EPSD Curriculum and HMH SCIENCE DIMENSIONS 2018 Alignment TEMPLATE

GRADE 6

EPSD Unit 2: Earth Systems: Rocks and Minerals (part III)
Second Marking Period

<table>
<tr><td colspan="2" rowspan="2">Overview: Students use practices to understand the significant and complex issues surrounding human uses of rock and mineral resources and the resulting impacts on the development of these resources. Students also understand that the distribution of these resources is uneven due to past and current geosciences processes or removal by humans. The crosscutting concepts of patterns, cause and effect, and stability and change are called out as organizing concepts for these disciplinary core ideas. In this unit of study students are expected to demonstrate proficiency in asking questions, analyzing and interpreting data, constructing explanations, and designing solutions. Students are also expected to use these practices to demonstrate understanding of the core ideas.</td><td colspan="2">HMH Science Dimensions Program Resources Module G</td></tr>
<tr><td colspan="2">Unit 2: Resources in Earth Systems
Unit Video: (The Strokkur geyser in Iceland); Why it Matters p. 74; Unit Starter p. 75; Vocabulary p. 75G; Unit Project p. 75I; Unit Connections p. 116; Unit Review pp. 117-120; Unit Performance Task pp. 121-122</td></tr>
<tr><td colspan="2" rowspan="2">Standards: (MS-ESS2-1) Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process. (MS-ESS3-1) Construct a scientific explanation based on evidence for how the uneven distributions of Earth’s mineral, energy, and groundwater</td><td colspan="2">Standard for all Units: (D) Interactive Multilingual Glossary; (D/P) Unit Pretest; (D) Lesson Quizzes; (D/P) Unit Tests

Note: Refer to the Curriculum Alignment Common Language (CACL) Guide to decipher acronyms.</td></tr>
<tr><td>Instructional Days: 10 - 15</td><td>Lesson 1: Natural Resources pp. 76-95

D/P – WIM Questions p. 74

D/P- CYEI (digital picture) Why are trees a renewable resource but coal, which comes from plants, is not? p. 77

P- ENB (prompt) Gather evidence to explain why trees are a renewable resource but coal is not. p. 77
D/P- LS Analyze Energy Usage (Students use the circle graph and the information</td><td>Lesson 2: The Distribution of Natural Resources pp. 96-115

D/P – WIM Questions p. 74

D/P- CYEI (digital picture) What determines where gold is found in nature? p. 97

P- ENB (prompt) Gather evidence to help explain where gold is found in nature. p. 97
D/P- Steps in Oil Formation (Students explore the diagrams to discover the</td></tr>
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resources are the result of past and current geoscience processes. (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.		they have to read and answer questions.) p 82 P- ENB (prompt) Describe and categorize trees and coal as natural resources p. 83 D/P- HOL Activity Explore Replacement of a Natural Resource (Students will model and explore the rates of water use and replacement.) pp. 86-87 P- ENB (prompt) Describe how the availability of trees and coal is affected by their formation. In what conditions does each resource form? How quickly does each resource form? p. 87 D/P- DTM Compare Rates of Renewal p. 87 D/P- ENGIT Identify the Effects of an Engineering Solution (An engineering team has developed an idea for a drinking straw that filters out parasites from polluted water. Student identify at least one way this solution might affect the health of people in a positive way or a negative way.) p. 90 D/P- TIF (enrich) Careers in Engineering: Biomass Engineer pp. 91-92 D- Hands-On Lab; Desalination; Propose Your Own Path D/P- Lesson Self Check pp. 93-95 D- Lesson Quiz D- Make Your Own Study Guide P- DI (ELL/RTI) p. 75G	processes by which oil deposits form.) p. 100 D- LS (Students locate one area where oil is found on the fossil fuel distribution map and describe the likely geologic history of that region. Students explain the reasoning behind their description.) P- ENB (prompt) How can gold deposits form? How could gold be moved from its original location to a new location? p. 103 D/P- Groundwater and Surface Water Distribution (Students take a closer look at aquifers.) p. 104 D/P- ENGIT Reduce Erosion (Students work in small groups to develop a solution to reduce erosion.) p. 106 P- ENB (prompt) How does human activity change the distribution of gold? p. 108 D/P- HOL Activity Model Recharge and Withdrawal in an Aquifer (Students will watch procedural video and work with peers to model an aquifer to explore how groundwater levels change.) pp. 109-110 D/P- DTM Analyze Groundwater Use p. 110 D/P- TIF (enrich) Rare Earth Elements and Technology pp. 111-112
Objective 1: Students will: Identify properties of minerals. Describe the process of mineral formation. Cite reasons for areas of high and low mineral distribution on a map. List uses of minerals. **Objective 2:** Students will: Identify the three main types of rocks. Explain how the rock cycle demonstrates the cycling of Earth's materials.			
Topic 1: Mineral Properties; Mineral Distribution; Uses of Minerals; and Twenty-First Century Themes and Skills (TFCTS) to include: The Four C's, Life and Career Skills, Information and Media literacy, Global Awareness and Environmental Literacy **Topic 2:** Rock Formation and TFCTS			
Essential Questions: Why aren't rocks and minerals distributed evenly across the world? How might we treat resources if we thought about the Earth as a spaceship on an extended			

