

**Lab-Aids Correlations for
South Carolina College- and Career-Ready Science Standards 2021
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 South Carolina College- and Career-Ready Science Standards 2021.

ABOUT OUR PROGRAMS

Lab-Aids has maintained 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. The suggested sequence of units for South Carolina from *Issues and Science Redesigned for the NGSS* is shown below.

Sixth Grade	Seventh Grade	Eighth Grade
Energy	Chemistry of Materials	Force and Motion
From Cells to Organisms	Chemical Reactions	Fields and Interactions
Body Systems	Ecology	Waves
Geological Processes	Earth’s Resources	Reproduction
Weather and Climate	Land, Water, and Human Interactions	Evolution
		Solar System and Beyond

Physical Science, Life Science, Earth Science

ABOUT THE LAB-AIDS CITATIONS

Citations included in the correlation document are as follows:

SEPUP Unit title *The Chemistry of Materials*
Activity Number 2, 12, 14*

* indicates where Performance Expectation is assessed

KCCRSS/NGSS Performance Expectation	MS-PS1-2
Science and Engineering Practice	Planning and Carrying Out Investigations
Crosscutting Concept	Structure and Function
Disciplinary Core Idea	MS-PS1.A
Common Core English-Language Arts	RST.6-8.3
Common Core Mathematics	MP.2

SEVENTH GRADE

Performance Expectation	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Common Core ELA/Math
Matter and Its Interactions (PS1)					
7-PS1-1. Develop models to describe the atomic composition of simple molecules and extended structures.	<i>Chemistry of Materials: 2, 6, 7, 12*</i>	Analyzing and Interpreting Data	MS-PS1.A MS-PS1.B	Connections to Engineering, Technology, and Applications of Science	RST.6-8.2 RST.6-8.3 RST.6-8.7
		Developing and Using Models		Scale, Proportion, and Quantity	
		Obtaining, Evaluating, and Communicating Information		Structure and Function	
		Planning and Carrying Out Investigations			
7-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.	<i>Chemical Reactions: 1, 2, 3, 4, 5*</i>	Analyzing and Interpreting Data	MS-PS1.A MS-PS1.B	Patterns	RST.6-8.1 RST.6-8.3 RST.6-8.4 RST.6-8.7 SL.8.1 WHST.6-8.9
		Connections to the Nature of Science		Scale, Proportion, and Quantity	
		Developing and Using Models		Structure and Function	
	<i>Chemistry of Materials: 4</i>	Obtaining, Evaluating, and Communicating Information	MS-PS1.A		7.RP.A.2
		Planning and Carrying Out Investigations		Scale, Proportion, and Quantity	
		Analyzing and Interpreting Data		Structure and Function	
	<i>Chemistry of Materials: 1, 2, 3, 4, 5, 11, 12, 13*</i>	Using Mathematics and Computational Thinking	MS-PS1.A MS-PS1.B		RST.6-8.3 RST.6-8.7 WHST.6-8.1 WHST.6-8.9
		Analyzing and Interpreting Data		Connections to Engineering, Technology, and Applications of Science	
7-PS1-3. Gather and make sense of information to describe that synthetic materials come from natural		Asking Questions and Defining Problems			7.RP.A.2

Performance Expectation	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Common Core ELA/Math
resources and impact society.		Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations Using Mathematics and Computational Thinking		Scale, Proportion, and Quantity Structure and Function	
7-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.	<i>Chemical Reactions: 1, 2, 3, 4, 5, 6, 7*</i>	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
7-PS1-6. Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.	<i>Chemical Reactions: 2, 3, 5, 8, 9, 10, 11*</i>	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
Energy (PS3)					
7-PS3-1. Construct and interpret graphical displays of	<i>Force and Motion: 1, 2, 3, 4, 5*</i>	Analyzing and Interpreting Data	MS-ETS1.A MS-PS2.A MS-PS3.A	Cause and Effect Connections to	RST.6-8.7 WHST.6-8.2

Performance Expectation	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Common Core ELA/Math
data to describe the proportional relationships of kinetic energy to the mass of an object and to the speed of an object.		Asking Questions and Defining Problems Constructing Explanations and Designing Solutions Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations	MS-PS3.C	Engineering, Technology, and Applications of Science Energy and Matter Patterns Scale, Proportion, and Quantity	6.SP.B.5 7.RP.A.2
7-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.	<i>Fields and Interactions:</i> 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
	<i>Force and Motion:</i> 1, 3, 4, 5, 10, 14	Asking Questions and Defining Problems Obtaining, Evaluating, and Communicating Information	MS-ETS1.A MS-PS2.A MS-PS3.A MS-PS3.C	Cause and Effect Connections to Engineering, Technology, and Applications of Science	RST.6-8.7
7-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.	<i>Energy:</i> 2, 3, 4, 5, 6*	Analyzing and Interpreting Data Connections to the Nature of Science Constructing Explanations and	MS-PS3.A MS-PS3.B MS-PS3.C	Cause and Effect Energy and Matter Patterns Scale,	RST.6-8.3 WHST.6-8.1 WHST.6-8.9 EE.6.C.9 MP.2

