EPSD Curriculum and HMH SCIENCE DIMENSIONS 2018 Alignment TEMPLATE

GRADE 2

EPSD Unit 5: Changes to Earth's Land
Fourth Marking Period

<table>
<tr><td colspan="2">Overview: In this unit of study, students apply their understanding of the idea that wind and water can change the shape of land to compare design
solutions to slow or prevent such change. The crosscutting concepts of stability and change; structure and function; and the influence of engineering,
technology, and science on society and the natural world are called out as organizing concepts for these disciplinary core ideas. Students demonstrate
grade-appropriate proficiency in asking questions and defining problems, developing and using models, and constructing explanations and designing
solutions. Students are also expected to use these practices to demonstrate understanding of the core ideas. This unit is based on 2-ESS1-1, 2-ESS2-1, K-2-ETS1-1, and K-2-ETS1-2.</td><td>HMH Science Dimensions Program Resources

Unit 5: Changes to Earth's Surface
Unit Video (wind causing dust and sand to move); Unit Overview p. 221; Vocabulary p. 223 Connecting with NGSS p. 223H; Unit Project p. 223I; Unit Performance Task pp. 280-281; Unit Review pp. 282-284</td></tr>
<tr><td>Standards: (2-ESS1 1) Use information from several sources to provide evidence that Earth events can occur</td><td>Instructional Days: 15-20</td><td>Standard for all Units: Interactive Glossary (D); Leveled Readers (D); Beginning-of-Year Test (D/P); Unit Pretest (D/P); Lesson Quizzes (D/P); Unit Test (D/P)

Note: Refer to the Curriculum Alignment Common Language (CACL) Guide to decipher acronyms.</td></tr>
</table>

quickly or slowly. (2-ESS2-1) Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. (K-2-ETS1-1) Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. (K-2-ETS1-2) Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.				
Objective 1: Students will observe and take notes on how water changes the land. **Objective 2:** Students will take observational notes on the effects of wind erosion.		**Lesson 1:** What Changes on Earth Happen Slowly? pp. 224-243 D/P- CYEI (video) Rock shapes in Bryce Canyon p.225 D/P- CYEI What causes slow changes to rocks on Earth? p. 225 D/P- Weathering by Wind (Students watch video of a mountain changing over time and explore online to find out more about the changes weathering makes on Earth.) pp. 226-227 P- AWYK (ENB) Students observe a rock, then rub sandpaper over the rock and identify if the rock changed; students use evidence to support answers and record answers in ENB. p. 227	**Lesson 2:** What Changes on Earth Happen Quickly? pp. 244-263 D/P- CYEI (video) Volcanic eruption p. 245 D/P- CYEI How can a volcano cause Earth's surface to change quickly? p. 245 D/P- Earthquakes (Students watch video to watch an earthquake in action and explore online to find out more about the changes made by earthquakes.) pp. 246-247 P- AWYK (ENB) Students will model earth's surface during an earthquake (using a graham cracker) and record observations in their ENB. p. 247 D/P- Volcanoes (Students watch video and explore	**Lesson 3:** Engineer It- How Can We Prevent Wind and Water from Changing Land? pp. 264-279 D/P- CYEI (video) Heavy rainfall p. 265 D/P- CYEI What can people do to prevent water and wind from changing the land? p. 265 D/P- Changes Caused by Wind (Students explore online to find out more about erosion caused by wind.) pp. 266-267 D/P- DTM Subtract lengths (Students solve a word problem.) p. 267 P- AWYK (ENB) Students think about why it is important to stop wind erosion and write two reasons why, in their ENB. p. 267 D/P- Changes Caused by Water (Students watch

EPSD Curriculum and HMH SCIENCE DIMENSIONS 2018 Alignment TEMPLATE

Objective 3: Students will design and draw a diagram of an erosion control of their own. **Objective 4:** Students will work as a team to plan, design, construct and test a dam with natural materials. **Topics:** Weathering and Erosion Engineering Twenty-First Century Themes and Skills include: Environmental Literacy • The Four C's • Global Awareness **Essential Questions**: What evidence can we find to prove that Earth events can occur quickly or slowly? In what ways do humans slow or prevent wind or water from changing the shape of the land?	D/P- Weathering by Water and Ice (Students explore online to find out more about weathering by water and ice.) pp. 228-229 P- AWYK (ENB) Students work with a partner to determine if changes occur with a cup of water that freezes overnight; students use evidence to support their answers and record answers in their ENB. p. 229 D/P- Weathering by Plants (Students explore online to find out more about weathering by plants.) pp. 230-231 P- AWYK (ENB) Students record their observations of how plants cause changes by weathering; students use evidence to explain their observations and draw observations in their ENB. p. 231 D/P- Erosion by Wind (Students watch video and explore online to find out more about how wind	online to find out more about volcanoes.) p. 248 D/P- DTM Use Symbols (Student use greater than, less than, and equal symbols to compare numbers.) p. 249 P- AWYK Students draw before and after pictures of a volcano changing Earth's surface; students share drawings with peers and use evidence to explain the changes. p. 249 D/P- Landslides (Students watch video and explore online to find out more about how landslides can change Earth's surface.) pp. 250-251 P- AWYK (ENB) Students draw a picture of how a landslide causes changes to Earth's surface and use evidence to describe the changes OR allow students to use print or online resources to identify a picture of a landslide; students draw a	videos and explore online to find out more about how water causes changes to Earth's surface.) pp. 268-269 P- AWYK (ENB) Students look at picture and discuss what is happening to the farmland; students record, in their ENB, two ways that flooding harms farmland and use evidence to support their answer. p. 269 D/P- Ways to Prevent Changes to Land (Students explore online to find out more about ways to prevent erosion.) pp. 270-271 D/P- Students watch video online to explore several ways to prevent landslides. p. 272 P- AWYK Read, Write, Share! (Students identify two questions they have about ways to prevent wind and water from changing the land and look in books, magazines, or on

