Lab-Aids Correlations for

WYOMING 2016 SCIENCE STANDARDS

MIDDLE SCHOOL LEVEL – GRADES 6-8

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This document is intended to show how the SEPUP 3rd edition materials align with the *Wyoming State Science Standards* and Common Core documents.

ABOUT OUR PROGRAMS
Lab-Aids has based its home offices and operations in Ronkonkoma, NY, since 1963. We publish over 200 kits and core curriculum programs to support science teaching and learning, grades 6-12. All core curricula support an inquiry-driven pedagogy, with support for literacy skill development and with assessment programs that clearly show what students know and are able to do as a result of program use. All programs have extensive support for technology and feature comprehensive teacher support. For more information please visit www.lab-aids.com and navigate to the program of interest.

SEPUP
Materials from the Science Education for Public Understanding Program (SEPUP) are developed at the Lawrence Hall of Science, at the University of California, Berkeley, and distributed nationally by LAB-AIDS, Inc. Since 1987, development of SEPUP materials has been supported by grants from the National Science Foundation and other public and private sources. SEPUP programs include student books, equipment kits, teacher materials, and online digital content, and are available as full year courses, or separately, as units, each taking 3-8 weeks to complete, as listed below.

Middle Level, Grades 6-8

Earth Science	**Life Science**	**Physical Science**
Earth's Resources	Biomedical Engineering	Chemistry of Materials
Geological Processes	Body Systems	Chemical Reactions
Land, Water, and Human Interactions	Ecology	Energy
Solar System and Beyond	From Cells to Organisms	Force and Motion
Weather and Climate	Evolution	Fields and Interactions
	Reproduction	Waves

ABOUT THE WYOMING 6-8 SCIENCE STANDARDS

The Wyoming Science Content and Performance Standards (WyCPS) were last reviewed and approved in 2008 in accordance with Wyoming state statute W.S. 21-2-304(c), prior to the work done in 2015-16. The 2016 Wyoming Content and Performance Standards were developed collaboratively through the contributions of Science Standard Review Committee (SSRC) members from across the state. The committee's work was informed and guided by initial public input through community forums, as well as input solicited from specific stakeholder groups.

INTRODUCTION TO STANDARDS

Content standards define what students are expected to know and be able to do by the time they graduate. They do not dictate what methodology or instructional materials should be used, nor how the material is delivered. Benchmarks (also called performance expectations in this document) specify what students are expected to know and be able to do at the end of each of the benchmark grade levels. These benchmarks specify the skills and content students must master along the way in order to demonstrate proficiency of the content standard by the time they graduate.

These standards were informed by *A Framework for K-12 Science Education* (National Research Council, 2012), the Next Generation Science Standards (National Academies Press, 2013), and the unique needs of Wyoming. They are distinct from prior science standards in that they integrate three dimensions of learning within each standard and have intentional connections across standards, grade bands, and subjects. The three dimensions are crosscutting concepts, disciplinary core ideas, and science and engineering practices.

- Dimension 1: Crosscutting Concepts (CCC) The seven crosscutting concepts have application across all domains of science. As such, they provide one way of linking across the domains of the Disciplinary Core Ideas.
- Dimension 2: Disciplinary Core Ideas (DCI) The continuing expansion of scientific knowledge makes it impossible to teach all of the ideas related to a given discipline in exhaustive detail during the K-12 years. But given the cornucopia of information available today, virtually at a touch, an important role of science education is not to teach "all the facts" but rather to prepare students in the four domains of science with sufficient core knowledge so that they can later acquire additional information on their own. The four domains referenced are: 1) physical science, 2) life science, 3) earth and space science, and 4) engineering, technology and applications of science.
- Dimension 3: Science and Engineering Practices (SEP) The SEPs describe (a) the major practices that scientists employ as they investigate and build models and theories about the world, and (b) a key set of engineering practices that engineers use as they design and build systems. We use the term "practices" instead of skills to emphasize that engaging in a scientific investigation requires not only skill but also knowledge that is specific to each practice.

Cross-curricular connections to Wyoming Content and Performance Standards in English Language Arts (ELA), Mathematics, Social Studies (S.S.), Physical Education (P.E.), Health, Fine and Performing Arts (FPA), and Career and Vocational Education (CVE) are identified and referenced within the science standards, and for the sake of brevity, are listed in the right hand columns as Common Core ELA and Math . These are intended as suggestions for areas where other content standards can be integrated in the teacher's instruction and lessons. The connection would be dependent on the curricula.

REFERENCES

National Research Council [NRC]. (2012). *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*. Washington, DC: The National Academies Press.

