F.14 Earth and Space Science - Grades 9-12

New Mexico Public Education Department

PUBLISHER/PROVIDER MATERIAL INFORMATION (TO BE COMPLETED BY PUBLISHER/PROVIDER)			
Publisher/Provider Name/Imprint:		Grade(s):	
Title of Student Edition:		Student Edition ISBN:	
Title of Teacher Edition:		Teacher Edition ISBN:	
Title of SE Workbook:		SE Workbook ISBN:	

PUBLISHER/PROVIDER CITATION VIDEO: Reviewer must view video before starting the review of this set of materials.			
Citation Video Link:			
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SCORING (TO BE COMPLETED BY REVIEWER AND FACILITATOR)			
Reviewer Number:		Date:	

Section 1: Standards Review: Science

Abbreviations for the Form F Standards Review Tab:
- PE: Performance Expectation
- DCI: Disciplinary Core Idea
- SEP: Science and Engineering Practices
- CCC: Crosscutting Concepts
- CONN: Connections
- NM: NM STEM Ready Standard
- CCSS: Common Core State Standards for ELA/Literacy in Science and Common Core State Standards for Math in Science as identified in the NGSS

PUBLISHER/PROVIDER INSTRUCTIONS:
- Publisher/Provider citations for this section will refer to the **Teacher Edition (teacher-facing core material).** The cited Teacher Edition should correspond with the title and ISBN entered on the Form F cover page, whether in print, online, or both. The review set submitted to the summer review institute should also correspond with what is cited on the Form F. If the review set is an online platform only, then that is what should be cited on the Form F and submitted for review by the review teams. If the review set is in print only, then that is what should be cited on the Form F and submitted for review by the review teams.
- For this section, the publisher/provider will enter one citation per DCI, SEP, CCC, CONN, and NM standard in Column D. Each citation should direct the reviewer to a specific location in the materials that best meets the standard. The citations should be concise and should allow the reviewer to easily determine that all components of the standard have been met. Each citation should cover no more than 3 pages within the materials. ***Any cells grayed out do not require a citation.***
  - o **Column D:** Enter one citation in Column D from the **Teacher Edition (teacher-facing core material)**. Each citation should direct the reviewer to a specific location in the materials that best meets the standard. The cited material for each DCI, SEP, CCC, and CONN must directly relate to the PE under which they fall.
- The material will be scored for alignment with each DCI, SEP, CCC, CONN, and NM standard within each PE as "Meets expectations", "Partially meets expectations", or "Does not meet expectations" based on the citations provided. A score for the PE will be derived from the related DCIs, SEPS, CCCs, CONNs, and NM Standards within the PE.
  - **o NOTE: You may not use a citation more than once across ALL sections of the rubric.**

Abbreviations for the Form F Standards Review Tab: • **PE:** Performance Expectation • **DCI:** Disciplinary Core Idea • **SEP:** Science and Engineering Practices • **CCC:** Crosscutting Concepts • **CONN:** Connections • **NM:** NM STEM Ready Standard • **CCSS:** Common Core State Standards for ELA/Literacy in Science and Common Core State Standards for Math in Science as identified in the NGSS		**Reviewer directions for Science Standards Review:**	**Columns D-G:** The publisher/provider will provide a citation from the **Teacher Edition (teacher-facing core material)** (print and/or digital) for each DCI, SEP, CCC, CONN, and NM standard in column D. Review the cited material and score the material by determining the degree to which it meets the standard: o M = Meets the standard o P = Partially meets the standard o D = Does not meet the standard **Start by scoring the DCI(s) for the PE. If all DCIs within the PE score a D (columns E *AND* I), score all other components within the PE with a D and move on to the next PE.** Evidence for the publisher citations is required *only* if you score the materialswith a D. For your evidence for each standard that scores a D, choose one of the options from the dropdown menu in Column G. If the reason for scoring the materials with a D is not one of the dropdown options, enter your own evidence statement in the cell in Column G. ***o Any cells grayed out do not require a citation or evidence. The score cells in those rows will automatically populate if formulated to do so.*** ***o Each cell in the Score column (column E) will turn purple as you score the materials.***			**Columns H-K:** Using the **Student Edition, Student Workbook, or other student-facing materials**, provide a citation for each DCI, SEP, CCC, CONN, and NM standard in Column H from the student materials that best meets the standard and addresses all components of the standard. Review the cited material, score the material by determining the degree to which it meets the standard, and provide evidence to support your determination: o M = Meets the standard o P = Partially meets the standard o D = Does not meet the standard **Start by scoring the DCI(s) for the PE. If all DCIs within the PE score a D (columns E AND I), score all other components within the PE with a D and move on to the next PE.** ***o Any cells grayed out do not require a citation or evidence. The score cells in those rows will automatically populate if formulated to do so.*** ***o Each cell in the Reviewer Citation column, Score column, and Reviewer Evidence column (columns H, I, and K) will turn purple as you score the materials.***			
Criteria #	**Standard Identifier**	**F.14 Grades 9-12 Earth and Space Science Standards Review:**	Publisher/Provider Citation from Teacher Edition	Score	If Scored D: Reviewer's Evidence for Publisher Citation	Reviewer Citation from Student Edition/Workbook	Score	Required: Reviewer's Evidence	Comments, other citations, notes
Earth's Place in the Universe									
1	**PE**	**HS-ESS1-1. Students who demonstrate understanding can: Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy in the form of radiation.**							
2	**DCI**	**ESS1.A: The Universe and Its Stars** • The star called the sun is changing and will burn out over a lifespan of approximately 10 billion years.							
3	**DCI**	**PS3.D: Energy in Chemical Processes and Everyday Life** • Nuclear fusion processes in the center of the sun release the energy that ultimately reaches Earth as radiation.							
4	**SEP**	**Developing and Using Models** *Modeling in 9–12 builds on K–8 experiences and progresses to using, synthesizing, and developing models to predict and show relationships among variables between systems and their components in the natural and designed world(s).* • Develop a model based on evidence to illustrate the relationships between systems or between components of a system.							
5	**CCC**	**Scale, Proportion, and Quantity** • The significance of a phenomenon is dependent on the scale, proportion, and quantity at which it occurs.							
6	**PE**	**HS-ESS1-2. Students who demonstrate understanding can: Construct an explanation of the Big Bang theory based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the universe.**							
7	**DCI**	**ESS1.A: The Universe and Its Stars** • The study of stars' light spectra and brightness is used to identify compositional elements of stars, their movements, and their distances from Earth.							
8	**DCI**	**ESS1.A: The Universe and Its Stars** • The Big Bang theory is supported by observations of distant galaxies receding from our own, of the measured composition of stars and non-stellar gases, and of the maps of spectra of the primordial radiation (cosmic microwave background) that still fills the universe.							
9	**DCI**	**ESS1.A: The Universe and Its Stars** • Other than the hydrogen and helium formed at the time of the Big Bang, nuclear fusion within stars produces all atomic nuclei lighter than and including iron, and the process releases electromagnetic energy. Heavier elements are produced when certain massive stars achieve a supernova stage and explode.							
10	**DCI**	**PS4.B: Electromagnetic Radiation** • Atoms of each element emit and absorb characteristic frequencies of light. These characteristics allow identification of the presence of an element, even in microscopic quantities.							
11	**SEP**	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 9–12 builds on K–8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific ideas, principles, and theories.* • Construct an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.							
12	**CONN**	**Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena** • A scientific theory is a substantiated explanation of some aspect of the natural world, based on a body of facts that have been repeatedly confirmed through observation and experiment and the science community validates each theory before it is accepted. If new evidence is discovered that the theory does not accommodate, the theory is generally modified in light of this new evidence.							
13	**CCC**	**Energy and Matter** • Energy cannot be created or destroyed–only moved between one place and another place, between objects and/or fields, or between systems.							
14	**CONN**	**Interdependence of Science, Engineering, and Technology** • Science and engineering complement each other in the cycle known as research and development (R&D). Many R&D projects may involve scientists, engineers, and others with wide ranges of expertise.							
15	**CONN**	**Scientific Knowledge Assumes an Order and Consistency in Natural Systems** • Scientific knowledge is based on the assumption that natural laws operate today as they did in the past and they will continue to do so in the future.							
16	**CONN**	**Scientific Knowledge Assumes an Order and Consistency in Natural Systems** • Science assumes the universe is a vast single system in which basic laws are consistent.							

