NGSS CORRELATIONS

EARTH'S RESOURCES

Crosscutting Concepts		Activity number
Cause and Effect	Cause and effect relationships may be used to predict phenomena in natural or designed systems.	2, 4, 6, 13, 14
Patterns	Patterns can be used to identify cause and effect relationships.	4, 11, 12
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.	9, 10, 11, 12
Stability and Change	Explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and forces at different scales, including the atomic scale.	7, 8, 9, 11, 12
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.	8
Systems and System Models	Models can be used to represent systems and their interactions—such as inputs, processes and outputs—and energy and matter flows within systems.	6, 9
	Models are limited in that they only represent certain aspects of the system under study.	8, 9
Asking Questions and Defining Problems	Ask questions that arise from careful observation of phenomena, models, or unexpected results, to clarify and/or seek additional information.	1
Engaging in Argument from Evidence	Compare and critique two arguments on the same topic and analyze whether they emphasize similar or different evidence and/or interpretations of facts.	14
Connections to Engineering, Technology, and Applications of Science	Technologies extend the measurement, exploration, modeling, and computational capacity of scientific investigations.	5
	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.	1, 2, 3, 4, 5, 6, 7, 8, 13, 14
Connections to the Nature of Science	Scientific knowledge can describe the consequences of actions but does not necessarily prescribe the decisions that society takes.	1, 2, 3, 4, 6, 7, 13
Science and Engineering Practices		Activity number
Analyzing and Interpreting Data	Analyze and interpret data to provide evidence for phenomena.	5, 8
Constructing Explanations and Designing Solutions	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 nature operate today as they did in the past and will continue to do so in the future.	1, 2, 3, 7, 9, 11, 12, 14
	Apply scientific ideas to construct an explanation for real world phenomena, examples, or events.	10

Science and Engineering Practices		Activity number
Developing and Using Models	Develop a model to predict and/or describe phenomena.	5, 6, 8, 9
Engaging in Argument from Evidence	Construct and present oral and written arguments 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.	2, 4, 6, 13
Obtaining, Evaluating, and Communicating Information	Integrate qualitative scientific and technical information in written text with that contained in media and visual displays to clarify claims and findings.	2 (21, 26)
Planning and Carrying Out Investigations	Conduct an investigation to produce data to serve as the basis for evidence that meet the goals of an investigation.	10
Connections to the Nature of Science	Scientific knowledge is based on logical and conceptual connections between evidence and explanations.	11
Performance Expectations		**Activity number**
Earth's Place in the Universe (ESS1)	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. (MS-ESS1-4)	12
Earth and Human Activity (ESS3)	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. (MS-ESS3-1)	14
	Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems. (MS-ESS3-4)	13
Disciplinary Core Ideas		**Activity number**
The History of Planet Earth (ESS1.C)	The geologic time scale interpreted from rock strata provides a way to organize Earth's history. Analyses of rock strata and the fossil record provide only relative dates, not an absolute scale.	9, 10, 11, 12
Natural Resources (ESS3.A)	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.	1, 2, 3, 5, 7, 8, 14
Human Impacts on Earth Systems (ESS3.C)	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.	2, 4, 6, 13

COMMON CORE STATE STANDARDS CORRELATIONS

EARTH'S RESOURCES

Common Core State Standards – English Language Arts		Activity number
Reading in Science and Technical Subjects (RST)	Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. (RST.6-8.1)	2, 4, 7, 13, 14
	Follow precisely a multi-step procedure when carrying out experiments, taking measurements, or performing technical tasks. (RST.6-8.3)	1, 3, 5, 6, 8, 9, 10, 11
Writing in History/ Social Studies, Science, and Technological Subjects (WHST)	Write arguments focused on discipline-specific content. (WHST.6-8.1)	2, 4, 6, 7, 9, 11, 12, 13
	Write informative/explanatory texts to examine and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. (WHST.6-8.2)	14
	Draw evidence from informational texts to support analysis, reflection, and research. (WHST.6-8.9)	2, 4, 7, 11, 12, 13, 14
Common Core State Standards – Mathematics		Activity number
Ratios and Proportional Reasoning (RP)	Recognize and represent proportional relationships between quantities. (7.RP.A.2)	2
Statistics and Probability (SP)	Summarize numerical data sets in relation to their context. (6.SP.B.5)	4