NGSS Lead States (2013). *Next Generation Science Standards: For States, By States.* Washington, DC: National Academies Press.

National Research Council. (2015). *Guide to Implementing the Next Generation Science Standards* (pp. 8-9). Washington, DC: National Academies Press.

ABOUT THE LAB-AIDS CITATIONS

The following tables are presented in a Disciplinary Core Idea arrangement – Earth Space Science (ESS), Life Science (LS), Physical Science (PS) and Engineering, Technology and Applications of Science (ETS).

Citations included in the correlation document are as follows:

* indicates where Performance Expectation is assessed

† indicates unit in development

Unit title, Activity Number

The Chemistry of Materials, 14

Wyoming Performance Expectation	MS-PS1-2
Science and Engineering Practices	Planning and Carrying Out Investigations
Crosscutting Concepts	Structure and Function
Disciplinary Core Ideas	MS-PS1.A
Common Core English-Language Arts	RST.6-8.3
Common Core Mathematics	MP.2

ISSUES AND SCIENCE 3rd Edition
Alignment to WY Science Standards

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
MS-ESS1-1: Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.	*Solar System and Beyond:* 2, 3, 4, 5, 6, 7, 8, 9*	Analyze and Interpret Data Constructing Explanations and Designing Solutions Developing and Using Models	MS-ESS1.A MS-ESS1.B	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to Nature of Science Patterns Scale, Proportion, and Quantity Systems and System Models	RST.6-8.2 WHST.6-8.2 SL.8.5 6.RP.A.1
MS-ESS1-2: Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.	*Solar System and Beyond:* 10, 11, 12, 14, 15, 16*	Analyze and Interpret Data Connections to the Nature of Science Developing and Using Models Using Mathematics and Computational Thinking	MS-ESS1.A MS-ESS1.B	Connections to Engineering, Technology, and Applications of Science Connections to Nature of Science Patterns Scale, Proportion, and Quantity	RST.6-8.1 WHST.6-8.2 WHST.6-8.9 SL.8.4 6.RP.A.1 6.RP.A.3 MP.2 MP.4

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
				Systems and System Models	
MS-ESS1-3: Analyze and interpret data to determine scale properties of objects in the solar system.	*Solar System and Beyond:* 1, 10, 11, 12, 13*	Analyze and Interpret Data Developing and Using Models Using Mathematics and Computational Thinking	MS-ESS1.A MS-ESS1.B	Connections to Engineering, Technology, and Applications of Science Scale, Proportion, and Quantity Systems and System Models	WHST.6-8.2 SL.8.4 6.RP.A.1 6.RP.A.3 MP.2 MP.4
MS-ESS1-4: Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.	*Earth's Resources:* 9, 10, 11, 12*	Constructing Explanations and Designing Solutions Developing and Using Models Planning and Carrying Out Investigations Connections to the Nature of Science	MS-ESS1.C	Patterns Scale, Proportion, and Quantity Stability and Change	RST.6-8.3 WHST.6-8.1 WHST.6-8.9
MS-ESS2-1: Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.	*Geological Processes:* 2, 5, 8, 9, 10, 11, 13, 14, 15*	Analyze and Interpret Data Asking Questions and Defining Problems Connections to the Nature of Science	MS-ESS1.C MS-ESS2.A MS-ESS2.B MS-ESS2.C MS-ESS3.A MS-ESS3.B	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science	RST.6-8.2 RST.6-8.3 RST.6-8.4 WHST.6-8.1 WHST.6-8.2 SL.8.1 6.RP.A.1 MP.2

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations Using Mathematics and Computational Thinking		Energy and Matter Patterns Scale, Proportion, and Quantity Stability and Change Structure and Function Systems and System Models	
MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.	*Geological Processes:* 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13*	Analyze and Interpret Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence	MS-ESS1.C MS-ESS2.A MS-ESS2.B MS-ESS2.C MS-ESS3.A MS-ESS3.B	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science Energy and Matter Patterns Scale, Proportion, and Quantity	RST.6-8.1 RST.6-8.2 RST.6-8.3 WHST.6-8.1 WHST.6-8.2 WHST.6-8.9 SL.8.1 6.RP.A.1 6. NS.C.5 7. RP.A.2 MP.4