	causes erosion.) pp. 232-234 P- AWYK (ENB) Students observe what happens when they blow air gently through a straw toward the mountain of sand on a tray; students sketch pictures of their observations in their ENB. p. 234 D/P- Erosion by Water and Ice (Students watch video and explore online to find out more about water and ice erosion.) pp. 235-236 D/P- DTM Stability and Change: Understand Place Value p. 235 P- AWYK Students talk with a partner about how wind and water can change a beach over time. p. 236 D/P- HO Activity Model Erosion (Students build a model of a stream to observe what happens to Earth's surface during erosion of water; students watch video online to set up and complete the activity.) pp. 237-238	picture of how a landslide causes changes to Earth's surface and use evidence to describe the changes. p. 251 D/P- Hurricanes (Students explore online to take a close look at digital pictures and to find out more about hurricanes.) pp. 253-254 P- AWYK (ENB) Students think about the changes a hurricane causes to Earth's surface and identifies two events that a hurricane brings and how they cause Earth's surface to change; students use evidence to explain how hurricanes cause changes and record answers in their ENB. p. 254 D/P- Floods (Students watch video and explore online to find out more about floods.) pp. 255-256 P- AWYK Read, Write, Share! (Students work	the Internet to find answers.) p. 272 D/P- HO Activity Engineer It: Prevent Water from Changing Land (Students design, test, and redesign possible solutions to prevent water from changing land; students communicate their findings to classmates; students watch video to set up and complete the activity.) pp. 273-274 D/P- TIF (enrich) Careers in Science and Engineering: Geotechnical Engineer; The Dust Bowl pp. 275-276 D/P- Lesson Check p. 277 D/P- Self Check pp. 278-279 D- Lesson Quiz P- DI (ELL/RTI) p. 223G P-Extension p. 223G P- COLLAB p. 223H P- Connecting with NGSS p. 223H

	D/P- TIF (enrich) Careers in Science and Engineering: Farming; How Does a Delta Form? pp. 239-240 P- Read, Write, Share (Students do research using online and print resources to find out more about how farmers use plants to slow erosion.) p. 240 D/P- Lesson Check p. 241 D/P- Self Check pp. 242-243 D- Lesson Quiz P- DI (ELL/RTI) p. 223G P-Extension p. 223G P- COLLAB p. 223H P- Connecting with NGSS p. 223H D- Science Safety HB D- CCC-HB D- ELA-HB D- M- HB D- SEP-HB D- ScienceSarurs Reference HB	with a partner to state a claim about floods, gather information to use as evidence to support their claim, look at books and online sources, and use the information to write a report and share with classmates.) p. 256 D/P- HO Activity Model Quick Changes on Earth (Students build a model to observe what happens to Earth's surface during a flood; have students go online to watch video to set up and complete the activity.) pp. 257-258 D/P- TIF (enrich) People in Science and Engineering: Dr. Rosaly M. C. Lopes; Earthquake Locations pp. 259-260 D/P- Lesson Check p. 261 D/P- Self Check pp. 262-263 D- Lesson Quiz P- DI (ELL/RTI) p. 223G P-Extension p. 223G	D- Science Safety HB D- CCC-HB D- ELA-HB D- M- HB D- SEP-HB D- ScienceSarurs Reference HB

	D- YSI Simulation Preventing Wind Erosion	P- COLLAB p. 223H P- Connecting with NGSS p. 223H D- Science Safety HB D- CCC-HB D- ELA-HB D- M- HB D-SEP-HB D- ScienceSarurs Reference HB	

EPSD Curriculum and HMH SCIENCE DIMENSIONS 2018 Alignment TEMPLATE

Curriculum Alignment Common Language (CACL) Guide K-5		
Acronym	**Word/Phrase**	**Description**
AWYK	Apply What You Know	Hands on opportunities for students to apply learning.
CER	Claims Evidence Reasoning	Students make a claim and gather evidence along the way (during EXPLORATORY activities) to support claim.
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 Science**	Differentiated Instruction (English Language Learner/Response to Intervention) Collaboration Connections to Science	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.

EPSD Curriculum and HMH SCIENCE DIMENSIONS 2018 Alignment TEMPLATE

ENB	Evidence Notebook (prompt)	Student notebook or journal used to gather evidence during EXPLORATORY learning activities to support their claims.
ENGIT	Engineer It	Integrated subject learning.
HB **CCC-HB** **ELA-HB** **M-HB** **SEP-HB**	Handbooks Crosscutting Concepts English Language Arts Math Science and Engineering Practices	Students who need extra support in grasping concepts or to refresh student knowledge of skills.
HO	Hands-On (Activity)	Student collaboration activities.
LS	Language Smarts	Integrated subject learning.
P	Print	Program resources and features in print form.
TIF	Take It Further (enrich)	Enrichment activities for students in print or digital.
YSI	You Solve It (Simulation)	Open-ended simulation-based learning with multiple answer options.