EPSD Curriculum and HMH SCIENCE DIMENSIONS 2018 Alignment TEMPLATE

GRADE 5

EPSD Unit 4: Water on Earth (part I)
Third Marking Period

<table>
<tr><td colspan="2" rowspan="2">Overview: In this unit of study, students describe and graph data to provide evidence about the distribution of water on Earth. The crosscutting concepts of scale, proportion, quantity, cause and effect, systems and systems models are called out as organizing concepts for these disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in using mathematics and computational thinking and in obtaining, evaluating, and communicating information. Students are also expected to use these practices to demonstrate understanding of the core ideas. This unit is based on 5-ESS2-2 and 5-ESS3-1.</td><td colspan="3">HMH Science Dimensions Program Resources</td></tr>
<tr><td colspan="3">Unit 6: Earth Systems
Unit Video (water from the hydrosphere); Unit Overview p. 363; Vocabulary p. 365; Making Connections 365H; Unit Project p. 365I; Unit Performance Task pp. 438-439; Unit Review pp. 440-442</td></tr>
<tr><td colspan="2" rowspan="2">Standards: (5-ESS2-2) Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. (5-ESS3-1) Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.</td><td colspan="3">Standard for all Units: Interactive Glossary (D); Leveled Readers (D); Beginning-of-Year Test (D/P); Unit Pretest; (D) Lesson Quizzes (D/P); Unit Test (D/P)

Note: Refer to the Curriculum Alignment Common Language (CACL) Guide to decipher acronyms.</td></tr>
<tr><td>Instructional Days: 15</td><td>Lesson 1: What Are Earth’s Major Systems? pp. 366-387

D/P- CYEI (digital picture) Dinosaurs drinking water from a lake p. 367

P- ENB (prompt) What is a cycle? 367
P- ENB (prompt) For each system, students write down something in their</td><td>Lesson 2: How Do Earth’s Systems Interact? pp. 388-411

D/P- CYEI (video) Farmer using a tractor p. 389

P- ENB (prompt) Students identify how they think Earth’s systems are interacting in the image (farmer using a tractor). p. 389</td><td>Lesson 3: What is the Role of the Oceans in Earth's Systems? pp. 412-437

D/P- CYEI (digital picture) World’s oxygen is supplied mostly by tiny microscopic living things called phytoplankton. p. 413

P- ENB (prompt) How do you think something so small could be the base of a food chain and the main</td></tr>
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Objective 1: Students will identify sources of fresh water available for consumption and understand the need for water conservation due to the limited fresh water supply at home and in the community. **Objective 2:** Students will identify the percentage of fresh water on earth that is available for human use and the distribution of different types around the globe. **Objective 3:** Students will make a graph to show the distribution of water on Earth and write about their observations. **Objective 4:** Students will explain the steps humans can take to protect the environment from water pollution. **Topics:** Water on Earth Twenty-First Century Themes and Skills include: The Four C's • Environmental Literacy • Global Awareness **Essential Questions**: Where is water found on the Earth? What percentage of the Earth's water is fresh water? How do individual communities use science ideas to protect Earth's resources and environment?	neighborhood that is part of that system. p. 369 D/P- LS (Students identify how they can explain the difference between soil and dirt to friends.) p. 371 D/P- Rock Cycle (Students go online to learn more about the rock cycle.) p. 373 D/P- DTM Measuring Layers (Students identify which layer of the atmosphere has the greatest range in thickness.) 373 D/P- Atmospheric Layers and Pressure (Students watch the animation to discover more about atmospheric layers and pressure) p. 374 D/P- HO Activity Modeling Earth's Layers (Students collaborate with peers to learn more about the layers in the geosphere and make a scale model of Earth's layers.) pp. 375-377 D/P- AWYK HO Activity Water Fresh and Salty (Students use water and food coloring to represent	P- ENB (prompt) Students identify ways the Earth's systems interact in the water cycle. p. 390 D/P- DTM How Big Is a Drop? (Students use fractions to order the size of water droplets.) p. 391 D/P- Pollution in Action (Students use food dye and water to model pollution.) p. 393 D/P- HO Activity What Happens During the Water Cycle? (Students collaborate with peers to study the influence of oceans on the water cycle.) pp. 394-395 D/P- AWYK HO Activity Let it Shine! (Students model the way light strikes.) p. 396 D/P- LS Students summarize information about the sun's energy and Earth.) p. 397 P- ENB (prompt) Students identify an effect of the uneven heating of land and air on Earth. p. 398 P- ENB (prompt) Students describe examples of	provider of the world's oxygen? p. 413 D/P- All About Oceans: Blue Planet (Students watch video about the distribution of Earth's water.) p. 414 D/P- DTM Earth's Water (Students fill in a grid to model the distribution of Earth's water.) p. 414 D/P- AWYK HO Activity Salty Seas (Students explore the relationship between the salinity of water and how easy it is for something to float or sink in water) p. 415 D/P- Mixing Waters (Students watch the video to discover more about how ocean ecosystems change with depth.) p. 416 D/P- LS Students research and report on ocean submersibles. p. 416 D/P- HO Activity How Do Oceans Shape Coastlines? (Students collaborate to explore physical interactions between the hydrosphere and geosphere that occur at coastlines.) pp. 418-419