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations Using Mathematics and Computational Thinking		Stability and Change Structure and Function Systems and System Models	
	Land, Water, and Human Interaction: 3, 4, 6, 7, 8, 10, 11, 12, 13, 14*	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations	MS-ETS1.A MS-ETS1.B MS-ESS2.A MS-ESS2.C MS-ESS3.C MS-LS2.A MS-LS2.C	Cause and Effect Connections to Engineering, Technology, and Applications of Science Energy and Matter Patterns Scale, Proportion, and Quantity Stability and Change	RST.6-8.1 RST.6-8.3 RST.6-8.9 WHST.6-8.2 WHST.6-8.9 6.RP.A.1 6.SP.B.5 MP.2 MP.4

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
MS-ESS2-3: Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.	*Geological Processes: 10, 11, 12, 13, 14**	Analyze and Interpret Data Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Planning and Carrying Out Investigations Obtaining, Evaluating, and Communicating Information	MS-ESS1.C MS-ESS2.A MS-ESS2.B MS-ESS3.B	Cause and Effect Connections to the Nature of Science Patterns Scale, Proportion, and Quantity Stability and Change System and System Models	RST.6-8.2 WHST.6-8.1 WHST.6-8.2 SL.8.1 6.RP.A.1 7.RP.A.2 MP.2
MS-ESS2-4: Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.	*Land, Water, and Human Interaction: 2, 5, 7, 8, 9**	Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Developing and Using Models Planning and Carrying Out Investigations	MS-ETS1.A MS-ESS2.A MS-ESS2.C MS-ESS3.C MS-PS2.A	Cause and Effect Connections to Engineering, Technology, and Applications of Science Energy and Matter Scale, Proportion, and Quantity Stability and Change	RST.6-8.1 RST.6-8.3 RST.6-8.9 WHST.6-8.2

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
MS-ESS2-5: Collect data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions.	*Weather and Climate: 2, 3, 7, 9, 10, 11, 12, 13**	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Planning and Carrying Out Investigations	MS-ETS1.B MS-ETS1.C MS-ESS2.C MS-ESS2.D MS-ESS3.D MS-LS4.C	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science Energy and Matter Patterns Structure and Function System and System Models	RST.6-8.3 RST.6-8.7 RST.6-8.9 WHST.6-8.7 SL.8.1 SL.8.4 MP.2
MS-ESS2-6: Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.	*Weather and Climate: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14**	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence	MS-ESS2.C MS-ESS2.D MS-ESS3.D MS-LS4.C MS-PS3.B	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science Energy and Matter Patterns Systems and System Models	RST.6-8.3 RST.6-8.7 WHST.6-8.7 SL.8.1 SL.8.4 MP.2

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Planning and Carrying Out Investigations			
MS-ESS3-1: 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.	*Geological Processes: 2, 16, 17**	Analyzing and Interpreting Data Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations	MS-ESS2.A MS-ESS2.C MS-ESS3.A	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science Patterns Scale, Proportion, and Quantity Structure and Function Systems and System Models	RST.6-8.2 RST.6-8.3 WHST.6-8.1 WHST.6-8.7 SL.8.1
	*Earth's Resources: 1, 2, 3, 5, 7, 8, 14**	Analyzing and Interpreting Data Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence	MS-ESS3.A MS-ESS3.C	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science Scale, Proportion, and Quantity Stability and Change	RST.6-8.1 RST.6-8.3 WHST.6-8.1 WHST.6-8.2 WHST.6-8.9 7.RP.A.2

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Obtaining, Evaluating, and Communicating Information		Structure and Function	
MS-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.	*Geological Processes: 1, 3, 4, 6, 7, 8, 11, 18**	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Using Mathematics and Computational Thinking	MS-ESS1.C MS-ESS2.A MS-ESS2.C MS-ESS3.B	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science Patterns Scale, Proportion, and Quantity Stability and Change Structure and Function Systems and System Models	RST.6-8.1 RST.6-8.2 RST.6-8.3 RST.6-8.4 WHST.6-8.1 WHST.6-8.2 WHST.6-8.9 SL.8.1 6.NS.C.5 MP.2 MP.4
MS-ESS3-3: Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	*Land, Water, and Human Interactions: 1, 3, 4, 5, 6, 9, 13, 14, 15, 16**	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and	MS-ESS2.A MS-ESS2.C MS-ESS3.C MS-LS2.A MS-LS2.C	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science	RST.6-8.1 RST.6-8.3 RST.6-8.9 WHST.6-8.2 WHST.6-8.9 SL.8.4 6.RP.A.1 6.SP.B.5