17	PE	**HS-ESS1-3. Students who demonstrate understanding can: Communicate scientific ideas about the way stars, over their life cycle, produce elements.**							
18	DCI	**ESS1.A: The Universe and Its Stars** • The study of stars' light spectra and brightness is used to identify compositional elements of stars, their movements, and their distances from Earth.							
19	DCI	**ESS1.A: The Universe and Its Stars** • Other than the hydrogen and helium formed at the time of the Big Bang, nuclear fusion within stars produces all atomic nuclei lighter than and including iron, and the process releases electromagnetic energy. Heavier elements are produced when certain massive stars achieve a supernova stage and explode.							
20	SEP	**Obtaining, Evaluating, and Communicating Information** *Obtaining, evaluating, and communicating information in 9–12 builds on K–8 experiences and progresses to evaluating the validity and reliability of the claims, methods, and designs.* • Communicate scientific ideas (e.g., about phenomena and/or the process of development and the design and performance of a proposed process or system) in multiple formats (including orally, graphically, textually, and mathematically).							
21	CCC	**Energy and Matter** • In nuclear processes, atoms are not conserved, but the total number of protons plus neutrons is conserved.							
22	PE	**HS-ESS1-4. Students who demonstrate understanding can: Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.**							
23	DCI	**ESS1.B: Earth and the Solar System** • Kepler's laws describe common features of the motions of orbiting objects, including their elliptical paths around the sun. Orbits may change due to the gravitational effects from, or collisions with, other objects in the solar system.							
24	SEP	**Using Mathematical and Computational Thinking** *Mathematical and computational thinking in 9–12 builds on K–8 experiences and progresses to using algebraic thinking and analysis, a range of linear and nonlinear functions including trigonometric functions, exponentials and logarithms, and computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions.* • Use mathematical or computational representations of phenomena to describe explanations.							
25	CCC	**Scale, Proportion, and Quantity** • Algebraic thinking is used to examine scientific data and predict the effect of a change in one variable on another (e.g., linear growth vs. exponential growth).							
26	CONN	**Interdependence of Science, Engineering, and Technology** • Science and engineering complement each other in the cycle known as research and development (R&D). Many R&D projects may involve scientists, engineers, and others with wide ranges of expertise.							
27	PE	**HS-ESS1-5. Students who demonstrate understanding can: Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks.**							
28	DCI	**ESS1.C: The History of Planet Earth** • Continental rocks, which can be older than 4 billion years, are generally much older than the rocks of the ocean floor, which are less than 200 million years old.							
29	DCI	**ESS2.B: Plate Tectonics and Large-Scale System Interactions** • Plate tectonics is the unifying theory that explains the past and current movements of the rocks at Earth's surface and provides a framework for understanding its geologic history.							
30	DCI	**PS1.C: Nuclear Processes** • Spontaneous radioactive decays follow a characteristic exponential decay law. Nuclear lifetimes allow radiometric dating to be used to determine the ages of rocks and other materials.							
31	SEP	**Engaging in Argument from Evidence** *Engaging in argument from evidence in 9–12 builds on K–8 experiences and progresses to using appropriate and sufficient evidence and scientific reasoning to defend and critique claims and explanations about the natural and designed world(s). Arguments may also come from current scientific or historical episodes in science.* • Evaluate evidence behind currently accepted explanations or solutions to determine the merits of arguments.							
32	CCC	**Patterns** • Empirical evidence is needed to identify patterns.							
33	PE	**HS-ESS1-6. Students who demonstrate understanding can: Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.**							
34	DCI	**ESS1.C: The History of Planet Earth** • Although active geologic processes, such as plate tectonics and erosion, have destroyed or altered most of the very early rock record on Earth, other objects in the solar system, such as lunar rocks, asteroids, and meteorites, have changed little over billions of years. Studying these objects can provide information about Earth's formation and early history.							
35	DCI	**PS1.C: Nuclear Processes** • Spontaneous radioactive decays follow a characteristic exponential decay law. Nuclear lifetimes allow radiometric dating to be used to determine the ages of rocks and other materials							
36	SEP	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 9–12 builds on K–8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific ideas, principles, and theories.* • Apply scientific reasoning to link evidence to the claims to assess the extent to which the reasoning and data support the explanation or conclusion.							
37	CONN	**Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena** • A scientific theory is a substantiated explanation of some aspect of the natural world, based on a body of facts that have been repeatedly confirmed through observation and experiment, and the science community validates each theory before it is accepted. If new evidence is discovered that the theory does not accommodate, the theory is generally modified in light of this new evidence.							
38	CONN	**Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena** • Models, mechanisms, and explanations collectively serve as tools in the development of a scientific theory.							
39	CCC	**Stability and Change** • Much of science deals with constructing explanations of how things change and how they remain stable.							
Earth's Systems									