	fresh water on Earth and nonfrozen fresh water.) p. 379 D/P- LS Groups of students role play scientists at a conference who are discussing the importance of water to living things. p. 380 P- ENB (prompt) Students identify what they use water for and other uses of water; students identify whether it is important to keep water free from pollution and why. p. 380 D/P- LS Recall Relevant Information from Experiences (Students make an analogy using an example of a system that is organized from largest to smallest.) p. 381 D/P- TIF (enrich) Careers in Science and Engineering: Volcanologist pp. 383-384 D- Model Earth: Above and Below; Caves D/P- Lesson Self Check pp. 385-386	weathering and erosion in the schoolyard or around their neighborhood. p. 401 D/P- LS Cause and Effect (Students describe a cause-and-effect relationship among at least two of Earth's spheres that leads to a soil formation.) p. 403 D/P- Case Study- Glen Canyon Dam (Students watch video to discover more about the Glen Canyon Dam in Arizona.) p. 406 D/P- TIF (enrich) Measuring Weather Across the Spheres pp. 407-408 D- Monsoons; Agricultural Engineering D/P- Lesson Self Check pp. 409-410 D/P- Lesson Roundup p. 411 D- Lesson Quiz P- DI (ELL/RTI) p. 365G P- Extension p. 365G	D/P- Oceans Affect Landforms: Give and Take (Student watch video to learn about coastal erosion and buildup.) p. 420 D/P- LS Students describe how the ocean can reshape coastlines in ways that are both gradual and sudden. p. 421 D/P- Rocky Shores (Students watch video to discover more about the Cliffs of Moher, Ireland.) p. 422 P- ENB (prompt) Record evidence of how the ocean has reshaped cliffs over time. p. 422 D/P- Beach Rescue (Students examine digital pictures to discover more about solutions to beach erosion.) p. 423 D/P- Heater and Cooler (Students examine digital pictures to discover more about ocean currents and the great ocean conveyor belt.) p. 424-425 P- ENB (prompt) How does the ocean affect the

	D/P- Lesson Roundup p. 387 D- Lesson Quiz P- DI (ELL/RTI) p. 365G P- Extension p. 365G P- COLLAB p. 365H P- Connections to Science p. 365H D- Science Safety HB D- CCC-HB D- ELA-HB D- Math-HB D- SEP-HB D- ScienceSaurus Reference HB D- YSI Simulation Earth's Systems	P- COLLAB p. 365H P- Connections to Science p. 365H D- Science Safety HB D- CCC-HB D- ELA-HB D- Math-HB D- SEP-HB D- ScienceSaurus Reference HB D- YSI Simulation Earth's Systems	atmosphere and hydrosphere? p. 425 D/P- LS Students compare and contrast an El Nino event with a typical year.) p. 427 D/P- ENGIT Water Quality (Students watch video to learn about how scientists monitor ocean water quality and identity an example that demonstrates how a small change in ocean water temperature affects Earth's other major systems or spheres.) p. 428 P- ENB (prompt) Photosynthetic organisms usually make up the lowest levels of food chains. Students identify what they think this means about ocean food chains? p. 429 P- AWYK HO Activity Losing Light (With a partner, students explore how light is filtered out by water the deeper you go.) p. 430 D/P- The Ins, Outs, Ups, and Downs of Life on the Shoreline: Tidal Life (Students watch video that

			shows how life changes with the tides.) p.431 D/P- LS Students research how the crab's behavior changes from one tide to the next. Students identify the connection between the crab's changing behavior and its changing environment. p. 431 D/P- Life Offshore (Students watch the video to see what occurs in the open ocean.) p. 432 D/P- TIF (enrich) People in Science and Engineering: Warren Washington and David Sandwell pp. 433-434 D- The Gulf Stream; Harnessing Wave Energy D/P- Lesson Self Check pp. 435-436 D/P- Lesson Roundup p. 437 D- Lesson Quiz P- DI (ELL/RTI) p. 365G P- Extension p. 365G P- COLLAB p. 365H P- Connections to Science p. 365H

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			D- Science Safety HB D- CCC-HB D- ELA-HB D- Math- HB D- SEP-HB D- ScienceSaurus Reference HB D- YSI Simulation Earth's Systems

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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.

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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.