NEW MEXICO Public Education Department	F.10 Integrated Science II - Grades 6-8		
PROVIDER/PUBLISHER / MATERIAL INFORMATION (TO BE COMPLETED BY PROVIDER/PUBLISHER)			
Provider/Publisher / 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 CITATION VIDEO: Must be viewed before starting the review of this set of materials.			
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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
- 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.**

Criteria #	Standard Identifier	F.10 Integrated Science II Grades 6-8 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
Chemical Reactions									
1	PE	**MS-PS1-1. Students who demonstrate understanding can: Develop models to describe the atomic composition of simple molecules and extended structures.**							
2	DCI	**PS1.A: Structure and Properties of Matter** • Substances are made from different types of atoms, which combine with one another in various ways. Atoms form molecules that range in size from two to thousands of atoms.							
3	DCI	**PS1.A: Structure and Properties of Matter** • Solids may be formed from molecules, or they may be extended structures with repeating subunits (e.g., crystals).							
4	SEP	**Developing and Using Models** *Modeling in 6–8 builds on K–5 and progresses to developing, using and revising models to describe, test, and predict more abstract phenomena and design systems.* • Develop a model to predict and/or describe phenomena.							
5	CCC	**Scale, Proportion, and Quantity** • Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small.							
6	PE	**MS-PS1-2. Students who demonstrate understanding can: Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.**							
7	DCI	**PS1.A: Structure and Properties of Matter** • Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it.							
8	DCI	**PS1.B: Chemical Reactions** • Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.							
9	SEP	**Analyzing and Interpreting Data** *Analyzing data in 6–8 builds on K–5 and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.* • Analyze and interpret data to determine similarities and differences in findings.							

10	**CONN**	**Scientific Knowledge is Based on Empirical Evidence** • Science knowledge is based upon logical and conceptual connections between evidence and explanations.							
11	**CCC**	**Patterns** • Macroscopic patterns are related to the nature of microscopic and atomic-level structure.							
12	**PE**	**MS-PS1-3. Students who demonstrate understanding can: Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.**							
13	**DCI**	**PS1.A: Structure and Properties of Matter** • Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it.							
14	**DCI**	**PS1.B: Chemical Reactions** • Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.							
15	**SEP**	**Obtaining, Evaluating, and Communicating Information** *Obtaining, evaluating, and communicating information in 6–8 builds on K–5 and progresses to evaluating the merit and validity of ideas and methods.* • Gather, read, and synthesize information from multiple appropriate sources and assess the credibility, accuracy, and possible bias of each publication and methods used, and describe how they are supported or now supported by evidence.							
16	**CCC**	**Structure and Function** • Structures can be designed to serve particular functions by taking into account properties of different materials, and how materials can be shaped and used.							
17	**CONN**	**Interdependence of Science, Engineering, and Technology** • Engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems.							
18	**CONN**	**Influence of Science, Engineering and Technology on Society and the Natural World** • The uses of technologies and any limitation on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time.							
19	**PE**	**MS-PS1-5. Students who demonstrate understanding can: Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.**							
20	**DCI**	**PS1.B: Chemical Reactions** • Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants.							
21	**DCI**	**PS1.B: Chemical Reactions** • The total number of each type of atom is conserved, and thus the mass does not change.							
22	**SEP**	**Developing and Using Models** *Modeling in 6–8 builds on K–5 and progresses to developing, using and revising models to describe, test, and predict more abstract phenomena and design systems.* • Develop a model to describe unobservable mechanisms.							

23	CONN	**Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena** • Laws are regularities or mathematical descriptions of natural phenomena.							
24	CCC	**Energy and Matter** • Matter is conserved because atoms are conserved in physical and chemical processes.							
25	PE	**MS-PS1-6. Students who demonstrate understanding can: Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.**							
26	DCI	**PS1.B: Chemical Reactions** • Some chemical reactions release energy, others store energy.							
27	DCI	**ETS1.B: Developing Possible Solutions** • A solution needs to be tested, and then modified on the basis of the test results, in order to improve it.							
28	DCI	**ETS1.C: Optimizing the Design Solution** • Although one design may not perform the best across all tests, identifying the characteristics of the design that performed the best in each test can provide useful information for the redesign process - that is, some of the characteristics may be incorporated into the new design.							
29	DCI	**ETS1.C: Optimizing the Design Solution** • The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution.							
30	SEP	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific knowledge, principles, and theories.* • Undertake a design project, engaging in the design cycle, to construct and/or implement a solution that meets specific design criteria and constraints.							
31	CCC	**Energy and Matter** • The transfer of energy can be tracked as energy flows through a designed or natural system.							
Metabolic Reactions in Organisms									
32	PE	**MS-LS1-5. Students who demonstrate understanding can: Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.**							
33	DCI	**LS1.B: Growth and Development of Organisms** • Genetic factors as well as local conditions affect the growth of the adult plant.							
34	SEP	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific knowledge, principles, and theories.* • Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) 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.							
35	CCC	**Cause and Effect** • Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.							