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations		Energy and Matter Patterns Scale, Proportion, and Quantity Stability and Change	MP.4
MS-ESS3-4: Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.	*Earth's Resources: 2, 4, 6, 13**	Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information	MS-ESS3.A MS-ESS3.C	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science Systems and System Models	RST.6-8.1 RST.6-8.3 WHST.6-8.1 WHST.6-8.9 6.SP.B.5 7.RP.A.2
MS-ESS3-5: Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.	*Weather and Climate: 1, 10, 14, 15, 16**	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Developing and Using Models	MS-ESS2.C MS-ESS2.D MS-ESS3.C MS-ESS3.D	Connections to the Nature of Science Energy and Matter Scale, Proportion, and Quantity Stability and Change Systems and System Models	RST.6-8.7 WHST.6-8.1 SL.8.1 MP.4

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Planning and Carrying Out Investigations			
MS-LS1-1: Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.	*From Cells to Organisms: 1, 2, 3, 4, 9**	Analyzing and Interpreting Data Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations Using Mathematics and Computational Thinking	MS-LS1.A MS-LS1.C MS-PS3.D	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science Energy and Matter Patterns Scale, Proportion, and Quantity Structure and Function Systems and System Models	RST.6-8.3 RST.6-8.7 RST.6-8.9 WHST.6-8.2 WHST.6-8.7 WHST.6-8.9 SL.8.5
MS-LS1-3: Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.	*From Cells to Organisms*: 10, 14, 15	Analyzing and Interpret Data Constructing Explanations and Designing Solutions Engaging in Argument from Evidence Obtaining, Evaluating, and	MS-LS1.A	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science	RST.6-8.2 RST.6-8.3 RST.6-8.7 RST.6-8.9 WHST.6-8.9

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Communicating Information Using Mathematics and Computational Thinking		Patterns Scale, Proportion, and Quantity	
	Body Systems: 1, 2, 3, 4, 9, 10, 11, 12*	Analyzing and Interpret Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations Using Mathematics and Computational Thinking	MS-LS1.A MS-PS3.D	Cause and Effect Connections to the Nature of Science Structure and Function Systems and System Models	RST.6-8.2 RST.6-8.3 RST.6-8.4 RST.6-8.7 RST.6-8.9 WHST.6-8.1 WHST.6-8.2 WHST.6-8.9 SL.8.1 6.SP.B.4
MS-LS1-4: Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant	*Reproduction:* 10*, 11*	Constructing Explanations and Designing Solutions Developing and Using Models	MS-LS1.B MS-LS3.A MS-LS3.B	Cause and Effect Patterns	RI.6.8 RST.6-8.1 RST.6-8.4 WHST.6-8.1 6.SP.A.2 6.SP.B.4 6.SP.B.5

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
structures affect the probability of successful reproduction of animals and plants respectively.					
MS-LS1-5: Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.	*Reproduction:* 1, 7*	Asking Questions and Defining Problems Obtaining, Evaluating, and Communicating Information	MS-LS3.A MS-LS1.B	Cause and Effect Connections to the Nature of Science Structure and Function	RST.6-8.2 SL.8.1 WHST.6-8.9 6.RP.A.1 6.SP.B.5
MS-LS1-6: 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.	*From Cells to Organisms*: 12, 13*	Constructing Explanations and Designing Solutions	MS-LS1.A MS-LS1.C MS-PS3.D	Energy and Matter Structure and Function	RST.6-8.3
MS-LS1-7: 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.	*From Cells to Organisms*: 5, 11*	Analyzing and Interpreting Data Constructing Explanations and Designing Solutions Developing and Using Models Planning and Carrying Out an Investigation	MS-LS1.A MS-LS1.C MS-PS3.D	Energy and Matter	RST.6-8.2 RST.6-8.3 RST.6-8.9
	Body Systems: 5	Constructing Explanations and Designing Solutions	MS-LS1.A MS-LS1.C	Energy and Matter	RST.6-8.2 RST.6-8.9

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Developing and Using Models			
MS-LS1-8: Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.	*Body Systems:* 6, 7, 8*	Analyzing and Interpreting Data Obtaining, Evaluating, and Communicating Information Planning and Carrying Out an Investigation	MS-LS1.D	Cause and Effect	RST.6-8.4 6.SP.B.4
MS-LS2-1: Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.	*Ecology:* 5, 6, 9*	Analyzing and Interpret Data Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations	MS-LS2.A	Cause and Effect Connections to the Nature of Science Energy and Matter Patterns Stability and Change Systems and System Models	RST.6-8.1 RST.6-8.3 RST.6-8.7 RST.6-8.8 SL.8.4 SL.8.5 WHST.6-8.1 WHST.6-8.9 6.EE.C.9 6.RP.A.1 6.RP.A.3 6.SP.B.5 MP.2 MP.4
MS-LS2-2: Construct an		Analyzing and Interpreting Data Constructing Explanations and Designing Solutions	MS-LS2.A	Cause and Effect Connections to the Nature of Science	RST.6-8.1 RST.6-8.3 RST.6-8.8 SL.8.4

