Instruction and assessment: Preparation to teach science shall involve:~~

~~**(1)** Inquiry, including the scientific method~~

~~**(a)** Select and use a variety of instructional strategies and materials for teaching science meeting the needs of all students.~~

~~**(b)** Implement active inquiry based learning activities conducive to the development of scientific processes, critical thinking skills, and problem solving skills.~~

~~**(c)** Implement design technology/scientific method: identify a problem; propose a solution; implement proposed solutions; evaluate product or design; communicate a problem, design, and solution.~~

~~**(d)** Implement technology, including computers, interactive video, telecommunication, scientific instrumentation, and others.~~

~~**(2)** Content integration~~

~~**(a)** Develop student understanding of the interconnectedness of the sciences and relate the major concepts of chemistry, earth and space science, physics, and biology to the teaching of science.~~

~~**(b)** Develop meaningful application of all content areas, including math, technology, language arts, social studies, and arts, in the delivery of science instruction.~~

~~**(3)** Designing and managing learning environment~~

~~**(a)** Fulfill the professional and legal obligations of teaching.~~

~~**(b)** Incorporate the proper use of science tools, materials, media, and technological resources.~~

~~**(c)** Establish and maintain safety in all areas related to science instruction.~~

~~**(d)** Use and care for living organisms in an ethical and appropriate manner.~~

~~**(4)** Effective and ongoing assessment to improve student learning~~

~~**(a)** Use assessment techniques such as performance testing, interviews, portfolios, and observations, for assessing student outcomes which are aligned with instruction and consistent with contemporary assessment.~~

~~**(b)** Use assessment tasks which may be appropriately modified to accommodate the needs of students with physical disabilities, learning disabilities, limited English proficiency, and cultural diversity.~~

~~**B.** History and nature of science: Preparation to teach science shall include:~~

~~**(1)** Diversity and human endeavor~~

~~**(a)** Describe science careers and reasons why people choose science as a career, including the impact of culture, gender, and other, factors.~~

(b) Describe the science contributions of people from a variety of social and ethnic backgrounds who have diverse interests, talents, qualities, and motivations.

(c) Develop student understanding of the relationships among science, technology, and cultural values.

(d) Recognize and respond to student diversity and encourage all students to participate fully in science learning.

(2) Empirical observation

(a) Explain that science distinguishes itself from other bodies of knowledge through the use of empirical standards, logical argument, and skepticism.

(b) Explain that scientific ideas depend on experimental and observational confirmation.

(3) Historical perspectives

(a) Understand that the body of scientific knowledge is continually being expanded and refined.

(b) Explain how theories and ideas throughout the history of science are refined or discarded as new evidence becomes available.

(c) Explain how western, non-European, and New Mexican cultures have developed scientific ideas and contributed to scientific knowledge.

C. Content categories: The following areas are designed to allow potential science teachers to construct their pre-service education with an emphasis in one content area, while insuring they receive science education in any area which they might be required to teach. Preparation to teach science shall enable the teacher to understand and be able to teach within at least one of these emphases:

(1) Life science emphasis: All science teachers, grades pre-K-12 will be able to identify and understand the relationship among major concepts and principles of biology, including anatomy, physiology, ecology, behavior of organisms, evolution, genetics, cell biology, microbiology, classification, and human biology.

(a) Teachers know and understand the characteristics that are the basis for classifying organisms.

(i) Teachers for grades K-4 will demonstrate an awareness of living things including basic cellular functions and processes, structures, the roles of organisms in systems comprised of living and non-living components and describe life cycles of plants and animals.

(ii) Teachers for grades 5-8 will use information about functions and cell structures to explain replication, reproduction, heredity, and disease, and categorize organisms based on methods of reproduction and offspring development.

(iii) Teachers for grades 9-12 will apply information about cell structures and functions to the world in which they live including understanding of DNA, RNA, natural selection processes, and diversity in plants and animals and use biological classifications to understand how organisms are related.

(b) Teachers will know and understand the synergy among organisms and the environments of organisms.

(i) Teachers for grades K-4 will explain how an organism's behavior is related to its physical environment; describe the roles of plants and animals in the flow of energy; describe how environmental pressures may accelerate changes in organisms; describe populations, communities, and systems; describe the impact humans have on the environment; understand natural resources (renewable versus non-renewable) and how each relates to humans' basic needs, and describe elements essential to good health.

(ii) Teachers for grades 5-8 will understand organisms' physical and behavioral adaptations and how changes occur over time; describe how organisms meet their needs, grow, and reproduce while sustaining stable local surroundings within an ever-changing larger environment; predict organisms' behaviors that may result from external stimuli; use information about variation and diversity to explain population changes over time; categorize organisms based on their roles within the ecosystem in which they live; examine the impact humans have on the living and non-living world including issues related to overpopulation; illustrate the relationships among renewable and non-renewable resources and population, and model responsible health practices including issues relating to nutrition and exercise.