36	PE	**MS-LS1-7. Students who demonstrate understanding can: Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.**							
37	DCI	**LS1.C: Organization for Matter and Energy Flow in Organisms** • Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, to support growth, or to release energy.							
38	DCI	**PS3.D: Energy in Chemical Processes and Everyday Life** • Cellular respiration in plants and animals involve chemical reactions with oxygen that release stored energy. In these processes, complex molecules containing carbon react with oxygen to produce carbon dioxide and other materials.							
39	SEP	**Developing and Using Models** *Modeling in 6–8 builds on K–5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.* • Develop a model to describe unobservable mechanisms.							
40	CCC	**Energy and Matter** • Matter is conserved because atoms are conserved in physical and chemical processes.							
Ecosystem Interactions and Competition									
41	PE	**MS-LS2-1. Students who demonstrate understanding can: Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.**							
42	DCI	**LS2.A: Interdependent Relationships in Ecosystems** • Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with nonliving factors.							
43	DCI	**LS2.A: Interdependent Relationships in Ecosystems** • In any ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction.							
44	DCI	**LS2.A: Interdependent Relationships in Ecosystems** • Growth of organisms and population increases are limited by access to resources.							
45	SEP	**Analyzing and Interpreting Data** *Analyzing data in 6–8 builds on K–5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.* • Analyze and interpret data to provide evidence for phenomena.							
46	CCC	**Cause and Effect** • Cause and effect relationships may be used to predict phenomena in natural or designed systems.							
47	PE	**MS-LS2-2. Students who demonstrate understanding can: Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.**							
48	DCI	**LS2.A: Interdependent Relationships in Ecosystems** • Similarly, predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. Mutually beneficial interactions, in contrast, may become so interdependent that each organism requires the other for survival. Although the species involved in these competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environments, both living and nonliving, are shared.							

49	SEP	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.* • Construct an explanation that includes qualitative or quantitative relationships between variables that predict phenomena.							
50	CCC	**Patterns** • Patterns can be used to identify cause and effect relationships.							
51	PE	**MS-LS2-4. Students who demonstrate understanding can: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.**							
52	DCI	**LS2.C: Ecosystem Dynamics, Functioning, and Resilience** • Ecosystems are dynamic in nature; their characteristics can vary over time. Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations.							
53	SEP	**Engaging in Argument from Evidence** *Engaging in argument from evidence in 6–8 builds on K–5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world(s).* • Construct an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem.							
54	CONN	**Scientific Knowledge is Based on Empirical Evidence** • Science disciplines share common rules of obtaining and evaluating empirical evidence.							
55	CCC	**Stability and Change** • Small changes in one part of a system might cause large changes in another part.							
56	PE	**MS-LS2-5. Students who demonstrate understanding can: Evaluate competing design solutions for maintaining biodiversity and ecosystem services.**							
57	DCI	**LS2.C: Ecosystem Dynamics, Functioning, and Resilience** • Biodiversity describes the variety of species found in Earth's terrestrial and oceanic ecosystems. The completeness or integrity of an ecosystem's biodiversity is often used as a measure of its health.							
58	DCI	**LS4.D: Biodiversity and Humans** • Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling.							
59	DCI	**ETS1.B: Developing Possible Solutions** • There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem.							
60	SEP	**Engaging in Argument from Evidence** *Engaging in argument from evidence in 6–8 builds on K–5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world(s).* • Evaluate competing design solutions based on jointly developed and agreed-upon design criteria.							
61	CCC	**Stability and Change** • Small changes in one part of a system might cause large changes in another part.							