40	PE	**HS-ESS2-1.Students who demonstrate understanding can: Develop a model to illustrate how Earth's internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features.**							
41	DCI	**ESS2.A: Earth's Materials and Systems** • Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes.							
42	DCI	**ESS2.B: Plate Tectonics and Large-Scale System Interactions** • Plate tectonics is the unifying theory that explains the past and current movements of the rocks at Earth's surface and provides a framework for understanding its geologic history. Plate movements are responsible for most continental and ocean-floor features and for the distribution of most rocks and minerals within Earth's crust.							
43	SEP	**Developing and Using Models** *Modeling in 9–12 builds on K–8 experiences and progresses to using, synthesizing, and developing models to predict and show relationships among variables between systems and their components in the natural and designed world(s).* • Develop a model based on evidence to illustrate the relationships between systems or between components of a system.							
44	CCC	**Stability and Change** • Change and rates of change can be quantified and modeled over very short or very long periods of time. Some system changes are irreversible.							
45	PE	**HS-ESS2-2. Students who demonstrate understanding can: Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.**							
46	DCI	**ESS2.A: Earth's Materials and Systems** • Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes.							
47	DCI	**ESS2.D: Weather and Climate** • The foundation for Earth's global climate systems is the electromagnetic radiation from the sun, as well as its reflection, absorption, storage, and redistribution among the atmosphere, ocean, and land systems, and this energy's re-radiation into space.							
48	SEP	**Analyzing and Interpreting Data** *Analyzing data in 9–12 builds on K–8 experiences and progresses to introducing more detailed statistical analysis, the comparison of data sets for consistency, and the use of models to generate and analyze data.* • Analyze data using tools, technologies, and/or models (e.g., computational, mathematical) in order to make valid and reliable scientific claims or determine an optimal design solution.							
49	CCC	**Stability and Change** • Feedback (negative or positive) can stabilize or destabilize a system.							
50	CONN	**Influence of Engineering, Technology, and Science on Society and the Natural World** • New technologies can have deep impacts on society and the environment, including some that were not anticipated. Analysis of costs and benefits is a critical aspect of decisions about technology.							
51	PE	**HS-ESS2-3. Students who demonstrate understanding can: Develop a model based on evidence of Earth's interior to describe the cycling of matter by thermal convection.**							
52	DCI	**ESS2.A: Earth Materials and Systems** • Evidence from deep probes and seismic waves, reconstructions of historical changes in Earth's surface and its magnetic field, and an understanding of physical and chemical processes lead to a model of Earth with a hot but solid inner core, a liquid outer core, a solid mantle and crust. Motions of the mantle and its plates occur primarily through thermal convection, which involves the cycling of matter due to the outward flow of energy from Earth's interior and gravitational movement of denser materials toward the interior.							
53	DCI	**ESS2.B: Plate Tectonics and Large-Scale System Interactions** • The radioactive decay of unstable isotopes continually generates new energy within Earth's crust and mantle, providing the primary source of the heat that drives mantle convection. Plate tectonics can be viewed as the surface expression of mantle convection.							
54	SEP	**Developing and Using Models** *Modeling in 9–12 builds on K–8 experiences and progresses to using, synthesizing, and developing models to predict and show relationships among variables between systems and their components in the natural and designed world(s).* • Develop a model based on evidence to illustrate the relationships between systems or between components of a system.							
55	CONN	**Scientific Knowledge is Based on Empirical Evidence** • Science knowledge is based on empirical evidence.							
56	CONN	**Scientific Knowledge is Based on Empirical Evidence** • Science disciplines share common rules of evidence used to evaluate explanations about natural systems.							
57	CONN	**Scientific Knowledge is Based on Empirical Evidence** • Science includes the process of coordinating patterns of evidence with current theory.							
58	CCC	**Energy and Matter** • Energy drives the cycling of matter within and between systems.							
59	CONN	**Interdependence of Science, Engineering, and Technology** • Science and engineering complement each other in the cycle known as research and development (R&D). Many R&D projects may involve scientists, engineers, and others with wide ranges of expertise.							
60	PE	**HS-ESS2-4. Students who demonstrate understanding can: Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.**							
61	DCI	**ESS1.B: Earth and the Solar System** • Cyclical changes in the shape of Earth's orbit around the sun, together with changes in the tilt of the planet's axis of rotation, both occurring over hundreds of thousands of years, have altered the intensity and distribution of sunlight falling on the earth. These phenomena cause a cycle of ice ages and other gradual climate changes.							
62	DCI	**ESS2.A: Earth Materials and System** • The geological record shows that changes to global and regional climate can be caused by interactions among changes in the sun's energy output or Earth's orbit, tectonic events, ocean circulation, volcanic activity, glaciers, vegetation, and human activities. These changes can occur on a variety of time scales from sudden (e.g., volcanic ash clouds) to intermediate (ice ages) to very long-term tectonic cycles.							
63	DCI	**ESS2.D: Weather and Climate** • The foundation for Earth's global climate systems is the electromagnetic radiation from the sun, as well as its reflection, absorption, storage, and redistribution among the atmosphere, ocean, and land systems, and this energy's re-radiation into space.							

