Third Grade NGSS/Benchmark Alignment

Life Science



3-Life Science1 (3-LS1) From Molecules to Organisms: Structures and Processes

3-Life Science2 (3-LS2) Ecosystems: Interactions, Energy, and Dynamics

3-Life Science3 (3-LS3) Heredity: Inheritance and Variation of Traits

3-Life Science4 (3-LS4) Biological Evolution: Unity and Diversity



Benchmark Unit 3 Animal Adaptations

NGSS Standard

3-LS1-1 Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

Benchmark

Benchmark Essential Question How do living things adapt to change?

The information below cites correlations to FOSS CA to address what is missing from the standard(s) listed in Benchmark. The complete Third Grade NGSS standards can be found at: https://achieve.lausd.net/Page/5990

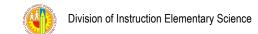
CA FOSS Structures of Life: Investigation 4

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Developing and Using Models Develop models to describe phenomena. (3-LS1-1)	Growth and Development of Organisms Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (3-LS1-1)	Patterns Patterns of change can be used to make predictions. (3-LS1-1)
Investigation 4 Part 2 Science Notebook Sheet 13 (Step 12) Comparing Structures	Investigation 4 Part 2 Student Resource Book Pages 139-140 (Step 15) Inside a Snail's Shell	Investigation 4 Part 2 Focus Questions (Step 15) How do the structures of the snail and crayfish compare? What functions do an organism's structures serve?

Third Grade Life Science (cont'd)		
NGSS Standard	Benchmark	
3-LS2-1 Construct an argument that some animals form groups that help members survive.	<u>NOT ADDRESSED</u>	

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	ound at: https://achieve.lauso	CA FOSS Structures	of Life: Investiga	tion 4		
Science and Engi	neering Practices		Core Ideas	11011 4	Crosscutting Co	ncepts
Engaging in Argument from Evidence Construct an argument with evidence, data, and/or a model. (3-LS2-1)		Social Interactions and G Being part of a group helps defend themselves, and co may serve different function size. (3-LS2-1)	s animals obtain for ppe with changes.	Groups	Cause and Effect Cause and effect relationships are routinely identified and used to explain change. (3-LS2-1)	
Investigation 4 Part 2 Focus Question (Step 19) What is causing the decline of the harlequin frogs in		Investigation 4 Part 2 Focus Question (Step 19) What effect did the changes in the environment have on the red-legged frog? Investigation 4 Part 2 Focus Question (Step 17) What organisms benefit when beavers build the changes in the environment have on the red-legged frog?		eavers build a dam?		
	NGSS Standard				Benchmark	
-	erpret data to provide eviden heir parents and that variation group of similar organisms.	on of these traits exists in a	Benchmark Ess How do living thi	•		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Science and Engineering Practices Disciplinary Core Ideas		Crosscutting Concepts	
Analyzing and	Variation of Traits	Patterns	NOT	Small G	roup Text:	NOT



Third Grade Life Science (cont'd)

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CA FOSS Structures of Life: Investigation 1

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS3-1)	Variation of Traits Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1)	Patterns Similarities and differences in patterns can be used to sort and classify natural phenomena. (3-LS3-1)
Investigation 1 Part 1	Investigation 1 Part 3	Investigation 1 Part 1
Focus Question (Step 14)	Science Resource Book (Step 17)	Focus Question (Step 10)
Why do plants have different amounts of seeds?	"Barbara McClintock" p. 92	How are seeds alike and different?
Why is a carrot not a fruit?		

NGSS Standard	Benchmark Connections / Resources
3-LS3-2. Use evidence to support the explanation that traits can be	Benchmark Essential Question
influenced by the environment	How do living things adapt to change?

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Constructing Explanations and Designing Solutions Use evidence (e.g., observations, patterns) to support an explanation. (3-LS3-2)	LS3.B: Variation of Traits The environment also affects the traits that an organism develops. (3-LS3-2)	Cause and Effect ■ Cause and effect relationships are routinely identified and used to explain change. (3-LS3-2)	NOT ADDRESSED	 Whole Group Text: Animals' Tools for Survival pp.6-9 (Text for Close Reading) Fur, Skin, Scales, or Feathers pp.12-19 (Text for Close Reading) One Body, Many Adaptations pp.22-29 (Text for Close Reading) Small Group Text Habitats of Africa Habitats of South America 	NOT ADDRESSED
				Content Across Disciplines Inquiry Projects • (ADDITIONAL RESOURCES tab): Interview California Creatures	

Third Grade Life Science (cont'd)

