EPSD Curriculum and HMH SCIENCE DIMENSIONS 2018 Alignment TEMPLATE

GRADE 6

EPSD Unit 2: Earth Systems: Rocks and Minerals (part II)
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 F</td></tr>
<tr><td colspan="2">Unit 2: Earth Through Time
Unit Video: (paleontologists searching for fossils); Why it Matters p. 94; Unit Starter p. 95; Vocabulary p. 95G; Unit Project p. 95I; Unit Connections p. 132; Unit Review pp. 133-136; Unit Performance Task pp. 137-138</td></tr>
<tr><td colspan="2">Standard for all Units: (D) Interactive Multilingual Glossary; (D/P) Unit Pretest; (D) Lesson Quizzes; (D/P) Unit Tests</td></tr>
<tr><td 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 rowspan="2">Instructional Days: 10 - 15</td><td>Lesson 1: The Age of Earth’s Rocks pp. 96-113

D/P – WIM Questions p. 92

D/P- CYEI How could the ages of these dinosaurs be determined? p. 97

P- ENB (prompt) Gather evidence to help explain how they know when those ancient animals (on p. 97) lived. p. 97
P- ENGIT Students propose a solution to a problem to explore rock layers in a region where there are no exposed cliffs or areas where the rock layers can be seen; they are all below the ground. p. 99</td><td>Lesson 2: Earth’s History pp. 114-131

D/P – WIM Questions p. 92

D/P- CYEI What evidence is used to construct this timeline of Earth’s history? p. 115

P- ENB (prompt) Gather evidence to help explain what kinds of evidence are used to construct geologic time scales. p. 115
D/P- DTM Describe Scales of Time (Students will calculate the number of human lifetimes since to Himalayas began to form.) p. 117
P- ENB (prompt) How can major geologic events and changes in organisms provide</td></tr>
</table>

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.		D/P- HOL Activity Model Rock Layers to Determine Relative Age pp. 102-103 P- LS Students write a claim with supporting evidence for each observation from Step 5 in the HOL Activity. p. 103 P- ENB (prompt) Explain how undisturbed sedimentary rock layers and index fossils in Dinosaur Provincial Park can provide information about the ages of the park's ancient animals. p. 104 D/P- Diagram of layers missing in rock, which causes gaps. This occurrence is known as "Unconformity." p. 105 D/P- DTM Determine Absolute Age. p. 107 P- ENB (prompt) How can absolute dating be used to describe when the fossil organisms in Dinosaur Provincial Park lived? Explain. p. 108 D/P- TIF (enrich) Exploring the Ashfall Fossil Beds pp. 109-110 D- Exploring Local Geology; Propose Your Own Path P- LS Students brainstorm a list of what they learned in this lesson to use in their report. p. 110 D/P- Lesson Self Check pp. 111-113 D- Lesson Quiz D- Make Your Own Study Guide P- DI (ELL/RTI) p. 95G	evidence for constructing a timeline of Earth's history? p. 119 P- HOL Activity Construct a Timeline p. 123 P- ENGIT (Students explain steps that scientists can take to make a scale model of events that happen over time.) p. 123 P- LS Students compare and contrast a calendar or a clock with the timeline shown on p. 125. p. 125 P- ENB (prompt) Explain how scientist use the rock and fossil records to organize Earth's history into a single timeline. p. 126 P- LS Students examine photos in eBook or on p. 126 and think about and explain how the geological processes may have resulted in the formation of each rock and fossil. p. 126 D/P- TIF (enrich) Careers in Science: Paleoartist pp. 127-128 D- Hands-On Labs; Exploring the Great Dying; Propose Your Own Path D/P- Lesson Self Check pp. 129-131 D- Lesson Quiz D- Make Your Own Study Guide P- DI (ELL/RTI) p. 95G P- Extension p. 95G P- COLLAB p. 95H
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', 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. 95G P- COLLAB p. 95H P- Connections to Other Disciplines p. 95H D- Science Safety HB D- CCC-HB D- ELA-HB D- Math-HB D- SEP-HB D- ScienceSaurus Reference HB D- VBP Australian Fossils D- VL Plate Boundaries	P- Connections to Other Disciplines p. 95H D- Science Safety HB D- CCC-HB D- ELA-HB D- Math-HB D- SEP-HB D- ScienceSaurus Reference HB D- VL How Do We Divide Earth's History?

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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.