62	CONN	**Influence of Science, Engineering, and Technology on Society and the Natural World** • The use of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time.								
63	CONN	**Science Addresses Questions About the Natural and Material World** • Scientific knowledge can describe the consequences of actions but does not necessarily prescribe the decisions that society takes.								
Ecosystems: Matter and Energy										
64	PE	**MS-LS1-6. Students who demonstrate understanding can: Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.**								
65	DCI	**LS1.C: Organization for Matter and Energy Flow in Organisms** • Plants, algae (including phytoplankton), and many microorganisms use the energy from light to make sugars (food) from carbon dioxide from the atmosphere and water through the process of photosynthesis, which also releases oxygen. These sugars can be used immediately or stored for growth or later use.								
66	DCI	**PS3.D: Energy in Chemical Processes and Everyday Life** • The chemical reaction by which plants produce complex food molecules (sugars) requires an energy input (i.e., from sunlight) to occur. In this reaction, carbon dioxide and water combine to form carbon-based organic molecules and release oxygen.								
67	SEP	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific knowledge, principles, and theories.* • Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) 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.								
68	CONN	**Scientific Knowledge is Based on Empirical Evidence** • Science knowledge is based upon logical connections between evidence and explanations.								
69	CCC	**Energy and Matter** • Within a natural system, the transfer of energy drives the motion and/or cycling of matter.								
70	PE	**MS-LS2-3. Students who demonstrate understanding can: Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.**								
71	DCI	**LS2.B: Cycle of Matter and Energy Transfer in Ecosystems** • Food webs are models that demonstrate how matter and energy is transferred between producers, consumers, and decomposers as the three groups interact within an ecosystem. Transfers of matter into and out of the physical environment occur at every level. Decomposers recycle nutrients from dead plant or animal matter back to the soil in terrestrial environments or to the water in aquatic environments. The atoms that make up the organisms in an ecosystem are cycled repeatedly between the living and nonliving parts of the ecosystem.								

72	**SEP**	**Developing and Using Models** *Modeling in 6–8 builds on K–5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.* • Develop a model to describe phenomena.							
73	**CCC**	**Energy and Matter** • The transfer of energy can be tracked as energy flows through a natural system.							
74	**CONN**	**Scientific Knowledge Assumes an Order and Consistency in Natural Systems** • Science assumes that objects and events in natural systems occur in consistent patterns that are understandable through measurement and observation.							
Earth Resources and Climate Change									
75	**PE**	**MS-ESS3-1. Students who demonstrate understanding can: Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.**							
76	**DCI**	**ESS3.A: Natural Resources** • Humans depend on Earth's land, ocean, atmosphere, and biosphere for many different resources. Minerals, fresh water, and biosphere resources are limited, and many are not renewable or replaceable over human lifetimes. These resources are distributed unevenly around the planet as a result of past geologic processes.							
77	**SEP**	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.* • Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) 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.							
78	**CCC**	**Cause and Effect** • Cause and effect relationships may be used to predict phenomena in natural or designed systems.							
79	**CONN**	**Influence of Science, Engineering, and Technology on Society and the Natural World** • All human activity draws on natural resources and has both short and long-term consequences, positive as well as negative, for the health of people and the natural environment.							
80	**PE**	**MS-ESS3-3. Students who demonstrate understanding can: Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.**							
81	**DCI**	**ESS3.C: Human Impacts on Earth Systems** • Human activities have significantly altered the biosphere, sometimes damaging or destroying natural habitats and causing the extinction of other species. But changes to Earth's environments can have different impacts (negative and positive) for different living things.							
82	**DCI**	**ESS3.C: Human Impacts on Earth Systems** • Typically as human populations and per-capita consumption of natural resources increase, so do the negative impacts on Earth unless the activities and technologies involved are engineered otherwise.							

83	SEP	**Constructing Explanations and Designing Solutions** *Constructing explanations and designing solutions in 6–8 builds on K–5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.* • Apply scientific principles to design an object, tool, process or system.							
84	CCC	**Cause and Effect** • Relationships can be classified as causal or correlational, and correlation does not necessarily imply causation.							
85	CONN	**Influence of Science, Engineering, and Technology on Society and the Natural World** • The uses of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time.							
86	NM	**MS-ESS3-3 NM:** • Describe the advantages and disadvantages associated with technologies related to local industries and energy production.							
87	PE	**MS-ESS3-4. Students who demonstrate understanding can: Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.**							
88	DCI	**ESS3.C: Human Impacts on Earth Systems** • Typically as human populations and per-capita consumption of natural resources increase, so do the negative impacts on Earth unless the activities and technologies involved are engineered otherwise.							
89	SEP	**Engaging in Argument from Evidence** *Engaging in argument from evidence in 6–8 builds on K–5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world(s).* • Construct an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem.							
90	CCC	**Cause and Effect** • Cause and effect relationships may be used to predict phenomena in natural or designed systems.							
91	CONN	**Influence of Science, Engineering, and Technology on Society and the Natural World** • All human activity draws on natural resources and has both short and long-term consequences, positive as well as negative, for the health of people and the natural environment.							
92	CONN	**Science Addresses Questions About the Natural and Material World** • Scientific knowledge can describe the consequences of actions but does not necessarily prescribe the decisions that society takes.							
93	PE	**MS-ESS3-5. Students who demonstrate understanding can: Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.**							