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
explanation that predicts patterns of interactions among organisms across multiple ecosystems.	*Ecology:* 2, 8, 10*	Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations		Energy and Matter Patterns Stability and Change Systems and System Models	SL.8.5 WHST.6-8.9 6.RP.A.1 6.RP.A.3 MP.2 MP.4
MS-LS2-3: Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.	*Ecology:* 7, 8, 11, 12*	Analyzing and Interpreting Data Constructing Explanations and Designing Solutions Developing and Using Models Planning and Carrying Out Investigations	MS-LS2.B	Cause and Effect Energy and Matter Systems and System Models	RST.6-8.3 RST.6-8.7 WHST.6-8.9 6.RP.A.1 6.RP.A.3 MP.2 MP.4
MS-LS2-4: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.	*Ecology:* 1, 2, 3, 4, 5, 6, 13, 14*	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models	MS-LS2.C	Cause and Effect Connections to the Nature of Science Energy and Matter Patterns Stability and Change Systems and System Models	RST.6-8.1 RST.6-8.3 RST.6-8.8 SL.8.5 WHST.6-8.1 WHST.6-8.9 6.EE.C.9 6.SP.B.5 MP.2

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations			
MS-LS2-5: Evaluate competing design solutions for maintaining biodiversity and ecosystem services.	*Ecology:* 2, 4, 15*	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations Using Mathematics and Computational Thinking	MS-ETS1.B MS-LS2.C MS-LS4.D	Cause and Effect Connections to the Nature of Science Energy and Matter Patterns Stability and Change	RST.6-8.1 RST.6-8.3 RST.6-8.8 SL.8.5 WHST.6-8.1 WHST.6-8.9 6.SP.B.5

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
MS-LS3-1: Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.	*Reproduction:* 1, 3, 8, 12, 13*	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations	MS-LS1.B MS-LS3.A MS-LS3.B	Cause and Effect Connections to the Nature of Science Patterns Scale, Proportion, and Quantity Structure and Function	RST.6-8.1 RST.6-8.2 RST.6-8.4 RST.6-8.7 SL.8.1 WHST.6-8.2 WHST.6-8.9 6.SP.B.5 6.RP.A.1
	Evolution: 3, 4, 5*	Analyzing and Interpreting Data Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Using Mathematics and Computational Thinking	MS-LS2.A MS-LS3.A MS-LS3.B MS-LS4.B MS-LS4.C	Cause and Effect Patterns Structure and Function	RST.6-8.2 RST.6-8.3 SL.8.1 SL.8.4 WHST.6-8.2 WHST.6-8.9 6.SP.B.5 6.RP.A.1

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
MS-LS3-2: Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.	*Reproduction:* 1, 2, 3, 4, 5, 6, 8, 9*	Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations Using Mathematics and Computational Thinking	MS-LS1.B MS-LS3.A MS-LS3.B	Cause and Effect Connections to the Nature of Science Patterns Scale, Proportion, and Quantity Structure and Function	RST.6-8.1 RST.6-8.2 RST.6-8.4 RST.6-8.7 RST.6-8.9 SL.8.1 WHST.6-8.2 WHST.6-8.9 6.RP.A.1 6.SP.B.5
MS-LS4-2: Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.	*Evolution:* 7, 8, 9, 10 11, 12*	Analyzing and Interpreting Data Connections to the Nature of Science Constructing Explanations and Designing Solutions Engaging in Argument from Evidence	MS-ESS1.C MS-LS3.B MS-LS4.A MS-LS4.B MS-LS4.C	Cause and Effect Connections to Engineering, Technology, and Applications of Science Connections to the Nature of Science Patterns	RST.6-8.3 RST.6-8.7 RST.6-8.9 WHST.6-8.2 6.SP.B.5

