EPSD Curriculum and HMH SCIENCE DIMENSIONS 2018 Alignment TEMPLATE

GRADE 3

EPSD Unit 4: Traits (part I)
Third Marking Period

Overview: In this unit of study, students acquire an understanding that organisms have different inherited traits and that the environment can also affect the traits that an organism develops. The crosscutting concepts of patterns and cause and effect are called out as organizing concepts for these disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in analyzing and interpreting data, 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 3-LS3-1 and 3-LS3-2.

Standards: (3-LS3-1) Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. (3-LS3-2) Use evidence to support the explanation that traits can be influenced by the environment.

Instructional Days: 15-20

Objective 1: Students will classify seashells by observing similarities and differences in patterns.

HMH Science Dimensions Program Resources

Unit 4: Life Cycles and Inherited Traits
Unit Video (white Bengal tigers); **Unit Overview** p. 181; **Vocabulary** p. 183; **Making Connections** p. 183H; **Unit Project** p. 183I; **Unit Performance Task** pp. 254-255; **Unit Review** pp. 256-258

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.

Lesson 1: What are Some Plant Life Cycles? pp. 184-207

D/P- CYEI (video) Dandelions p. 185

P- ENB (prompt) Think about the dandelions in the field. How did the field end up with so many flowers p. 185
D/P- So Many Stages (Students explore online and watch the animation of

Lesson 2: What Are Some Animal Cycles? pp. 208-233

D/P- CYEI (video) Animal in the early stage of its life cycle p. 209

P- ENB (prompt) Students identify which animal shows the adult stage of the animal above and identify what makes them think this is the adult stage of the larva. p. 209

Lesson 3: What Are Inherited Plant and Animal Traits? pp. 234-253

D/P- CYEI (video) Mother cat and baby kittens p. 235

P- ENB (prompt) Students identify whether all the kittens are the offspring of the mother cat. Why or why not? p. 235

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Objective 2: Students will explain that any given physical or behavioral characteristic has advantages and disadvantages. **Objective 3:** Students will demonstrate understanding of environmental influence on an animal's survival. **Objective 4:** Students will identify and interpret traits that are found in mammals by noticing differences among animals of the same species. Make a claim that traits are inherited from parents that is supported by evidence. **Topics:** Traits Twenty-First Century Themes and Skills include: Environmental Literacy • The Four C's **Essential Questions**: What kinds of traits are passed on from parent to offspring? What environmental factors might influence the traits of a specific organism?	the dandelion life cycle and complete the sorting activity.) pp. 186-187 D/P- LS Students respond to the following question: Does the flowering plant's life cycle always happen in the same order? Explain. p. 187 P- ENB (prompt) Students draw and explain the stages of the dandelion life cycle and identify how their diagram provides evidence for how dandelions can begin to grow in places where they didn't appear before. p. 187 D/P- ENGIT Flow Hive (Students read text on page 189 or in their eBook and identify the problems the Flow Hives solves for beekeepers and bees. p. 189 D/P- AWYK HO Activity The Full Bloom Layered Flip Book (Students make a flip book to model each part of a flowering plant's life cycle and compare their	D/P- ENGIT I think We Are Being Followed (Students explore online to learn how scientists use GPS to track the movement of animals.) p. 211 P- ENB (prompt) What stages of a life cycle do most animals go through? Students write answers in their ENB. p. 213 D/P- AWYK HO Activity Design a Nest (Students design a nest to keep eggs and young animals safe, dry and warm; students share drawing with a peer and identify how their design keeps eggs or young animals safe, dry and warm.) p. 216 D/P- LS Comparing and Contrasting (Students identify what all the life cycles, that they have learned about so far, have in common and how they are different.) p. 216 D/P- LS Insect Metamorphosis (Students explore online and discuss with a partner how each stage of metamorphosis is	D/P- Plants Have Parents (Students go online to complete matching activity to learn more about plant parents and offspring.) pp. 236-237 D/P- DTM Hello Up There! (Students use tally tables and line plots to record observations of data.) pp. 238-239 D/P- LS Compare and Contrast (Students use the chart on page 240 to compare two siblings and write a compare and contrast paragraph about the similarities and differences in the two siblings.) pp. 240-241 P- ENB (prompt) Students list the types of shared traits they have seen so far in the examples of plant parents and offspring. p. 241 P- HO Activity Pick a Hand (Students take a survey of classmates to identify how many classmates write with their left hand and how many with their right hand; students make