(iii) Teachers for grades 9-12 will explain cellular responses to environmental threats to the organism ranging from the production of antibodies to changes in coloration; understand the pathways of energy within a living organism; predict an organism's behavioral responses to internal and external changes and to external stimuli as a function of inherited and acquired characteristics; create models that mimic a population's response to internal and external environment pressures; predict the impact humans might

have on a species or system including resource depletion and over population, and interpret the relationships between personal choices and health.

(2) Physical science emphasis: All science teachers, grades pre K-12, will be able to identify and understand the relationships among chemistry concepts including organic, inorganic, analytical, physical, and biochemical and identify and understand the relationships among physical concepts including mechanics, electricity, magnetism, thermodynamics, waves, optics, atomic, and nuclear physics.

(a) Teachers will be able to know and understand the properties of matter.

(i) Teachers for grades K-4 will describe the observable properties of common items and substances and explain that elements are the basic units of all matter.

(ii) Teachers for grades 5-8 will identify the properties of elements and compounds such as density, boiling point, and solubility and that these characteristics are independent of amount of the sample and articulate that chemical reactions occur in a predictable fashion and that the formation of compounds adheres to imperatives as conservation of matter.

(iii) Teachers for grades 9-12 will compare and contrast elements and compounds based upon the knowledge of the atomic/subatomic structures of matter and predict how atoms interact based upon sharing or transference of outer electrons.

(b) Teachers will know and understand the properties of fields, forces, and motion.

(i) Teachers for grades K-4 will describe how an object may be described with regard to its relative position to other objects; explain that an object's motion may be described by indicating change over time and describe how the earth's gravity pulls objects toward it.

(ii) Teachers for grades 5-8 will illustrate how Newton's Laws describe objects in motion; describe quantitatively how an object's position, speed and motion explain motion and compare and contrast forces affecting the physical world.

(iii) Teachers for grades 9-12 will apply knowledge of the constancy of energy in the universe and the forms that energy take in daily life; predict the motion of an object based on the net applied force applied to the object and explain and graphically describe that a specific mass exerts a force on others masses (velocity and acceleration).

(c) Teachers will know and understand the concepts of energy and energy transformation.

(i) Teachers in grades K-4 will describe the basic characteristics of light, heat, sound, and electromagnetism, and explain that energy exists in many forms and can be transformed and describe the process of chemical reactions and how time is a factor in chemical reactions.

(ii) Teachers in grades 5-8 will apply knowledge of energy and energy transformation to science problems; explain how chemical reactions can take place over periods of time and explain how concentration, pressure, temperature, and catalysts may affect chemical reactions.

(iii) Teachers in grades 9-12 will demonstrate their understanding of energy by identifying examples of transformations within and outside the school environment and devise scientific investigations demonstrating the impact of temperature and other variables on chemical reactions.

(3) Earth and space science emphasis: All science teachers, grades pre K-12, will know and understand properties of earth and space science.

(a) Teachers in grades K-4 will describe the physical and chemical properties of earth's materials and the states of matter; describe the uses of earth's materials as resources and the sun as the major source of energy; describe changes in the earth's surface; describe changes in weather; recognize that fossils provide a record of animals and plants that lived long ago; represent the school and local community using symbols and maps; describe basic components of and movements within the solar system; identify the types of instruments and vehicles used for space exploration and describe human's movement toward space from early observations to recent explorations.

(b) Teachers in grades 5-8 will explain how earth's materials can be transformed from one state to another; experiment with earth's materials using them as resources; model natural resources that shape the earth's surface; observe, measure, and record weather changes; explain how fossils are formed and how fossils provide evidence of complexity and diversity over time; use rectilinear coordinate systems such as latitude and longitude to locate points on the earth's surface; describe the interactions among the earth's lithosphere, hydrosphere, atmosphere, and biosphere; explain simple data derived from recent remote and direct observations in the solar system and space beyond; model the predictable patterns of the sun and planets in the solar system and cite benefits from continued exploration of space.