94	DCI	**ESS3.D: Global Climate Change** • Human activities, such as the release of greenhouse gases from burning fossil fuels, are major factors in the current rise in Earth's mean surface temperature (global warming). Reducing the level of climate change and reducing human vulnerability to whatever climate changes do occur depend on the understanding of climate science, engineering capabilities, and other kinds of knowledge, such as understanding of human behavior and on applying that knowledge wisely in decisions and activities.							
95	SEP	**Asking Questions and Defining Problems** *Asking questions and defining problems in grades 6–8 builds on grades K–5 experiences and progresses to specifying relationships between variables, and clarifying arguments and models.* • Ask questions to identify and clarify evidence of an argument.							
96	CCC	**Stability and Change** • Stability might be disturbed either by sudden events or gradual changes that accumulate over time.							
Engineering Design:									
97	PE	**MS-ETS1-1. Students who demonstrate understanding can: Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.**							
98	DCI	**ETS1.A: Defining and Delimiting Engineering Problems** ▪ The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that are likely to limit possible solutions. (MS-ETS1-1)							
99	SEP	**Asking Questions and Defining Problems** *Asking questions and defining problems in grades 6–8 builds on grades K–5 experiences and progresses to specifying relationships between variables, and clarifying arguments and models.* ▪ Define a design problem that can be solved through the development of an object, tool, process or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions. (MS-ETS1-1)							
100	CCC	**Influence of Science, Engineering, and Technology on Society and the Natural World** ▪ All human activity draws on natural resources and has both short and long-term consequences, positive as well as negative, for the health of people and the natural environment. (MS- ETS1-1)							
101	CCC	**Influence of Science, Engineering, and Technology on Society and the Natural World** ▪ The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. (MS-ETS1-1)							
102	PE	**MS-ETS1-2. Students who demonstrate understanding can: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.**							
103	DCI	**ETS1.B: Developing Possible Solutions** ▪ There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. (MS-ETS1-2)							

104	SEP	**Engaging in Argument from Evidence** *Engaging in argument from evidence in 6–8 builds on K–5 experiences and progresses to constructing a convincing argument that supports or refutes claims for either explanations or solutions about the natural and designed world.* ▪ Evaluate competing design solutions based on jointly developed and agreed-upon design criteria. (MS-ETS1-2)							
105	PE	**MS-ETS1-3. Students who demonstrate understanding can: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solutions to better meet the criteria for success.**							
106	DCI	**ETS1.B: Developing Possible Solutions** ▪ There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. (MS-ETS1-3)							
107	DCI	**ETS1.B: Developing Possible Solutions** ▪ Sometimes parts of different solutions can be combined to create a solution that is better than any of its predecessors. (MS-ETS1-3)							
108	DCI	**ETS1.C: Optimizing the Design Solution** ▪ Although one design may not perform the best across all tests, identifying the characteristics of the design that performed the best in each test can provide useful information for the redesign process—that is, some of those characteristics may be incorporated into the new design. (MS-ETS1-3)							
109	SEP	**Analyzing and Interpreting Data** *Analyzing data in 6–8 builds on K–5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.* ▪ Analyze and interpret data to determine similarities and differences in findings. (MS-ETS1-3)							
110	PE	**MS-ETS1-4. Students who demonstrate understanding can: Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.**							
111	DCI	**ETS1.B: Developing Possible Solutions** ▪ A solution needs to be tested, and then modified on the basis of the test results, in order to improve it. (MS-ETS1-4)							
112	DCI	**ETS1.B: Developing Possible Solutions** ▪ Models of all kinds are important for testing solutions. (MS-ETS1-4)							
113	DCI	**ETS1.C: Optimizing the Design Solution** ▪ The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution. (MS-ETS1-4)							
114	SEP	**Developing and Using Models** *Modeling in 6–8 builds on K–5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.* ▪ Develop a model to generate data to test ideas about designed systems, including those representing inputs and outputs. (MS-ETS1-4)							

CCSS for ELA/Literacy and Math in Grades 6-8 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 6-8 CCSS ELA/Literacy

