EPSD Curriculum and HMH SCIENCE DIMENSIONS 2018 Alignment TEMPLATE

GRADE Kindergarten

Unit 4: Sun Warms Earth
Marking Period:

NGSS Overview:

The performance expectations in kindergarten help students formulate answers to questions such as: "What happens if you push or pull an object harder? Where do animals live and why do they live there? What is the weather like today and how is it different from yesterday?" Kindergarten performance expectations include PS2, PS3, LS1, ESS2, ESS3, and ETS1.

With the Disciplinary Core Ideas, students are expected to develop understanding of patterns and variations in local weather and the purpose of weather forecasting to prepare for, and respond to, severe weather. Students are able to apply an understanding of the effects of different strengths or different directions of pushes and pulls on the motion of an object to analyze a design solution. Students are also expected to develop understanding of what plants and animals (including humans) need to survive and the relationship between their needs and where they live.

The crosscutting concepts of patterns; cause and effect; systems and system models; interdependence of science, engineering, and technology; and influence of engineering, technology, and science on society and the natural world are called out as organizing concepts for these disciplinary core ideas. In the kindergarten performance expectations, students are expected to demonstrate grade-appropriate proficiency in asking questions, developing and using models, planning and carrying out investigations, analyzing and interpreting data, designing solutions, engaging in argument from evidence, and obtaining, evaluating, and communicating information. Students are expected to use these practices to demonstrate understanding of the core ideas.

Performance Expectations:	**HMH Science Dimensions Program Resources**
PS3-1: Make observations to determine the effect of sunlight on Earth's surface.	**Unit 4: Sun Warms Earth** **Unit Video** (lizard laying on a rock); **Unit Overview** p. 143; **Vocabulary** p. 145; **Connecting with NGSS** 145H; **Unit Project** 145I; **Unit Performance Task** pp. 179-171; **Unit Review** pp. 172-174

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PS3-2: Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.	**Standard for all Units:** Interactive Glossary (D); Leveled Readers (D); Beginning-of-Year Test (D/P); Unit Pretest (D/P); Lesson Quizzes (D); Unit Review (D/P); Unit Test (D/P) **Note:** Refer to the Curriculum Alignment Common Language (CACL) Guide to decipher acronyms.	
Objectives: **Lesson 1:** Observe how sunlight affects land and water on Earth's surface. **Lesson 2:** Design and build a structure to reduce the effect of sunlight on an area of Earth's surface.	**Lesson 1:** How Does the Sun Warm Earth? pp. 146-157 D/P- CYEI (video) Sun warming the Earth p. 147 D/P- CYEI What things are being warmed by heat from the sun? p. 147 D/P- The Sun's Light (Students view video about how the sun help us see things and explore online to find out more about how the sky changes as the sun appears.) pp. 148-149 D/P- AWYK Students compare objects observed by flashlight and objects observed by the sun and share ideas. p. 149 D/P- The Sun's Heat (Students view digital pictures and explore online to learn how the sun gives off heat.) p. 150 P- AWYK Read, Write, Share! Students tell and draw/write about a favorite sunny-day activity. p. 150	**Lesson 2:** Engineer It: How Can I Protect Myself from the Sun? pp. 158-169 D/P- CYSI (video) Places to build a sandbox p. 159 D/P- CYSI Where is the best place to build a sandbox? p. 159 D/P- Heat, Light, and Shade (Students view digital pictures and explore online to find out more about how shade helps people stay cool.) pp. 160-161 D/P- DTM Compare Objects (Students compare two trees and identify which tree would protect them more from the sun.) p. 161 P- AWYK (ENB) Students work with a partner to brainstorm different shady spots near where they live. p. 161 D/P- Engineers at Work (Students explore online to learn about a process engineers go through to design and build things to protect people from the sun.) p. 162
Instructional Days: 12 Days for Core; 24 Days for Comprehensive		
Unit Project: The Sun Heats Up Land and Water How hot do soil and water get in the sun? Investigate to find out.		
Unit Vocabulary: light heat shade		

	D/P- HO Activity The Sun's Heat (Students explore the effects of the sun's heat on Earth's surface; students can watch video online about how to set up and perform this activity.) pp. 151-152 D/P- TIF (enrich) People in Science and Engineering: Galileo Galilei; Other Sources of Light pp. 153-154 D/P- Lesson Check p. 155 D/P- Self Check pp. 156-157 D- Lesson Quiz P- DI (ELL/RTI) p. 145G P-Extension p. 145G P- COLLAB p. 145H P- Connecting with NGSS p. 145H D- Science Safety HB D- CCC-HB D- ELA-HB D- M-HB D- SEP-HB D- ScienceSarurs Reference HB	P- AWYK (ENB) Bonnies walks to school every day on a path that does not have any shade. Students work with partners to brainstorm two solutions that will help Bonnie protect herself from the sun; students draw pictures of their ideas in their ENB. p. 162 D/P- HO Activity Engineer It: Design Shade (Students explore ways to design and build a shelter that provides shade for an object; students can watch video online of the steps for this activity.) pp. 163-164 P- CER Students make a claim about what shade can do and provide evidence to support their claim. p. 164 D/P- TIF (enrich) Careers in Science and Engineering: Solar Energy Plant Operator; Sun Prints pp. 165-166 D/P- Lesson Check p. 167 D/P- Self Check pp. 168-169 D- Lesson Quiz P- DI (ELL/RTI) p. 145G P-Extension p. 145G P- COLLAB p. 145H P- Connecting with NGSS p. 145H D- Science Safety HB D- CCC-HB

		D- ELA-HB D- M-HB D- SEP-HB D- ScienceSarurs Reference HB D- YSI Simulation Going Outside to Play

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.

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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.
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.