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Obtaining, Evaluating, and Communicating Information			
MS-LS4-3: Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy.	*Evolution:* 12, 13*	Analyzing and Interpreting Data Constructing Explanations and Designing Solutions Engaging in Argument from Evidence	MS-ESS1.C MS-LS4.A	Connections to the Nature of Science Patterns	RST.6-8.7 6.SP.B.5
MS-LS4-4: Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.	*Evolution:* 1, 2, 3, 4*	Analyzing and Interpreting Data Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Using Mathematics and Computational Thinking	MS-LS2.A MS-LS3.B MS-LS4.B MS-LS4.C	Cause and Effect Patterns	RST.6-8.2 RST.6-8.3 WHST.6-8.2 WHST.6-8.9 6.RP.A.1 6.SP.B.5
MS-LS4-5: Gather and synthesize information about the technologies that have changed the way humans influence	*Evolution:* 14, 15, 16*	Analyzing and Interpreting Data Constructing Explanations and Designing Solutions	MS-ESS3.C MS-LS4.A MS-LS4.B MS-LS4.C MS-LS4.D	Cause and Effect Connections to the Nature of Science: Science Addresses Questions About the Natural	RST.6-8.1 RST.6-8.7 WHST.6-8.2 WHST.6-8.8 WHST.6-8.9

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
the inheritance of desired traits in organisms.		Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information		and Material World Connections to the Nature of Science: Scientific Knowledge Assumes an Order and Consistency in Natural Systems Patterns	
MS-LS4-6: Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.	*Evolution:* 1, 2, 3, 4, 5, 6*	Analyzing and Interpreting Data Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Using Mathematics and Computational Thinking	MS-LS2.A MS-LS3.A MS-LS3.B MS-LS4.B MS-LS4.C	Cause and Effect Patterns Structure and Function	RST.6-8.2 RST.6-8.3 SL.8.1 SL.8.4 WHST.6-8.2 WHST.6-8.9 6.RP.A.1 6.SP.B.5
MS-PS1-1: Develop models to describe the atomic composition of simple molecules and extended structures.	*Chemistry of Materials:* 2, 6, 7, 12*	Analyzing and Interpreting Data Developing and Using Models Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations	MS-PS1.A MS-PS1.B	Connections to Engineering, Technology, and Applications of Science Scale, Proportion, and Quantity Structure and Function	RST.6-8.2 RST.6-8.3 RST.6-8.7
MS-PS1-2: Analyze and interpret data on the properties of		Analyzing and Interpreting Data Connections to the Nature of Science	MS-PS1.A MS-PS1.B	Patterns Scale, Proportion, and Quantity	RST.6-8.1 RST.6-8.3 RST.6-8.4 RST.6-8.7

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
substances before and after the substances interact to determine if a chemical reaction has occurred.	*Chemical Reactions:* 1, 2, 3, 4, 5*	Developing and Using Models Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations		Structure and Function	RST.6-8.9 SL.8.1 WHST.6-8.9
MS-PS1-3: Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.	*Chemistry of Materials:* 1, 2, 3, 4, 5, 11, 12, 13*	Analyzing and Interpreting Data Asking Questions and Defining Problems Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations Using Mathematics and Computational Thinking	MS-PS1.A MS-PS1.B	Connections to Engineering, Technology, and Applications of Science Scale, Proportion, and Quantity Structure and Function	RST.6-8.3 RST.6-8.7 WHST.6-8.1 WHST.6-8.9 7.RP.A.2
MS-PS1-4: Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.	*Chemistry of Materials:* 8, 9, 10	Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Planning and Carrying Out Investigations	MS-PS1.A MS-PS3.A	Cause and Effect	RST.6-8.3

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
MS-PS1-5: 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.	*Chemical Reactions:* 1, 2, 3, 4, 5, 6, 7*	Analyzing and Interpreting Data Connections to the Nature of Science Developing and Using Models Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations	MS-PS1.A MS-PS1.B	Energy and Matter Patterns Scale, Proportion, and Quantity Structure and Function Systems and System Models	RST.6-8.1 RST.6-8.3 RST.6-8.4 RST.6-8.7 RST.6-8.9 SL.8.1 WHST.6-8.9
MS-PS1-6: Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.	*Chemical Reactions:* 2, 3, 5, 8, 9, 10, 11*	Analyzing and Interpreting Data Connections to the Nature of Science Constructing Explanations and Designing Solutions Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations	MS-ETS1.B MS-ETS1.C MS-PS1.A MS-PS1.B MS-PS3.A	Energy and Matter Patterns	RST.6-8.1 RST.6-8.3 RST.6-8.4 RST.6-8.7 SL.8.1 WHST.6-8.9
MS-PS2-1: Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.	*Force and Motion:* 1, 10, 11, 12*	Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Developing and Using Models Obtaining, Evaluating, and	MS-ETS1.A MS-PS2.A MS.PS3.A MS-PS3.C	Cause and Effect Connections to Engineering, Technology, and Applications of Science Systems and System Models	RST.6-8.1 RST.6-8.3 RST.6-8.7 MP.2