115	**CCSS ELA/ Literacy**	**RST.6-8.1** Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. *(MS-PS1-2), (MS-PS1-3), (MS-LS1-5), (MS-LS2-1), (MS-LS2-2), (MS-LS2-4), (MS-LS1-6), (MS-ESS3-1), (MS-ESS3-4), (MS-ESS3-5), (MS-ETS1-2), (MS-ETS1-3)*							
116	**CCSS ELA/ Literacy**	**RST.6-8.2** Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. *(MS-LS1-5), (MS-LS1-6)*							
117	**CCSS ELA/ Literacy**	**RST.6-8.3** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. *(MS-PS1-6)*							
118	**CCSS ELA/ Literacy**	**RST.6-8.7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table). *(MS-PS1-1), (MS-PS1-2), (MS-PS1-5), (MS-PS1-6), (MS-LS2-1), (MS-ETS1-3)*							
119	**CCSS ELA/ Literacy**	**RST.6-8.8** Distinguish among facts, reasoned judgment based on research findings, and speculation in a text. *(MS-LS2-5)*							
120	**CCSS ELA/ Literacy**	**RST.6-8.9** Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. *(MS-LS1-5), (MS-ETS1-2), (MS-ETS1-3)*							
121	**CCSS ELA/ Literacy**	**RI.8.8** Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims. *(MS-LS2-4), (MS-LS2-5)*							
122	**CCSS ELA/ Literacy**	**WHST.6-8.1** Write arguments focused on discipline content. *(MS-ESS3-4)*							
123	**CCSS ELA/ Literacy**	**WHST.6-8.2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. *(MS-LS1-6), (MS-ESS3-1)*							
124	**CCSS ELA/ Literacy**	**WHST.6-8.7** Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related,focused questions that allow for multiple avenues of exploration. *(MS-ESS3-3)*							
125	**CCSS ELA/ Literacy**	**WHST.6-8.8** Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. *(MS-PS1-3), (MS-ESS3-3 NM), (MS-ETS1-1)*							
126	**CCSS ELA/ Literacy**	**WHST.6-8.9** Draw evidence from informational texts to support analysis, reflection, and research. *(MS-LS2-2), (MS-LS2-4), (MS-LS1-6), (MS-ESS3-1), (MS-ESS3-3 NM), (MS-ESS3-4), (MS-ETS1-2)*							
127	**CCSS ELA/ Literacy**	**SL.8.1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. *(MS-LS2-2)*							

128	**CCSS ELA/ Literacy**	**SL.8.4** 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. *(MS-LS2-2)*							
129	**CCSS ELA/ Literacy**	**SL.8.5** Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest. *(MS-LS1-7), (MS-LS2-3), (MS-ETS1-4)*							
Grades 6-8 CCSS Math									
130	**CCSS Math**	**MP.2** Reason abstractly and quantitatively. *(MS-PS1-1), (MS-PS1-2), (MS-PS1-5), (MS-ESS3-5), (MS-ETS1-1), (MS-ETS1-2), (MS-ETS1-3), (MS-ETS1-4)*							
131	**CCSS Math**	**MP.4** Model with mathematics. *(MS-PS1-1), (MS-PS1-5), (MS-LS2-5)*							
132	**CCSS Math**	**6.RP.A.1** Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *(MS-ESS3-3), (MS-ESS3-4)*							
133	**CCSS Math**	**6.RP.A.3** Use ratio and rate reasoning to solve real-world and mathematical problems. *(MS-PS1-1), (MS-PS1-2), (MS-PS1-5), (MS-LS2-5)*							
134	**CCSS Math**	**7.RP.A.2** Recognize and represent proportional relationships between quantities. *(MS-ESS3-3), (MS-ESS3-4)*							
135	**CCSS Math**	**6.EE.B.6** Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. *(MS-ESS3-1), (MS-ESS3-3), (MS-ESS3-4), (MS-ESS3-5)*							
136	**CCSS Math**	**6.EE.C.9** Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *(MS-LS1-6), (MS-LS2-3)*							
137	**CCSS Math**	**7.EE.B.3** Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *(MS-ETS1-1),(MS-ETS1-2),(MS-ETS1-3)*							
138	**CCSS Math**	**7.EE.B.4** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. *(MS-ESS3-1), (MS-ESS3-3), (MS-ESS3-4), (MS-ESS3-5)*							
139	**CCSS Math**	**8.EE.A.3** Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *(MS-PS1-1)*							
140	**CCSS Math**	**6.SP.A.2** Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape. *(MS-LS1-5)*							
141	**CCSS Math**	**6.SP.B.4** Display numerical data in plots on a number line, including dot plots, histograms, and box plots. *(MS-PS1-2), (MS-LS1-5)*							

142	**CCSS Math**	**6.SP.B.5** Summarize numerical data sets in relation to their context. *(MS-PS3-4), (MS-PS1-2), (MS-LS2-2)*							
143	**CCSS Math**	**7.SP.7** Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. *(MS-ETS1-4)*							

Section 2: Science Content Review

PROVIDER/PUBLISHER 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.**

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				
PROVIDERS/PUBLISHERS: • 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”.				
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 and effective 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.			