64	SEP	**Developing and Using Models** *Modeling in 9–12 builds on K–8 experiences and progresses to using, synthesizing, and developing models to predict and show relationships among variables between systems and their components in the natural and designed world(s).* • Use a model to provide mechanistic accounts of phenomena.							
65	CONN	**Scientific Knowledge is Based on Empirical Evidence** • Science arguments are strengthened by multiple lines of evidence supporting a single explanation.							
66	CCC	**Cause and Effect** • Empirical evidence is required to differentiate between cause and correlation and make claims about specific causes and effects.							
67	PE	**HS-ESS2-5. Students who demonstrate understanding can: Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes. [**							
68	DCI	**ESS2.C: The Roles of Water in Earth's Surface Processes** • The abundance of liquid water on Earth's surface and its unique combination of physical and chemical properties are central to the planet's dynamics. These properties include water's exceptional capacity to absorb, store, and release large amounts of energy, transmit sunlight, expand upon freezing, dissolve and transport materials, and lower the viscosities and melting points of rocks.							
69	SEP	**Planning and Carrying Out Investigations** *Planning and carrying out investigations in 9-12 builds on K-8 experiences and progresses to include investigations that provide evidence for and test conceptual, mathematical, physical, and empirical models.* • Plan and conduct an investigation individually and collaboratively to produce data to serve as the basis for evidence, and in the design: decide on types, how much, and accuracy of data needed to produce reliable measurements and consider limitations on the precision of the data (e.g., number of trials, cost, risk, time), and refine the design accordingly.							
70	CCC	**Structure and Function** • The functions and properties of natural and designed objects and systems can be inferred from their overall structure, the way their components are shaped and used, and the molecular substructures of its various materials.							
71	PE	**HS-ESS2-6. Students who demonstrate understanding can: Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.**							
72	DCI	**ESS2.D: Weather and Climate** • Gradual atmospheric changes were due to plants and other organisms that captured carbon dioxide and released oxygen.							
73	DCI	**ESS2.D: Weather and Climate** • Changes in the atmosphere due to human activity have increased carbon dioxide concentrations and thus affect climate.							
74	SEP	**Developing and Using Models** *Modeling in 9–12 builds on K–8 experiences and progresses to using, synthesizing, and developing models to predict and show relationships among variables between systems and their components in the natural and designed world(s).* • Develop a model based on evidence to illustrate the relationships between systems or between components of a system.							
75	CCC	**Energy and Matter** • The total amount of energy and matter in closed systems is conserved.							
76	PE	**HS-ESS2-7. Students who demonstrate understanding can: Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.**							
77	DCI	**ESS2.D: Weather and Climate** • Gradual atmospheric changes were due to plants and other organisms that captured carbon dioxide and released oxygen.							
78	DCI	**ESS2.E Biogeology** • The many dynamic and delicate feedbacks between the biosphere and other Earth systems cause a continual coevolution of Earth's surface and the life that exists on it.							
79	SEP	**Engaging in Argument from Evidence** *Engaging in argument from evidence in 9–12 builds on K–8 experiences and progresses to using appropriate and sufficient evidence and scientific reasoning to defend and critique claims and explanations about the natural and designed world(s). Arguments may also come from current scientific or historical episodes in science.* • Construct an oral and written argument or counter-arguments based on data and evidence.							
80	CCC	**Stability and Change** • Much of science deals with constructing explanations of how things change and how they remain stable.							
Earth and Human Activity									
81	PE	**HS-ESS3-1. Students who demonstrate understanding can: Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.**							
82	DCI	**ESS3.A: Natural Resources** • Resource availability has guided the development of human society.							
83	DCI	**ESS3.B: Natural Hazards** • Natural hazards and other geologic events have shaped the course of human history; [they] have significantly altered the sizes of human populations and have driven human migrations.							
84	SEP	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 9–12 builds on K–8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific knowledge, principles, and theories.* • Construct an explanation based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.							
85	CCC	**Cause and Effect** • Empirical evidence is required to differentiate between cause and correlation and make claims about specific causes and effects.							
86	CONN	**Influence of Science, Engineering, and Technology on Society and the Natural World** • Modern civilization depends on major technological systems.							
87	PE	**HS-ESS3-2. Students who demonstrate understanding can: Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.**							
88	DCI	**ESS3.A: Natural Resources** • All forms of energy production and other resource extraction have associated economic, social, environmental, and geopolitical costs and risks as well as benefits. New technologies and social regulations can change the balance of these factors.							