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Communicating Information			
MS-PS2-2: Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.	*Force and Motion:* 1, 6, 7, 8, 9, 13*	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations Using Mathematics and Computational Thinking	MS-ETS1.A MS-PS2.A MS.PS3.A MS-PS3.C	Cause and Effect Connections to Engineering, Technology, and Applications of Science Scale, Proportional, and Quantity Stability and Change	RST.6-8.1 RST.6-8.2 RST.6-8.3 RST.6-8.7 6.RP.AP.2 6. SP.B.5 7. EE.B.4 7.RP.A.2 MP.2
MS-PS2-3: Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.	*Fields and Interactions:* 7, 8, 9, 12, 13*, 14	Asking Questions and Defining Problems Developing and Using Models Engaging in Argument from Evidence Connections to the Nature of Science	MS-PS2.B MS-ETS1.B	Cause and Effect Patterns Systems and System Models	RST.6-8.1 RST.6-8.3 WHST.6-8.7 MP.2

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Planning and Carrying Out Investigations			
MS-PS2-4: Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.	*Fields and Interaction:* 3, 4, 7*	Analyzing and Interpreting Data Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence	MS-PS2.B MS-PS3.A MS-PS3.C MS-ETS1.A MS-ETS1.B	Connections to Nature of Science Patterns Systems and System Models	RST.6.8.1 WHST.6-8.1 SL.8.5 6.EE.C.9 MP.2
MS-PS2-5: Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.	*Fields and Interaction:* 5, 7, 9, 10, 12*	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Planning and Carrying Out Investigations	MS-PS2.B MS-PS3.A MS-PS3.C MS-ETS1.B	Cause and Effect Patterns Systems and System Models	RST.6-8.3 WHST.6-8.1 WHST.6-8.7 MP.2

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
MS-PS3-1: Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.	*Force and Motion: 1, 2, 3, 4, 5**	Analyzing and Interpreting Data Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations	MS-ETS1.A MS-PS2.A MS.PS3.A MS-PS3.C	Cause and Effect Connections to Engineering, Technology, and Applications of Science Energy and Matter Patterns Scale, Proportion, and Quantity	RST.6-8.7 WHST.6-8.2 6.SP.B.5 7.RP.A.2
MS-PS3-2: Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.	*Fields and Interaction:* 3, 4, 6, 7, 10, 11*	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence	MS-ETS1.A MS-ETS1.B MS-ETS1.C MS-PS2.B MS.PS3.A MS.PS3.C	Cause and Effect Connections to Nature of Science Scale, Proportion, and Quantity Systems and System Models	RST.6-8.1 RST.6-8.3 RST.6-8.7 SL.8.5 WHST.6-8.1 WHST.6-8.7 6.EE.C.9 MP2
MS-PS3-3: Apply scientific principles to design, construct, and test a device that either minimizes or maximizes	*Energy:* 1, 7, 8, 10, 11, 12, 13*	Analyzing and Interpreting Data Connections to the Nature of Science	MS-ETS1.A MS-ETS1.B MS-PS3.A MS-PS3.B	Cause and Effect Connections to the Nature of Science	RST.6-8.1 RST.6-8.3 SL.8.4 WHST.6-8.9

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
thermal energy transfer.		Constructing Explanations and Designing Solutions Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations		Energy and Matter Patterns Scale, Proportion, and Quantity Structure and Function Systems and System Models	EE.6.A.2 EE.6.C.9 MP.2
MS-PS3-4: Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.	*Energy:* 1, 4, 6, 7, 8*	Analyzing and Interpreting Data Connections to the Nature of Science Constructing Explanations and Designing Solutions Engaging in Argument from Evidence Planning and Carrying Out Investigations	MS-PS3.A MS-PS3.B MS-PS3.C	Cause and Effect Energy and Matter Patterns Scale, Proportion, and Quantity Systems and System Models	RST.6-8.3 WHST.6-8.1 WHST.6-8.9 EE.6.C.9 MP.2
MS-PS3-5: Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.	*Energy:* 2, 3, 4, 5, 6*	Analyzing and Interpreting Data Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence	MS-PS3.A MS-PS3.B MS-PS3.C	Cause and Effect Energy and Matter Patterns Scale, Proportion, and Quantity Systems and System Models	RST.6-8.3 WHST.6-8.1 WHST.6-8.9 EE.6.C.9 MP.2

