EPSD Curriculum and HMH SCIENCE DIMENSIONS 2018 Alignment TEMPLATE

GRADE 2

EPSD Unit 2: Properties of Matter
Second Marking Period

<table>
<tr><td colspan="2">Overview: During this unit, students will demonstrate an understanding of observable properties of materials through analysis and classification of different materials. The crosscutting concepts of patterns, cause and effect, 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 planning and carrying out investigations and analyzing and interpreting data. Students are also expected to use these practices to demonstrate understanding of the core ideas. This unit is based on 2-PS1-1, 2- PS2-1, and K-2-ETS1-3.</td><td colspan="2">HMH Science Dimensions Program Resources</td></tr>
<tr><td colspan="2" rowspan="3">Standards: (2-PS1-1) Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. (2-PS2-1) Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. (K-2-ETS1-3) Analyze data from tests of two objects

Instructional Days: 15-20</td><td colspan="2">Unit 2: Matter
Unit Video (frozen water becomes liquid); Unit Overview p. 39; Vocabulary p. 41; Connecting with NGSS p. 41J; Unit Project p. 41K; Unit Performance Task pp. 102 - 103; Unit Review pp. 104-106</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: Engineer It: What are the Properties of Matter? pp. 42-59

D/P- CYEI (videos) Boy riding bike through the forest p. 43

D/P- CYEI What is Another Use for Rubber? p. 43
D/P- Properties of Matter (Students view digital pictures and explore online to find out more about some properties of matter.) pp. 44-46.
P-AWYK (ENB) Can something have more than one property? Students work with a partner to find out, use evidence to</td><td>Lesson 2: How are Objects Put Together? pp. 60-71

D/P- CYEI (digital pictures) Examples of object for building and taking apart p. 61

D/P- CYEI How did the first object become a second one? p. 61
D/P- Build It Up, Take It Down (Students explore online, make observations, and use evidence to describe how objects can be built up from smaller pieces to make a larger object.) pp. 62-63
D/P- AWYK (ENB) How can different objects be made from the same set of</td></tr>
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designed to solve the same problem to compare the strengths and weaknesses of how each performs.		support their answers, and record their answers in their ENB. p. 47 D/P- States of Matter (Students explore online to find out more about the characteristics of solids.) p. 48 D/P- AWYK (ENB) What are some examples of soft solids? Students discuss as a class, use evidence to support their examples, and record their answers in their ENB. p. 48. D/P- States of Matter- Liquids (Students watch video and explore online to find out more about liquids.) p. 49. D/P- AWYK (Students work in a small group to investigate what happens when they shake a clear jar of water.) p. 49 D/P- Which Materials Are Best? (Students explore online to find out more about which materials are best.) p. 50 D/P- ENGIT HO Activity Engineer It: Explore Properties of Matter (Students plan and carry out tests on each of several different materials to determine their suitability as a pillow filler; students watch video online to set up and complete the activity.) pp. 51-52 D/P- DTM Good Pillow Filler Bar Graph (Students analyze the data in the bar graph to help them answer the question.) p. 53	pieces? Students work with a partner to discuss what makes up different objects, such as their homes; students use evidence to support their answers and record answers in their ENB. p. 63 D/P- AWYK (ENB) Read, Write, Share! (Students work with class to discuss the smaller pieces that make up a wooden bench and identify something else they can build with the same set of pieces; students use evidence to support their discussion and record their answers in their ENB.) p. 64 D/P- HO Activity Build Objects from Smaller Pieces (Students design and implement a plan to find out how many objects they can build from the same set of pieces, and record and analyze results; students watch video online to set up and complete the activity.) pp. 65-66 D/P- TIF (enrich) Careers in Science and Engineering: Architect; What's Old is New Again pp. 67-68 P- TIF (enrich) Design It (Students draw a design of a building they would like to build and share their drawings with classmates.) p. 68 D/P- DTM Partition Shapes p. 68
Objective 1: Students will learn what matter is and explore different states of matter. **Objective 2:** Students will review different properties of matter and classify objects found in back pack or classroom. **Objective 3:** Students will classify different objects based on physical properties. **Objective 4:** Students will explore different properties of matter and will create a class anchor chart. **Objective 5:** Students will evaluate a series of objects for absorbency, strength and flexibility. Students will then evaluate which of the items would be best for each category based on their performance during testing. **Objective 6:** Understanding how materials behave in their natural state and under certain conditions will help students to understand why objects are made of specific materials.			

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Topics: Patterns and Types of Matter Twenty First Century Skills: Environmental Literacy • The Four C's	P- (ENB) Students think about other questions they have about properties of matter and record their work in their ENB. p. 53 P- AWYK Read, Write, Share! (Students create riddles to describe objects.) p. 54 D/P- TIF (enrich) People in Science and Engineering: Dr. Eugene Tssui; Another Kind of Matter pp. 55-56. D/P- Lesson Check p. 57 D/P- Self Check- pp. 58-59 D- Lesson Quiz P- DI ELL/RTI – p. 41I P- Extension p. 41I P- COLLAB p. 41J P- Connecting with NGSS p. 41J D- Science Safety HB D- CCC-Hb D- ELA-HB D- M- HB D-SEP-HB D- ScienceSarurs Reference HB D- YSI Simulation Changes to Matter	D/P- Lesson Check p. 69 D/P- Self Check pp. 70-71 D- Lesson Quiz P- DI ELL/RTI – p. 41I P- Extension p. 41I P- p. 41J P- Connecting with NGSS p. 41J D- Science Safety HB D- CCC-HB D- ELA-HB D- M- HB D- SEP-HB D- ScienceSarurs Reference HB D- YSI Simulation Changes to Matter
Essential Questions: How can we sort objects into groups that have similar patterns? Can some materials be a solid or a liquid?		

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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.