89	DCI	**ETS1.B: Developing Possible Solutions** • When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental impacts.							
90	SEP	**Engaging in Argument from Evidence** *Engaging in argument from evidence in 9–12 builds on K–8 experiences and progresses to using appropriate and sufficient evidence and scientific reasoning to defend and critique claims and explanations about natural and designed world(s). Arguments may also come from current scientific or historical episodes in science.* • **Evaluate competing design solutions to a real-world problem based on scientific ideas and principles, empirical evidence, and logical arguments regarding relevant factors (e.g., economic, societal, environmental, ethical considerations).**							
91	CONN	**Influence of Science, Engineering, and Technology on Society and the Natural World** • Engineers continuously modify these technological systems by applying scientific knowledge and engineering design practices to increase benefits while decreasing costs and risks.							
92	CONN	**Influence of Science, Engineering, and Technology on Society and the Natural World** • Analysis of costs and benefits is a critical aspect of decisions about technology.							
93	CONN	**Science Addresses Questions About the Natural and Material World** • Science and technology may raise ethical issues for which science, by itself, does not provide answers and solutions.							
94	CONN	**Science Addresses Questions About the Natural and Material World** • Science knowledge indicates what can happen in natural systems — not what should happen. The latter involves ethics, values, and human decisions about the use of knowledge.							
95	CONN	**Science Addresses Questions About the Natural and Material World** • Many decisions are not made using science alone, but rely on social and cultural contexts to resolve issues.							
96	PE	**HS-ESS3-3. Students who demonstrate understanding can: Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.**							
97	DCI	**ESS3.C: Human Impacts on Earth Systems** • The sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources.							
98	SEP	**Using Mathematics and Computational Thinking** *Mathematical and computational thinking in 9–12 builds on K–8 experiences and progresses to using algebraic thinking and analysis; a range of linear and nonlinear functions including trigonometric functions, exponentials and logarithms; and computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions.* • Create a computational model or simulation of a phenomenon, designed device, process, or system.							
99	CCC	**Stability and Change** • Change and rates of change can be quantified and modeled over very short or very long periods of time. Some system changes are irreversible.							
100	CONN	**Influence of Science, Engineering, and Technology on Society and the Natural World** • Modern civilization depends on major technological systems.							
101	CONN	**Influence of Science, Engineering, and Technology on Society and the Natural World** • New technologies can have deep impacts on society and the environment, including some that were not anticipated.							
102	CONN	**Science is a Human Endeavor** • Science is a result of human endeavors, imagination, and creativity.							
103	PE	**HS-ESS3-4. Students who demonstrate understanding can: Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.**							
104	DCI	**ESS3.C: Human Impacts on Earth Systems** • Scientists and engineers can make major contributions by developing technologies that produce less pollution and waste and that preclude ecosystem degradation.							
105	DCI	**ETS1.B: Developing Possible Solutions** • When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental impacts.							
106	SEP	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 9–12 builds on K–8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific knowledge, principles and theories.* • Design or refine a solution to a complex real-world problem based on scientific knowledge, student-generated sources of evidence, prioritized criteria, and tradeoff considerations.							
107	CCC	**Stability and Change** • Feedback (negative or positive) can stabilize or destabilize a system.							
108	CONN	**Influence of Science, Engineering, and Technology on Society and the Natural World** • Engineers continuously modify these technological systems by applying scientific knowledge and engineering design practices to increase benefits while decreasing costs and risks.							
109	PE	**HS-ESS3-5. Students who demonstrate understanding can: Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.**							
110	DCI	**ESS3.D: Global Climate Change** • Though the magnitudes of human impacts are greater than they have ever been, so too are human abilities to model, predict, and manage current and future impacts.							
111	SEP	**Analyzing and Interpreting Data** *Analyzing data in 9–12 builds on K–8 experiences and progresses to introducing more detailed statistical analysis, the comparison of data sets for consistency, and the use of models to generate and analyze data.* • Analyze data using computational models in order to make valid and reliable scientific claims.							
112	CONN	**Scientific Investigations Use a Variety of Methods** • Science investigations use diverse methods and do not always use the same set of procedures to obtain data.							
113	CONN	**Scientific Investigations Use a Variety of Methods** • New technologies advance scientific knowledge.							
114	CONN	**Scientific Knowledge is Based on Empirical Evidence** • Science knowledge is based on empirical evidence.							

115	CONN	**Scientific Knowledge is Based on Empirical Evidence** • Science arguments are strengthened by multiple lines of evidence supporting a single explanation.							
116	CCC	**Stability and Change** • Change and rates of change can be quantified and modeled over very short or very long periods of time. Some system changes are irreversible.							
117	PE	**HS-ESS3-6. Students who demonstrate understanding can: Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.**							
118	DCI	**ESS2.D: Weather and Climate** • Current models predict that, although future regional climate changes will be complex and varied, average global temperatures will continue to rise. The outcomes predicted by global climate models strongly depend on the amounts of human-generated greenhouse gases added to the atmosphere each year and by the ways in which these gases are absorbed by the ocean and biosphere.							
119	DCI	**ESS3.D: Global Climate Change** • Through computer simulations and other studies, important discoveries are still being made about how the ocean, the atmosphere, and the biosphere interact and are modified in response to human activities.							
120	SEP	**Using Mathematics and Computational Thinking** *Mathematical and computational thinking in 9–12 builds on K–8 experiences and progresses to using algebraic thinking and analysis; a range of linear and nonlinear functions including trigonometric functions, exponentials and logarithms; and computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions.* • Use a computational representation of phenomena or design solutions to describe and/or support claims and/or explanations.							
121	CCC	**Systems and System Models** • When investigating or describing a system, the boundaries and initial conditions of the system need to be defined and their inputs and outputs analyzed and described using models.							
122	NM	**HS-SS-1 NM.** • Obtain and communicate information about the role of New Mexico in nuclear science and 21st century innovations including how the national laboratories have contributed to theoretical, experimental, and applied science; have illustrated the interdependence of science, engineering, and technology; and have used systems involving hardware, software, production, simulation, and information flow.							
Engineering Design									
123	PE	**HS-ETS1-1. Students who demonstrate understanding can: Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.**							
124	DCI	**ETS1.A: Defining and Delimiting Engineering Problems** • Criteria and constraints also include satisfying any requirements set by society, such as taking issues of risk mitigation into account, and they should be quantified to the extent possible and stated in such a way that one can tell if a given design meets them.							
125	DCI	**ETS1.A: Defining and Delimiting Engineering Problems** • Humanity faces major global challenges today, such as the need for supplies of clean water and food or for energy sources that minimize pollution, which can be addressed through engineering. These global challenges also may have manifestations in local communities.							
126	SEP	**Asking Questions and Defining Problems** *Asking questions and defining problems in 9–12 builds on K–8 experiences and progresses to formulating, refining, and evaluating empirically testable questions and design problems using models and simulations.* • Analyze complex real-world problems by specifying criteria and constraints for successful solutions.							
127	CONN	**Influence of Science, Engineering, and Technology on Society and the Natural World** • New technologies can have deep impacts on society and the environment, including some that were not anticipated. Analysis of costs and benefits is a critical aspect of decisions about technology.							
128	PE	**HS-ETS1-2. Students who demonstrate understanding can: Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.**							
129	DCI	**ETS1.C: Optimizing the Design Solution** • Criteria may need to be broken down into simpler ones that can be approached systematically, and decisions about the priority of certain criteria over others (tradeoffs) may be needed.							
130	SEP	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 9–12 builds on K–8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific ideas, principles and theories.* • Design a solution to a complex real-world problem based on scientific knowledge, student-generated sources of evidence, prioritized criteria, and tradeoff considerations.							
131	PE	**HS-ETS1-3. Students who demonstrate understanding can: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.**							
132	DCI	**ETS1.B: Developing Possible Solutions** • When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental impacts.							
133	SEP	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 9–12 builds on K–8 experiences and progresses to explanations and designs that are supported by multiple and independent student-generated sources of evidence consistent with scientific ideas, principles and theories.* • Evaluate a solution to a complex real-world problem, based on scientific knowledge, student-generated sources of evidence, prioritized criteria, and tradeoff considerations.							
134	CONN	**Influence of Science, Engineering, and Technology on Society and the Natural World** • New technologies can have deep impacts on society and the environment, including some that were not anticipated. Analysis of costs and benefits is a critical aspect of decisions about technology.							
135	PE	**HS-ETS1-4. Students who demonstrate understanding can: Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.**							