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FOSS CA: **Structures of Life**Investigation 3

	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
(Constructing Explanations and Designing	LS3.B: Variation of Traits	Cause and Effect
,	Solutions	The environment also affects the traits that an	 Cause and effect relationships are routinely
	Use evidence (e.g., observations, patterns) to	organism develops. (3-LS3-2)	identified and used to explain change. (3-LS3-2)
,	support an explanation. (3-LS3-2)		
	Investigation 3 Part 2	Investigation 3 Part 2	Investigation 3 Part 2
	Focus Question (Step16)	Adaptation (Steps 1-20)	Science Notebook Sheet No. 9 (Step 5)
١	What adaptations does a crayfish make to meet its		What did your crayfish do when you?
١	needs?		

NGSS Standard	Benchmark
3-LS4-1 Analyze and interpret data from fossils to provide evidence of the	NOT ADDRESSED
organisms and environments in which they lived long ago.	

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FOSS CA: **Structures of Life**Investigation 4

=	Science and Engineering Practices Analyzing and Interpreting Data Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS4-1)	Disciplinary Core Ideas Evidence of Common Ancestry and Diversity Some kinds of plants and animals that once lived on Earth are no longer found anywhere (3-LS4-1) Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments. (3-LS4-1)	Crosscutting Concepts Scale, Proportion, and Quantity Observable phenomena exist from very short to very long time periods. (3-LS4-1)
	Investigation 4 Part 3 Focus Question (Step 10) What causes animals to go extinct?	Investigation 4 Part 3 Science Resource Book "Life in Los Angeles" pp. 149-153	Investigation 4 Part 3 Focus Question (Step 10) What are some examples of animals that once lived in California, but are now extinct?



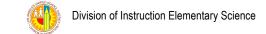
Third Grade Earth and Space Sciences (cont'd)		
NGSS Standard	Benchmark	
3-LS4-2 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.	NOT ADDRESSED	

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FOSS CA: **Structures of Life**Investigation 3

•	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
	Constructing Explanations and Designing Solutions Use evidence (e.g., observations, patterns) to construct an explanation. (3-LS4-2)	Natural Selection Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (3-LS4-2)	Cause and Effect Cause and effect relationships are routinely identified and used to explain change. (3-LS4-2),
	Investigation 3 Part 2 Focus Question (Step 12) What are adaptations?	Investigation 3 Part 2 Science Resource Book "Frogs" pp. 145 - 148	Investigation 3 Part 3 Focus Question (Step 5) What structures do crayfish have to help them grow?

Third Grade Earth and		Space Sciences	(cont'd)		
	NGSS Standard ument with evidence that in a II, some survive less well, a			Benchmark Connections / Resources sential Question ings adapt to change?	
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Engaging in Argument from Evidence Construct an argument with evidence. (3-LS4-3)	Adaptation For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3)	Cause and Effect Cause and effect relationships are routinely identified and used to explain change. (3-LS4-3)	NOT ADDRESSED	 Whole Group Text: Animal Disguises pp.4-5 (Text for Close Reading) Animals' Tools for Survival pp.6-9 (Text for Close Reading) The Remarkable Teeth of a Shark p.10 (Text for Close Reading) Caterpillar Self-Defense p.20 (Text for Close Reading) Only on an Island pp. 32-33 (Read Aloud Handbook) Small Group Text How Do Animals Stay Alive? Why Polar Bears Like Snow and Flamingos Don't Amazing Animal Senses! Unit Opener Video: Animal Adaptations Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Pick Your Adaptation 	NOT ADDRESSED



Third Grade Earth and Space Sciences (cont'd)

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FOSS CA: Structures of Life

Investigation 3

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Engaging in Argument from Evidence	Adaptation	Cause and Effect
Investigation 3 Part 2	Investigation 3 Part 2	Investigation 3 Part 2
Focus Question (Step 5)	Science Resource Book (Step 20)	Science Notebook Sheet No. 10 (Step 12)
Why is it important to have several shelters in a	"Adaptation" p. 115-120	"Adaptations"
crayfish habitat?		

Third Grade Earth and Space Sciences (cont'd)

NGSS Standard	Benchmark
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	NOT ADDRESSED
change.	

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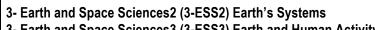
FOSS CA: **Structures of Life**Investigation 4

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Engaging in Argument from Evidence Make a claim about the merit of a solution to a problem by citing relevant evidence about how meets the criteria and constraints of the probler (3-LS4-4)		Systems and System Models A system can be described in terms of its components and their interactions. (3-LS4-4)
Investigation 4 Part 2 Focus Question (Step 15) What functions do an organism's structures ser	Investigation 4 Part 2 Science Resource Book (Step 17) "A Change in the Environment" pp. 141- 144	Investigation 4 Part 2 Focus Question (Step 17) What caused the riparian brush rabbit to become endangered in California?