survey of the solar system? (How would astronauts manage their resources?)	P- Extension p. 75G P- COLLAB p. 75H P- Connections to Other Disciplines p. 75H D- Science Safety HB D- CCC-HB D- ELA-HB D- Math-HB D- SEP-HB D- ScienceSaurus Reference HB D- VL Observing Earth over Time	D- Hands-On Lab; Resources in Space; Propose Your Own Path D/P- Lesson Self Check pp. 113-115 D- Lesson Quiz D- Make Your Own Study Guide P- DI (ELL/RTI) p. 75G P- Extension p. 75G P- COLLAB p. 75H P- Connections to Other Disciplines p. 75H D- Science Safety HB D- CCC-HB D- ELA-HB D- Math-HB D- SEP-HB D- ScienceSaurus Reference HB

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Curriculum Alignment Common Language (CACL) Guide 6-8		
Acronym	**Word/Phrase**	**Description**
CER	Claims Evidence Reasoning	Students make a claim and gather evidence along the way (during EXPLORATORY activities) to support claim.
CCC-HB	Crosscutting Handbook	Students who need extra support in grasping concepts or to refresh student knowledge of skills.
CYEI	Can You Explain It	Lesson phenomenon used to ENGAGE students in learning at the beginning of the lesson.
CYSI	Can You Solve It	Lesson phenomenon used to ENGAGE students in learning at the beginning of the lesson.
D	Digital	Program resources and features in interactive digital form.
DI (ELL/RTI) **Extension** **COLLAB** **Connections to Other Disciplines**	Differentiated Instruction (English Language Learner/Response to Intervention) Collaboration Connections to Other Disciplines	A page that lists all learning activities used to differentiate learning, engage students in collaborative activities and connect learning to other subjects.
DTM	Do the Math	Integrated subject learning.
ENB	Evidence Notebook	Student notebook or journal used to gather evidence during EXPLORATORY learning activities to support their claims.
ENGIT	Engineer It	Integrated subject learning.
ELA-HB	English Language Arts Handbook	Students who need extra support in grasping concepts or to refresh student knowledge of skills.
HOL	Hands-On Lab	Activities or experiments that enable students to demonstrate scientific procedures and analysis.
LS	Language SmArts	Integrated subject learning.

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M-HB	Math Handbook	Students who need extra support in grasping concepts or to refresh student knowledge of skills.
P	Print	Program resources and features in print form.
SEP-HB	Science and Engineer Practices Handbook	Students who need extra support in grasping concepts or to refresh student knowledge of skills.
TIF	Take It Further (enrich)	Enrichment activities for students in digital or print.
VBP	Video Based Project	Real life videos related to science and/or engineering that enable students to demonstrate mastery of performance expectations.
VL	Virtual Lab	Fully interactive simulations in which students perform experiments, collect data and answer questions.
WIM	Why It Matters	Questions related to lessons within each unit that asks students to consider how science affects the world around them.
YSI	You Solve It (Simulation)	Open-ended simulation-based learning with multiple answer options.