136	DCI	**ETS1.B: Developing Possible Solutions** • Both physical models and computers can be used in various ways to aid in the engineering design process. Computers are useful for a variety of purposes, such as running simulations to test different ways of solving a problem or to see which one is most efficient or economical; and in making a persuasive presentation to a client about how a given design will meet his or her needs.							
137	SEP	**Using Mathematics and Computational Thinking** *Mathematical and computational thinking in 9-12 builds on K-8 experiences and progresses to using algebraic thinking and analysis, a range of linear and nonlinear functions including trigonometric functions, exponentials and logarithms, and computational tools for statistical analysis to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions.* • Use mathematical models and/or computer simulations to predict the effects of a design solution on systems and/or the interactions between systems.							
138	CCC	**Systems and System Models** • Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions — including energy, matter, and information flows — within and between systems at different scales.							

CCSS for ELA/Literacy and Math in Grades 9-12 NGSS **• NOTE: The standards noted at the end of each CCSS (such as *(HS-ESS1-1), (HS-ESS1-2), (HS-ESS1-5)*) are the occurrences of the CCSS within the NGSS.**									
Grades 9-12 CCSS ELA/Literacy									
139	CCSS ELA/ Literacy	**RST.11-12.1** Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. *(HS-ESS1-1), (HS-ESS1-2), (HS-ESS1-5), (HS-ESS1-6), (HS-ESS2-2), (HS-ESS2-3), (HS-ESS3-1), (HS-ESS3-2), (HS-ESS3-4), (HS-ESS3-5)*							
140	CCSS ELA/ Literacy	**RST.11-12.2** Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. *(HS-ESS2-2), (HS-ESS3-5)*							
141	CCSS ELA/ Literacy	**RST.11-12.7** Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. *(HS-ESS3-5), (HS-ETS1-1), (HS-ETS1-3)*							
142	CCSS ELA/ Literacy	**RST.11-12.8** Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information. *(HS-ESS1-5), (HS-ESS1-6), (HS-ESS3-2), (HS-ESS3-4), (HS-ETS1-1), (HS-ETS1-3)*							
143	CCSS ELA/ Literacy	**RST.11-12.9** Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. *(HS-ETS1-1), (HS-ETS1-3)*							
144	CCSS ELA/ Literacy	**WHST.9-12.1** Write arguments focused on discipline-specific content. *(HS-ESS1-6), (HS-ESS2-7)*							
145	CCSS ELA/ Literacy	**WHST.9-12.2** Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. *(HS-ESS1-2), (HS-ESS1-3), (HS-ESS1-5), (HS-ESS3-1)*							
146	CCSS ELA/ Literacy	**WHST.9-12.7** Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. *(HS-ESS2-5)*							
147	CCSS ELA/ Literacy	**SL.11-12.4** Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation. *(HS-ESS1-3)*							
148	CCSS ELA/ Literacy	**SL.11-12.5** Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. *(HS-ESS2-1), (HS-ESS2-3), (HS-ESS2-4)*							
Grades 9-12 CCSS Math									
149	CCSS Math	**MP.2** Reason abstractly and quantitatively. *(HS-ESS1-1), (HS-ESS1-2), (HS-ESS1-3), (HS-ESS1-4), (HS-ESS1-5), (HS-ESS1-6), (HS-ESS2-1), (HS-ESS2-2), (HS-ESS2-3), (HS-ESS2-4), (HS-ESS2-6), (HS-ETS1-3), (HS-ETS1-4), (HS-ESS3-1), (HS-ESS3-2), (HS-ESS3-3), (HS-ESS3-4), (HS-ESS3-5), (HS-ESS3-6)*							
150	CCSS Math	**MP.4** Model with mathematics. *(HS-ESS1-1), (HS-ESS1-4), (HS-ESS2-1), (HS-ESS2-3), (HS-ESS2-4), (HS-ESS2-6), (HS-ESS3-3), (HS-ESS3-6), (HS-ETS1-2), (HS-ETS1-3), (HS-ETS1-4)*							
151	CCSS Math	**HSN-Q.A.1** Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. *(HS-ESS1-1), (HS-ESS1-2), (HS-ESS1-4), (HS-ESS1-5), (HS-ESS1-6), (HS-ESS2-1), (HS-ESS2-2), (HS-ESS2-3), (HS-ESS2-4), (HS-ESS2-6), (HS-ESS3-1), (HS-ESS3-4), (HS-ESS3-5), (HS-ESS3-6)*							
152	CCSS Math	**HSN-Q.A.2** Define appropriate quantities for the purpose of descriptive modeling. *(HS-ESS1-1), (HS-ESS1-2), (HS-ESS1-4), (HS-ESS1-5), (HS-ESS1-6), (HS-ESS2-1), (HS-ESS2-3), (HS-ESS2-4), (HS-ESS2-6), (HS-ESS3-1), (HS-ESS3-4), (HS-ESS3-5), (HS-ESS3-6)*							
153	CCSS Math	**HSN-Q.A.3** Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. *(HS-ESS1-1), (HS-ESS1-2), (HS-ESS1-4), (HS-ESS2-1), (HS-ESS2-2), (HS-ESS2-3), (HS-ESS2-4), (HS-ESS2-5), (HS-ESS2-6), (HS-ESS3-1), (HS-ESS3-4), (HS-ESS3-5), (HS-ESS3-6)*							
154	CCSS Math	**HSA-SSE.A.1** Interpret expressions that represent a quantity in terms of its context. *(HS-ESS1-1), (HS-ESS1-2), (HS-ESS1-4)*							
155	CCSS Math	**HSA-CED.A.2** Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. *(HS-ESS1-1), (HS-ESS1-2), (HS-ESS1-4)*							
156	CCSS Math	**HSA-CED.A.4** Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *(HS-ESS1-1), (HS-ESS1-2), (HS-ESS1-4)*							

