EPSD Curriculum and HMH SCIENCE DIMENSIONS 2018 Alignment TEMPLATE

GRADE 3

EPSD Unit 7: Using Evidence to Understand Change in Environments
Fourth Marking Period

<table>
<tr><td rowspan="4">Overview: In this unit of study, students develop an understanding of the types of organisms that lived long ago and also about the nature of their environments. Students develop an understanding of the idea that when the environment changes, some organisms survive and reproduce, some move to new locations, some move into the transformed environment, and some die. The crosscutting concepts of systems and system models; scale, proportion, and quantity; 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 are expected to demonstrate grade-appropriate proficiency in asking questions and defining
problems, analyzing and interpreting data, and engaging in argument from evidence. Students are also expected to use these practices to demonstrate understanding of the core ideas. This unit is based on 3-LS4-1, 3-LS4-4, and 3-5-ETS1-1.</td><td colspan="2">HMH Science Dimensions Program Resources</td></tr>
<tr><td colspan="2">Unit 6: Fossils
Unit Video (fossils at a natural history museum); Unit Overview p. 345; Vocabulary p. 347; Making Connections p. 347H; Unit Project p. 347I; Unit Performance Task pp. 394-395; Unit Review pp. 396-398</td></tr>
<tr><td colspan="2">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>
<tr><td>Lesson 1: What is a Fossil? pp. 348-369

D/P- CYEI (digital pictures) Fossil teeth of an organism p. 349

P- ENB (prompt) Based on their observations of the organism’s jaw and teeth on page 349, students make inferences about the animal and explain their reasoning. What kind of animal was</td><td>Lesson 2: What Do Fossils Tell Us About the Past? pp. 370-393

D/P- CYEI (video) Interaction between to animals (fossil) p. 371

P- ENB (prompt) Students identify what the fossil tells them about the environment where the two organisms lived; students also identify the clues</td></tr>
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Standards: (3-LS4-1) Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. (3-LS4-4) Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. (3-5-ETS1-1): Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	**Instructional Days**: 15	it? How big do they think the animal was? What do they think the animal ate? p. 349 D/P- Fossil—Yes or No? Students take a closer look at pictures online and identify if each picture shows a fossil. pp. 350-351 D/P- LS Details and Evidence (In a book or online, students research and take notes about a fossil from earlier in the lesson. Students make inferences about where the organism likely lived, what it ate, and how its fossil formed; students support their claim with evidence from the fossil.) p. 353 P- ENB (prompt) Students identify how all the fossils they've seen so far are the same and make a list of the similarities in their ENB. p. 353 D/P- Alive Today? Yes or No? (Students study the digital pictures online to discover more about organisms that are alive today and those that are extinct. Students also research online to decide whether each type of organism is alive or extinct today and select the ones that are extinct.) p. 356 D/P- AWYK HO Activity Modeling Fossils (Students trace the outline of the sole of their shoe and think about ways that their simple drawing is like a fossil; students make a two-column chart and	from the fossil that helped them to decide on their answer. p. 371 D/P- Wet or Dry? Exploring an Ancient Ocean (Students explore the ancient aquatic ecosystem online to learn more about the organisms that live there.) pp. 372-373 D/P- LS Making Inferences (Students make a claim and provide evidence to support their claims about how each of the organisms ate.) p. 373 D/P- Ancient Terrestrial Ecosystem (Students explore online to discover more about the organisms in the terrestrial ecosystem.) pp. 374-375 P- ENB (prompt) Students consider the organisms from the beginning of the lesson and identify whether their features indicate a particular environment. p. 375 D/P- Yesterday and Today: Comparing Fossils to Organisms Living Today (Students explore online to learn more about the similarities and differences between fossils and modern organisms.) pp. 376-377 D/P- LS Students research what turtles from the very distant past may have looked like and tell how they are different from modern turtles. p. 377 D/P- A Closer Look: Woolly Mammoth versus Elephant (Students interact online
Objective: Students will examine how fossils are formed and understand how they provide evidence of plants and animals that lived long ago as well as the environmental conditions at that time**.** **Objective:** Students will use their knowledge about fossils to arrange fossil pictures in sequence from oldest to youngest**.** **Objective:** Students will identify and illustrate how fossil records are used in conjunction with geology.			