Performance Expectation	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Common Core ELA/Math
		Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations		Proportion, and Quantity Systems and System Models	
From Molecules to Organisms: Structures and Processes (LS1)					
7-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.	<i>From Cells to Organisms: 12, 13*</i>	Constructing Explanations and Designing Solutions	MS-LS1.A MS-LS1.C MS-PS3.D	Energy and Matter Structure and Function	RST.6-8.3
7-LS1-7. Develop a model to describe how food molecules in plants and animals are rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.	<i>From Cells to Organisms: 5, 11*</i>	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
	<i>Body Systems: 5</i>	Constructing Explanations and Designing Solutions Developing and Using Models	MS-LS1.A MS-LS1.C	Energy and Matter	RST.6-8.2 RST.6-8.9
Ecosystems: Interactions, Energy, and Dynamics (LS2)					
7-LS2-1. Analyze and interpret data to	<i>Ecology: 5, 6, 9*</i>	Analyzing and Interpret Data	MS-LS2.A	Cause and Effect	RST.6-8.1 RST.6-8.3

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provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.		<p>Connections to the Nature of Science</p> <p>Constructing Explanations and Designing Solutions</p> <p>Developing and Using Models</p> <p>Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information</p> <p>Planning and Carrying Out Investigations</p>		<p>Connections to the Nature of Science Energy and Matter Patterns</p> <p>Stability and Change</p> <p>Systems and System Models</p>	<p>RST.6-8.7 RST.6-8.8 SL.8.4 SL.8.5 WHST.6-8.1 WHST.6-8.9</p> <p>6.EE.C.9 6.RP.A.1 6.RP.A.3 6.SP.B.5 MP.2 MP.4</p>
7-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.	Ecology: 2, 8, 10*	<p>Analyzing and Interpreting Data</p> <p>Constructing Explanations and Designing Solutions</p> <p>Developing and Using Models</p> <p>Engaging in Argument from Evidence</p> <p>Obtaining, Evaluating, and Communicating Information</p> <p>Planning and Carrying Out Investigations</p>	MS-LS2.A	<p>Cause and Effect</p> <p>Connections to the Nature of Science Energy and Matter Patterns</p> <p>Stability and Change</p> <p>Systems and System Models</p>	<p>RST.6-8.1 RST.6-8.3 RST.6-8.8 SL.8.4 SL.8.5 WHST.6-8.9</p> <p>6.RP.A.1 6.RP.A.3 MP.2 MP.4</p>
7-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*	<p>Analyzing and Interpreting Data</p> <p>Constructing Explanations and Designing Solutions</p> <p>Developing and Using</p>	MS-LS2.B	<p>Cause and Effect</p> <p>Energy and Matter</p> <p>Systems and System Models</p>	<p>RST.6-8.3 RST.6-8.7 WHST.6-8.9</p> <p>6.RP.A.1 6.RP.A.3 MP.2 MP.4</p>

Performance Expectation	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Common Core ELA/Math
		Models Planning and Carrying Out Investigations			
	<i>From Cells to Organisms: 13</i>	Analyzing and Interpreting Data Constructing Explanations and Designing Solutions Planning and Carrying Out Investigations	MS-LS1.C MS-PS3.D	Energy and Matter	RST.6-8.3
7-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.	<i>Ecology: 1, 2, 3, 4, 5, 6, 13, 14*</i>	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-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
7-LS2-5. Evaluate competing design solutions for maintaining biodiversity and ecosystem services.	<i>Ecology: 2, 4, 15*</i>	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Constructing	MS-ETS1.B MS-LS2.C MS-LS4.D	Cause and Effect Connections to the Nature of Science Energy and Matter	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

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

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		Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information		Connections to the Nature of Science Scale, Proportion, and Quantity Stability and Change Structure and Function	
7-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	<i>Land, Water, and Human Interactions:</i> 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 Designing Solutions Developing and Using Models Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Planning and Carrying Out Investigations	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 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 SL.8.4 6.RP.A.1 6.SP.B.5 MP.4
7-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.	<i>Earth's Resources:</i> 2, 4, 6, 13*	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	RST.6-8.1 RST.6-8.3 WHST.6-8.1 WHST.6-8.9 6.SP.B.5 7.RP.A.2

Performance Expectation	SEPUP Unit and Activity Number	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Common Core ELA/Math
		Obtaining, Evaluating, and Communicating Information		Science Systems and System Models	
	<i>Evolution: 14</i>	Analyzing and Interpreting Data Engaging in Argument from Evidence	MS-ESS3.C MS.LS4.A MS.LS4.B MS.LS4.D	Cause and Effect Connections to the Nature of Science Patterns	RST.6-8.7 WHST.6-8.9
7-ESS3-5. Ask questions to clarify evidence of the factors that have impacted global temperatures over the past century.	<i>Weather and Climate: 1, 10, 14, 15, 16*</i>	Analyzing and Interpreting Data Asking Questions and Defining Problems Connections to the Nature of Science Developing and Using Models Planning and Carrying Out Investigations	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