157	CCSS Math	**HSF-IF.B.5** Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *(HS-ESS1-6)*							
158	CCSS Math	**HSF-IF.C.7** Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. *(HS-PS2-1)*							
159	CCSS Math	**HSS-ID.B.6** Represent data on two quantitative variables on a scatter plot, and describe how those variables are related. *(HS-ESS1-6)*							

Section 2: Science Content Review								
PUBLISHER/PROVIDER INSTRUCTIONS: • Publisher/provider citations for this section will refer to the **Teacher Edition (teacher-facing core material)** and/or **Student Edition/Student Workbook (student-facing core material)**. The cited Teacher Edition, Student Edition, and/or Student Workbook should correspond with titles and ISBNs entered on the Form F cover page, whether in print, online, or both. The review set submitted to the summer review institute should also correspond with what is cited on the Form F. If the review set is an online platform only, then that is what should be cited on the Form F and submitted for review by the review teams. If the review set is in print only, then that is what should be cited on the Form F and submitted for review by the review teams. • For this section, the publisher/provider will enter one citation per criterion (Column C). Each citation should direct the reviewer to a specific location in the materials that best meets the criterion. The citations should be concise and should allow the reviewer to easily determine that all components of the criterion have been met. Each citation should cover no more than 3 pages within the materials. o **Column C:** Enter one citation in Column C from either the **Teacher Edition (teacher-facing core material)** OR **Student Edition/Student Workbook (student-facing core material)**. Each citation should direct the reviewer to a specific location in the materials that best meets the criterion. • The material will be scored for alignment with each criterion as "Meets expectations", "Partially meets expectations", or "Does not meet expectations" based on the citations provided. **o NOTE: You may not use a citation more than once across ALL sections of the rubric.**								
	Reviewer directions for Science Content Review:	Columns C-F: The publisher/provider will provide a citation from the **Teacher Edition (teacher-facing core material) OR Student Edition/Student Workbook (student-facing core material) (print and/or digital)** for each criterion. Review the cited material and score the material by determining the degree to which it meets the criterion: o M = Meets the criterion o P = Partially meets the criterion o D = Does not meet the criterion Evidence for the publisher citations is required *only* if you score the materials with a D. For your evidence for each criterion that scores a D, choose one of the options from the dropdown menu in Column F. If the reason for scoring the materials with a D is not one of the dropdown options, enter your own evidence statement in the cell in Column F. ***o Each cell in the Score column (column D) will turn purple as you score the materials.***			Columns G-J: Using either the **Teacher Edition (teacher-facing core material) OR Student Edition/Student Workbook (student-facing core material)** (print and/or digital), provide a citation for each criterion that best meets the criterion and addresses all components of the criterion. Review the cited material, score the material by determining the degree to which it meets the criterion, and **provide evidence from the material to support your determination:** o M = Meets the criterion o P = Partially meets the criterion o D = Does not meet the criterion ***o Each cell in the Reviewer Citation column, Score column, and Reviewer Evidence column (columns G, H, and J) will turn purple as you score the materials.***			
Criteria #	**Grade K-12 Science Content Criteria**	Publisher/Provider Citation	Score	If Scored D: Reviewer's Evidence for Publisher Citation	Reviewer Citation	Score	Required: Reviewer's Evidence	Comments, other citations, notes
FOCUS AREA 1: PHENOMENA-/PROBLEM-BASED AND THREE-DIMENSIONAL APPROACH **Instructional materials are centered around high quality phenomena and/or problems and require a three dimensional approach to make sense of the phenomena or to solve the problems.**								
1	Materials clearly integrate and describe the three-dimensional NM STEM Ready! Standards via appropriate grade-band, interdisciplinary progressions that center around the phenomena, utilizing aligned SEPs, CCCs, DCIs and the common core math and ELA standards' connections.							
2	Materials consistently support meaningful student sensemaking with the three dimensions, including discourse, that is appropriate to grade band progressions, instruction and assessment.							
3	Natural and designed phenomena and/or problems that are meaningful and apparent to students drive coherent lessons and activities in all three dimensions.							
FOCUS AREA 2: THREE-DIMENSIONAL ASSESSMENT **Assessments provide tools, guidance and support for teachers to collect, interpret and act on data about student progress toward the learning goals of the 3 dimensional standards.**								
4	Materials engage students in meaningful tasks as well as multiple assessment types and opportunities, across all dimensions, in order to make sense of phenomena and/or design solutions to problems.							
5	Materials include opportunities for students to obtain feedback from teachers and peers as well as opportunities for student self-reflection.							
FOCUS AREA 3: TEACHER SUPPORTS **Materials include opportunities for teachers to effectively plan and utilize materials.**								
6	Materials provide a comprehensive list of supplies and teacher guidance needed to support instructional activities in a safe manner.							
7	Materials provide teacher guidance for the use of embedded and meaningful technology to support and enhance student learning, when applicable.							
8	Materials and assessments include teacher guidance for students at, approaching, or exceeding grade level expectations.							
9	Materials provide teacher guidance for interpreting student evidence of learning, monitoring student progress and providing feedback to guide student learning and to modify instruction.							
FOCUS AREA 4: STUDENT CENTERED INSTRUCTION **Materials are designed for each student's regular and active participation in science content.**								
10	Materials provide opportunities to engage students' curiosity and participation in a way that pulls from their prior knowledge and connects their learning to relevant phenomena and problems.							
11	The flow of lessons from one unit to the next is coherent, meaningful, direct, and apparent to students.							
FOCUS AREA 5: EQUITY **Materials are designed for all learners.**								
12	Materials provide extensions and/or opportunities for all students to engage in learning grade-level/band science and engineering in greater depth.							
13	Materials and assessments are designed in an accessible manner and include multiple ways for all students to build and reflect on science knowledge; multiple ways for all students to access content (Universal Design for Learning); and multiple opportunities for student self-reflection.							