Objective: Students will be able to: 1) identify and describe some causes for extinction of animal species; and 2) define rare, threatened and endangered as they apply to animal populations **Objective:** Students will be able to make claims about the bat's population based on data in a graph they create. **Topics:** Fossils and Environmental Changes Twenty-First Century Themes and Skills include: Environmental Literacy • The Four C's **Essential Questions**: What do fossils tell us about the organisms and the environments in which they lived? What happens to the plants and animals when the environment changes?	list the details from the drawing in one column and the details of the real shoe in the second column. Students can repeat steps with hand.) p. 357 P- ENB (prompt) Students consider that they've found two fossils of different body parts of the same organism and identify how they can use what they've learned from the shoe and hand tracings to make inferences about the once-living organisms; students also identify how the fossil jaw they saw at the beginning of the lesson might help them identify features of the organism that left it. Students record their answers in their ENB. p. 357 D/P- HO Activity Walk This Way! (Students collaborate with a partner to make a model and observe how trace fossils can provide evidence about a once-living organism.) pp. 358-359 P- CER Students work in pairs to compare methods and results; each pair of students share their views on how ground conditions affect trace fossils. p. 359 D/P- Clues from Fossils: How Big Was It? (Students watch video and explore online to discover more about the relative sizes of organisms.) pp. 360-361 D/P- DTM Scale (Students use a 4-centimeter paperclip as a visual	with the woolly mammoth to learn more about it.) p. 378 D/P- DTM Greater or Less Than (Students choose the answers that correctly complete the sentences.) p. 379 P- ENB (prompt) Look again at the picture at the beginning of the lesson and list some of the organism's features. p. 379 D/P- HO Activity What Can You Learn from Studying a Fossil? (Students collaborate with their team to make observations about fossils; based on their observations, students describe the type of environment their fossilized organisms most likely lived in.) pp. 380-382 P- CER Students work with a partner to critique each other's claims and evidence in step 10. p. 382 D/P- How'd That Get There? (Students explore online to learn more about how scientists used modern-day organisms as analogues to ancient organisms.) pp. 383-384 D/P- AWYK HO Activity Look-Alikes (Students go online and find pictures of the animal called Utahceratops and of a rhinoceros and make a drawing showing the two animals; students compare the rhinoceros to the Utahceratops.) p. 385 P- ENB (prompt) Students think about the organism that left the fossil shown at the beginning of the lesson and identify what

	reference to determine sizes of fossils.) p. 361 D/P- Pieces and Parts: Some of These, Some of Those (Students view photos to compare the details in fossils.) p. 362 D/P- LS Using the evidence from the details they could see, students determine which modern-day animal they resemble and identify which features provide evidence for their conclusion. p. 362 P- ENB (prompt) Students recall the fossil teeth they saw at the beginning of the lesson and identify what they have learned that can provide evidence about the organism that left the teeth behind; students list any organisms they may know of that have similar teeth. p. 363 D/P- What Was That? Match 'Em Up! (Students explore online to compare the ancient fossils and their renderings more closely.) p. 363 D/P- LS Constructing Explanations (Students respond to question: How do scientists know that some organisms not alive today once lived on Earth?) p. 364 D/P- TIF (enrich) Careers in Science and Engineering: What is a Paleontologist? pp. 365-366 D- Dinosaur Parts D- Build a Fossil Museum	evidence they would need to describe the environment in which it lived. p. 387 D/P- ENGIT Tools of the Trade (Students read text and explore online to learn about the tools used to collect fossils.) p. 388 D/P- LS Making Inferences (Students consider that they have discovered a new animal fossil. Students tell how they would determine the type of environment in which it lived and identify specific parts of the fossil that might be evidence for their claim.) p. 388 D/P- TIF (enrich) People in Science and Engineering: Fossil Seekers pp. 389-390 D- That's a Long Time Ago D- How a Fossil Forms D/P- Lesson Check pp. 391-392 D/P- Lesson Roundup p. 393 D- Lesson Quiz P- DI (ELL/RTI) p. 347G P-Extension p. 347G P- COLLAB p. 347H P- Making Connections p. 347H D- Science Safety HB D- CCC-HB D- ELA-HB D- M- HB D- SEP - HB

	D/P- Lesson Check pp. 367-368 D/P- Lesson Roundup p. 369 D- Lesson Quiz P- DI (ELL/RTI) p. 347G P-Extension p. 347G P- COLLAB p. 347H P- Making Connections p. 347H D- Science Safety HB D- CCC-HB D- ELA-HB D- M- HB D- SEP - HB D- ScienceSarurs Reference HB	D- ScienceSarurs Reference HB D- YSI Simulation Fossils

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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.