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations			
MS-PS4-1: Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.	*Waves:* 1, 2, 3, 7*	Analyzing and Interpreting Data Developing and Using Models Obtaining, Evaluating, and Communicating Information Using Mathematics and Computational Thinking	MS-PS4.A	Connections to Engineering, Technology, and Applications of Science Patterns Structure and Function	RST.6-8.1 RST.6-8.3 RST.6-8.9 6.RP.A.1 7.RP.A.2 MP.2 MP.4
MS-PS4-2: Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.	*Waves:* 3, 4, 8, 9, 10, 11, 12, 13*	Analyzing and Interpreting Data Connections to the Nature of Science Developing and Using Models Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations Using Mathematics and Computational Thinking	MS-PS4.A MS-PS4.B	Connections to Engineering, Technology, and Applications of Science Patterns Structure and Function	RST.6-8.1 RST.6-8.3 RST.6-8.9 MP.2

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
MS-PS4-3: Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.	*Waves:* 5, 6	Asking Questions and Defining Problems Connections to Engineering, Technology, and Applications of Science Structure and Function Developing and Using Models Obtaining, Evaluating, and Communicating Information	MS-PS4.C MS-ETS1.A MS-ETS1.B MS-ETS1.C	Connections to Engineering, Technology, and Applications of Science Structure and Function	RST.6-8.1 RST.6-8.3 RST.6-8.9 WHST.6-8.9
MS-ETS1-1: 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.	*Biomedical Engineering:* 1, 2, 3*	Asking Questions and Defining Problems	MS-ETS1.A MS-ETS1.B MS-ETS1.C	Structure and Function Interdependence of Science, Engineering, and Technology Influence of Science, Engineering, and Technology on Society and the Natural World	
	Force and Motion: 1, 10, 11, 13, 14, 15*	Analyzing and Interpreting Data Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from	MS-ETS1.A MS-PS2.A MS-PS3.A MS-PS3.C	Cause and Effect Connections to Engineering, Technology, and Applications of Science Patterns Stability and Change Systems and System Models	

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations			
	Land, Water, and Human Interactions: 7, 12*	Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Developing and Using Models	MS-ETS1.A MS-ETS2.A MS-ETS2.C	Connections to Engineering, Technology, and Applications of Science Energy and Matter Scale, Proportion, and Quantity Stability and Change	
MS-ETS1-2: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.	*Biomedical Engineering:* 4, 5, 7*	Analyzing and Interpreting Data Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Using Mathematics and Computational Thinking	MS-ETS1.B MS-ETS1.C MS-LS1.A	Connections to Engineering, Technology, and Applications of Science Structure and Function	SL.8.4 6.RP.A.1 6.RP.A.3 MP.2

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
	Fields and Interaction: 6, 13, 15	Analyzing and Interpreting Data Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence	MS-PS3.A MS-PS2.B MS-ETS1.A MS-ETS1.B MS-ETS1.C	Cause and Effect Connections to Nature of Science Systems and System Models	RST.6-8.1 RST.6-8.7 SL.8.5 WHST.6-8.9 MP.2
MS-ETS1-4: 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.	*Biomedical Engineering:* 2, 4, 5, 8, 9*	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence Using Mathematics and Computational Thinking	MS-ETS1.A MS-ETS1.B MS-ETS1.C MS-LS1.A	Connections to Engineering, Technology, and Applications of Science Structure and Function	SL.8.4 6.RP.A.1 6.RP.A.3 MP.2
	Chemical Reactions: 8, 9, 10, 11	Analyzing and Interpreting Data Constructing Explanations and	MS-PS1.B MS-PS3.A MS-ETS1.B	Energy and Matter	RST.6-8.3

WY Science Standard	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	WY ELA/Math Standards
		Designing Solutions	MS-ETS1.C		
	Weather and Climate: 12*	Developing and Using Models Engaging in Argument from Evidence Planning and Conducting Investigations	MS-ETS1.B MS-ESS1.C MS-ESS2.C	Connections to Engineering, Technology and Applications of Science Structure and Function	RST.6-8.3 SL.8.1 SL.8.4
	Fields and Interactions: 1, 2, 3, 6, 11, 13*	Asking Questions and Defining Problems Analyzing and Interpreting Data Connections to Nature of Science: Scientific Knowledge Is Based on Empirical Evidence Constructing Explanations and Designing Solutions Developing and Using Models Engaging in Argument from Evidence	MS-ETS1.A MS-ETS1.B MS-ETS1.C MS-PS2.B MS-PS3.A MS-PS3.B MS-PS3.C	Cause and Effect Connections to Nature of Science: Influence of Science, Engineering, and Technology on Society and the Natural World Scale, Proportion, and Quantity Systems and System Models	RST.6-8.1 RST.6-8.7 SL8.5 MP.2