	books with classmates.) p. 190 D/P- HO Activity How Do Plants Grow? (Students collaborate with a team to plant some seeds and observe the life cycle as they germinate and grow.) pp. 191-193 D/P- How Do Life Cycles Differ? (Students explore online to learn more about the ways the life cycles of plants are different and alike.) pp. 194-195 D/P- LS Students identify how the apple tree and pine tree are different and describe the differences they see. p. 195 D/P- Non-Flowering Plant Life Cycle (Students watch video and explore online to discover more about the life cycle of a pine tree.) pp. 198-199 P- ENB (prompt) Explain how a pine tree can begin to grow in new places where there wasn't one before? p. 199 D/P- LS Compare and Contrast (Students explain	alike and different.) pp. 218-219 D/P- AWYK HO Activity Compare and Contrast Poster (Students collaborate with a partner to research the life cycle of their assigned insect or amphibian and complete chart with findings; student partner groups team up with another group that researched a different animal and each group designs a poster that compares and contrasts the insect and amphibian life cycles.) p. 220 P- ENB (prompt) Students identify the number of stages they can count in the life cycles they have studied so far and record their answer in their ENB. p. 221 D/P- HO Activity Observing Mealworm Metamorphosis (Students collaborate with a group to observe and record the changes in a mealworm as	a graph that compares the number of students in each group.) p. 245 P- ENB (prompt) Students list the different shared traits they have seen so far in the examples of animal parents and offspring. p. 245 D/P- LS Main Idea (Students identify the main ideas of the lesson.) p. 245 D/P- HO Activity Monster Traits (Students collaborate with peers to create the offspring from two monster parents based on the trait of each parent.) pp. 246-248 p- CER Students work in pairs to critique each other's claims and evidence in Step 11 in the HO Activity. p. 248 D/P- TIF (enrich) Careers in Science and Engineering: Genetics Specialist pp. 249-250 D- Scavenger Hunt D- Hot Diggity Dog

	how reproduction is both the same for plants with flowers and plants with cones and how it is different.) p. 199 D/P- Broken Cycles (Students watch videos and explore online to learn more about interrupting plant's life cycles.) pp. 200-201 P- ENB (prompt) Think about a field of yellow dandelion flowers. What life cycle stages must have occurred for the field to be full of flowers; students record their responses in their ENB. p. 201 D/P- LS Lights, Camera, Time to Action (Students work in groups to choose one topic from the lesson or select another topic that can interrupt a plant's life cycle; students conduct research on of the topic and present research project to the class.) p. 202 D/P- TIF (enrich) X-Treme Plant Engineering Group pp. 203-204	it goes through its life cycle.) pp. 222-224 P- CER Students work with a partner to critique each other's claims and evidence in Step 8 of the HO Activity. p. 224 P- ENB (prompt) In their ENB, students record reasons why an animal's life cycle could be disrupted and identify situations that can change an animal's life cycle. p. 226 D/P- DTM Population Explosion (Students use patterns in a data chart to find out what would happen if animals never died.) p. 227 P- LS Students research some problems caused by over population and think of some solutions to the problems. p. 228 D/P- TIF (enrich) People in Science and Engineering: Steve Irwin pp. 229-230 D- Careers in Science and Engineering	D/P- Lesson Check pp. 251-252 D/P- Lesson Roundup p. 253 D- Lesson Quiz P- DI (ELL/RTI) p. 183G P-Extension p. 183G P- COLLAB p. 183H P- Making Connections p. 183H D- Science Safety HB D- CCC-HB D- ELA-HB D- M- HB D- SEP - HB D- ScienceSarurs Reference HB D- YSI Simulation Insect Life Cycles

	D- The Germinators D- Careers in Science and Engineering D/P- Lesson Check pp. 205-206 D/P- Lesson Roundup p. 207 D- Lesson Quiz P- DI (ELL/RTI) p. 183G P-Extension p. 183G P- COLLAB p. 183H P- Making Connections p. 183H D- Science Safety HB D- CCC-HB D- ELA-HB D- M- HB D- SEP - HB D- ScienceSarurs Reference HB	D- Comparing Plant Life Cycles to Animal Life Cycles D/P- Lesson Check pp. 231-232 D/P- Lesson Roundup p. 233 D- Lesson Quiz P- DI (ELL/RTI) p. 183G P-Extension p. 183G P- COLLAB p. 183H P- Making Connections p. 183H D- Science Safety HB D- CCC-HB D- ELA-HB D- M- HB D- SEP - HB D- ScienceSarurs Reference HB D- YSI Simulation Insect Life Cycles	

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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.