Section 2: All Content Review				
PUBLISHER/PROVIDER INSTRUCTIONS: • The All Content tab will be completed solely by the reviewers. They will score each criterion and provide evidence for their score from the material based on their overall review of the material. You will not provide any citations for this tab. • The material will be scored for alignment with each criterion as “Meets expectations", “Partially meets expectations", or “Does not meet expectations”.				
	Reviewer directions for All Content Review:	**Columns C-F: The criteria presented on this tab will be scored and evidence provided based on your overall review of the materials.** Review the material, score the material by determining the degree to which it meets each criterion, and **provide evidence from the material to support your determination:** o M = Meets the criterion o P = Partially meets the criterion o D = Does not meet the criterion Your evidence should speak to where in the materials you have found the evidence as well as what is in the materials that supports the score given. ***o Each cell in the Score column and the Reviewer's Evidence column (columns C and E) will turn purple as you score the materials.***		
Criteria #	**All Content Criteria Review**	Score	Required: Reviewer's Evidence from Material	Comments, citations, notes
FOCUS AREA 1: COHERENCE **Instructional materials are coherent and consistent with the New Mexico Content Standards that all students should study in order to be college- and career-ready.**				
1	Instructional materials address the full content contained in the standards for all students by grade level.			
2	Instructional materials support students to show mastery of each standard.			
3	Instructional materials require students to engage at a level of maturity appropriate to the grade level under review.			
4	Instructional materials are coherent, making meaningful connections for students by linking the standards within a lesson and unit.			
FOCUS AREA 2: WELL-DESIGNED LESSONS **Instructional materials take into account effective lesson structure and pacing.**				
5	The Teacher Edition presents learning progressions to provide an overview of the scope and sequence of skills and concepts. The design of the assignments shows a purposeful sequencing of teaching and learning expectations.			
6	Within each lesson of the instructional materials, there are clear, measurable, standards-aligned content objectives.			
7	Within each lesson of the instructional materials, there are clear, measurable language objectives tied directly to the content objectives.			
8	Instructional materials provide focused resources to support students’ acquisition of both general academic vocabulary and content-specific vocabulary.			
9	The visual design of the instructional materials (whether in print or digital) maintains a consistent layout that supports student engagement with the subject.			
10	Instructional materials incorporate features that aid students and teachers in making meaning of the text.			
11	Instructional materials provide students with ongoing review and practice for the purpose of retaining previously acquired knowledge.			
FOCUS AREA 3: RESOURCES FOR PLANNING **Instructional materials provide teacher resources to support planning, learning, and understanding of the New Mexico Content Standards.**				
12	Instructional materials provide a list of lessons in the Teacher Edition (in print or clearly distinguished/ accessible as a teacher's edition in digital materials), cross-referencing the standards addressed and providing an estimated instructional time for each lesson, chapter, and unit.			
13	Instructional materials support teachers with instructional strategies to help guide students’ academic development.			
14	Instructional materials include a teacher edition/ teacher-facing material with useful annotations and suggestions on how to present the content in the student edition/student-facing material and in the supporting material.			

15	Instructional materials integrate opportunities for digital learning, including interactive digital components.			
FOCUS AREA 4: ASSESSMENT **Instructional materials offer teachers a variety of assessment resources and tools to collect ongoing data about student progress related to the standards.**				
16	Instructional materials provide a variety of assessments that measure student progress in all strands of the standards for the content under review. *(Adopted New Mexico Content Standards for 2024: NM STEM Ready Science Standards)*			
17	Instructional materials provide multiple formative and summative assessments, clearly defining which standards are being assessed through content and language objectives.			
18	Instructional materials provide scoring guides for assessments that are aligned with the standards they address, and that offer teachers guidance in interpreting student performance and suggestions for further instruction, differentiation, remediation and/or acceleration.			
19	Instructional materials provide appropriate assessment alternatives for English Learners, Culturally and Linguistically Diverse students, advanced students, and special needs students.			
20	Instructional materials include opportunities to assess student understanding and knowledge of the standards using technology.			
FOCUS AREA 5: EXTENSIVE SUPPORT **Instructional materials give all students extensive opportunities and support to explore key concepts.**				
21	Instructional materials can be customized or adapted to meet the needs of different student populations.			
22	Instructional materials provide differentiated strategies and/or activities to meet the needs of students working below proficiency and those of advanced learners.			
23	Instructional materials provide appropriate linguistic support for English Learners and Culturally and Linguistically Diverse students, and accommodations and modifications for other special populations that will support their regular and active participation in learning content.			
24	Instructional materials provide strategies and resources for teachers to inform and engage parents, family members, and caregivers of all learners about the program and provide suggestions for how they can help support student progress and achievement.			
25	Instructional materials include opportunities for all students that encourage and support critical and creative thinking, inquiry, and complex problem-solving skills.			
FOCUS AREA 6: CULTURAL AND LINGUISTIC PERSPECTIVES **Instructional materials represent a variety of cultural and linguistic perspectives.**				
26	Instructional materials inform culturally and linguistically responsive pedagogy by affirming students' backgrounds in the materials themselves and in the student discussions.			
27	Instructional materials provide a collection of images, stories, and information, representing a broad range of demographic groups, and do not make generalizations or reinforce stereotypes.			
28	Instructional materials provide context, illustrations, and activities for students to make interdisciplinary connections and/or connections to real-life experiences and diverse cultural and linguistic backgrounds.			
FOCUS AREA 7: INCLUSION OF CULTURALLY AND LINGUISTICALLY RESPONSIVE LENS **Instructional materials highlight diversity in culture and language through multiple perspectives.**				
29	Instructional materials include tools and resources to relate the content area appropriately to diversity in culture and language.			
30	Instructional materials include tools and resources that demonstrate multiple perspectives in a specific concept.			

31	Instructional materials engage students in critical reflection about their own lives and societies, including cultures past and present in New Mexico.			
32	Instructional materials address multiple ethnic descriptions, interpretations, or perspectives of events and experiences.			