~~**(c)** Teachers in grades 9-12 will evaluate information about earth's materials, energy, and geochemical cycles; model the interaction between the earth's internal and external energy sources; use tectonic theory to predict changes in the earth's surface; model weather patterns and other natural cycles related to the movement of matter driven by the earth's internal and external sources of energy; use fossil and other evidence to investigate how the earth changes; extend mapping techniques to learning in science and other content areas; explain the evolution of earth in terms of the interactions among the geosphere, hydrosphere, atmosphere, and biosphere; model interactions between components of the earth based on the understanding of the earth as a system containing a fixed amount of each stable chemical or element; trace the development of space exploration and discuss how recent missions impact understanding of the earth; evaluate the hierarchy of structures in the universe from atoms to galaxies and identify the pros and cons of various scientific theories for the origin of the universe based on scientific evidence.~~

~~**(4)** Environmental science emphasis: All science teachers, grades pre K-12, will be able to identify and apply major concepts of environmental science such as ecosystems, energy flow, population ecology, natural resources, meteorology, geology, oceanography, and conservation.~~

~~**D.** Environmental, personal and social implications: Preparation to teach science shall enable teachers to understand and be able to teach:~~

~~**(1)** personal, community, New Mexico and global environmental issues;~~

~~**(2)** the approaches to evaluate the ethical implications of new developments in science;~~

~~**(3)** personal and community health issues;~~

~~**(4)** decision-making and value-analysis skills for investigating science-related societal problems;~~

~~**(5)** ethical use and care of living organisms.~~

~~**E.** Professionalism: Teacher education programs shall develop reflective practitioners who:~~

~~**(1)** foster in their students scientific interest and curiosity;~~

~~**(2)** participate in professional scientific organizations;~~

~~**(3)** serve as representatives of the scientific community;~~

~~**(4)** engage students in coherent, focused, student centered science curriculum, consistent with state and national standards;~~

~~**(5)** identify and use a variety of community resources including local expertise, industry, local environmental settings, and families;~~

~~**(6)** take advantage of collaborative planning among colleagues, scientists, and science teacher educators, so that science, science methods, and other program components are mutually reinforcing;~~

~~**(7)** explore and evaluate the process of curriculum and instructional implementation.~~]

A. Effective science teachers shall understand and articulate the knowledge and practices of contemporary science and engineering. They shall connect and interweave disciplinary core ideas, crosscutting concepts, and science and engineering practices through repeated use during instruction. Teachers seeking endorsement in science shall adhere to the following:

(1) Science teachers shall understand the application of the science and engineering practices, including:

(a) developing and using models;

(b) planning and carrying out investigations;

(c) analyzing and interpreting data;

(d) using mathematics and computational thinking;

(e) engaging in argument from evidence;

(f) in science, asking questions and constructing explanations; and

(g) in engineering, defining problems and designing solutions.

(2) Science teachers shall understand the application of crosscutting concepts, including:

(a) patterns;

(b) cause and effect, including mechanism and explanation;

(c) scale, proportion, and quantity;

(d) systems and system models;

(e) energy and matter including flows, cycles, and conservations;

(f) structure and function; and

(g) stability and change.

(3) Science teachers shall explain the nature of science and the cultural norms and values inherent in the current and historical development of scientific knowledge.

(4) Science teachers shall demonstrate knowledge of science-specific technologies, and the contributions of diverse populations to science.

B. Science teachers shall demonstrate knowledge of how to implement state-adopted science content and performance standards, learning progressions, and sequencing of science content for teaching disciplinary core ideas in the domains outlined in the standards from the association of science teacher education and national science teaching association.

[6.64.5.9 NMAC – Rp, 6.64.5.9 NMAC, 12/22/2026]

6.64.5.10 [~~**IMPLEMENTATION:** Institutions of higher education that prepare teachers shall deliver the competencies in a PED approved endorsement program within a range of 24 to 36 semester hours of credit, 12 semester hours of which must be upper division credit.~~] **PEDAGOGICAL KNOWLEDGE REQUIRED FOR TEACHING SCIENCE:** Science teachers shall plan and provide equitable and culturally and linguistically responsive learning opportunities and use teaching practices that provide access, support, and challenge in learning rigorous science content for all students as outlined in the standards of the association of science teacher education and national science teaching association.

[6.64.5.10 NMAC – Rp, 6.64.5.10 NMAC, 12/22/2026]

6.64.5.11 IMPLEMENTATION: Institutions of higher education that prepare teachers shall deliver the competencies in a department-approved endorsement program with at least 24 semester hours of credit, 12 semester hours of which shall be upper division credit.

[6.64.5.11 NMAC – N, 12/22/2026]

6.64.5.12 SEVERABILITY: In the event that any one or more of the sections of this rule, in whole or in part, should be held to be invalid, illegal, or unenforceable in any respect, the validity, legality, and enforceability of the remaining sections of this rule shall not in any way be affected or impaired.

[6.64.5.12 NMAC - N, 12/22/2026]

HISTORY OF 6.64.5 NMAC: [**RESERVED**]