Lab-Aids Correlations for

2023 PENNSYLVANIA
SCIENCE, TECHNOLOGY & ENGINEERING, ENVIRONMENTAL LITERACY AND SUSTAINABILITY (STEELS) STANDARDS
EARTH AND SPACE SCIENCE – GRADES 6-8

Din Seaver, Curriculum Development and Product Manager, Lab-Aids
Lisa Kelp, Vice President of Learning and Development, Lab-Aids

This document is intended to show how the SEPUP *Issues and Science 3rd edition* materials align with the 2023 STEELS Standards.

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.

SUGGESTED SCOPE AND SEQUENCE

***Issues and Science, 3rd edition*: Earth and Space Science units**
Land, Water, and Human Interactions
Geological Processes
Earth's Resources
Weather and Climate
Solar System and Beyond

ABOUT THE LAB-AIDS CITATIONS

Citations included in the correlation document are as follows:

Unit title:	*Solar System and Beyond*:
Activity Number	2, 12, 14*
	* indicates where standard is assessed

Earth and Space Standards Correlation

STEELS 3.3 Earth and Space Science: Grades 6-8		
Strand	**Standard**	***Issues and Science*** **Unit: Activity(ies)**
The Universe and Its Stars	**3.3.6-8.A** 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*
	3.3.6-8.B Develop and use a model to describe the role of gravity in the motion within galaxies and the solar system.	*Solar System and Beyond:* 10, 11, 12, 14, 15, 16*
Earth and the Solar System	**3.3.6-8.C** Analyze and interpret data to determine scale properties of objects in the solar system.	*Solar System and Beyond:* 1, 10, 11, 12, 13*
The History of Planet Earth	**3.3.6-8.D** 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*
Earth Materials and Systems	**3.3.6-8.E** 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* *Land, Water, and Human Interactions:* *3,* 4, 6, 7, 8, 10, 11, 12, 13, 14*
	3.3.6-8.F 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*
Plate Tectonics and Large-Scale System Interactions	**3.3.6-8.G** Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of past plate motions.	*Geological Processes:* 10, 11, 12, 13, 14*
The Roles of Water in Earth's Surface Processes	**3.3.6-8.H** 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 Interactions:* 2, 5, 7, 8, 9*
	3.3.6-8.I 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*
Weather and Climate	**3.3.6-8.J** Collect data to provide evidence for how the motion and complex interactions of air masses result in changes in weather conditions.	*Weather and Climate:* 2, 3, 7, 9, 10, 11, 12, 13*

STEELS 3.3 Earth and Space Science: Grades 6-8		
Strand	**Standard**	***Issues and Science*** **Unit: Activity(ies)**
	3.3.6-8.O 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*
Natural Resources	**3.3.6-8.K** 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* *Earth's Resources:* 1, 2, 3, 5, 7, 8, 14*
Natural Hazards	**3.3.6-8.L** 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*
Human Impact on Earth Systems	**3.3.6-8.M** Apply scientific principles to design a method for monitoring and minimizing human impact on the environment.	*Land, Water, and Human Interactions:* 1, 3, 4, 5, 6, 9, 13, 14, 15, 16*
	3.3.6-8.N 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* *Evolution:* 14
Engineering, Technology, and Applications of Science (ETS)	**3.5.6-8.M (ETS)** 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.	*Weather and Climate:* 12*
	3.5.6-8.N (ETS) 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 solution to better meet the criteria for success.	*Weather and Climate:* 12*
	3.5.6-8.P (ETS) Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.	*Land, Water, and Human Interactions:* 12, 16*
	3.5.6-8.W (ETS) 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.	*Land, Water, and Human Interactions:* 7, 12*