Third Grade NGSS/Benchmark Alignment Earth and Space Sciences







3- Earth and Space Science	Sciences3 (3-ESS3) Earth and Human Activity Benchmark Unit 8 Weather and Climate		8 Weather and Climate		
	NGSS Standard			Benchmark	
3-ESS2-1. Represent data i weather conditions expected	n tables and graphical displa during a particular season.	ys to describe typical	Benchmark Esse How can we pred		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data Represent data in tables and various graphical displays (bar graphs, pictographs) to reveal patterns that indicate relationships. (3-ESS2-1)	Weather and Climate Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. (3-ESS2-1)	Patterns Patterns of change can be used to make predictions. (3-ESS2-1)	<u>NOT</u> <u>ADDRESSED</u>	 Whole Group Text: Blizzard Alert! p.10 (Text for Close Reading) Predicting Hurricanes p.30 (Text for Close Reading) Small Group Text: Stormy Weather Unit Opener Video: Weather and Climate Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Design a Weather Station, Write a Weather Forecast, Chart Past Weather and Climate Patterns 	NOT ADDRESSED

Third Grade Earth and Space Sciences (cont'd)

The information below cites correlations to FOSS CA to address what is missing from the standard(s) listed in Benchmark. The complete Third Grade NGSS standards can be found at: https://achieve.lausd.net/Page/5990

FOSS CA: Sun, Moon, and Stars Investigation 2

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data	Weather and Climate	Patterns
Investigation 2 Focus Question (Step 13) How does the Moon change its shape over 4 weeks?	Not addressed at this time	Investigation 2 Part 2 Focus Question (Step 1) How would you describe the pattern of Moon Shapes?

Third Grade Earth and Space Sciences (cont'd)

	NGSS Standard		Benchmark Unit 8 Weather and Climate		
3-ESS2-2. Obtain and corregions of the world.	3-ESS2-2. Obtain and combine information to describe climates in different regions of the world.			sential Question dict the unknown?	
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Disciplinary Core Ideas	Disciplinary Core Ideas	Crosscutting Concepts
Obtaining, Evaluating, and Communicating Information Obtain and combine information from books and other reliable media to explain phenomena. (3-ESS2-2)	Weather and Climate Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. (3-ESS2-2)	Patterns Patterns of change can be used to make predictions. (3-ESS2-2)	NOT ADDRESSED	 Whole Group Text: Earth's Weather and Climate pp.6-9 (Text for Close Reading) The Tropical Rain Belt pp.22-29 (Text for Close Reading) Tornado Alley pp. 84-85 (Read Aloud Handbook) Small Group Text: Global Alert Northwest Southwest Earth: Water Planet The Everglades 	NOT ADDRESSED



Third Grade Earth and Space Sciences (cont'd)

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FOSS CA: **Sun, Moon and Stars**Investigation 3

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Obtaining, Evaluating, and Communicating Information	Weather and Climate	Patterns
Investigation 3 Part 2	Not addressed at this time	Investigation 3 Part 1
Science Notebook Sheet, No. 8 (Steps 3-5)		Focus Question (Step 5)
"All About the Stars"		What is a constellation?

NGSS Standard	Benchmark Unit 8 Weather and Climate
3-ESS3-1. Make a claim about the merit of a design solution that reduces the	Benchmark Essential Question
impacts of a weather-related hazard.	How can we predict the unknown?

Science and Engineering Practices Engaging in Argument from Evidence Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (3-ESS3-1) Science and Engineering Practices Crosscutting Concepts Cause and Effect Cause and effect cause and effect relationships are routinely identified, tested, and used to explain change. (3-ESS3-1) Disciplinary Core Ideas Crosscutting Concepts Whole Group Text: Predicting Hurricanes p.30 (Text for Close Reading) Small Group Text: Global Alert NOT ADDRESSED NOT ADDRESSED						
from Evidence Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts. A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts. A variety of natural hazards relationships are routinely identified, tested, and used to explain change. (3-ESS3-1) ADDRESSED Predicting Hurricanes p.30 (Text for Close Reading)		Disciplinary Core Ideas	Crosscutting Concepts		Disciplinary Core Ideas	_
	from Evidence Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem.	Hazards A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts.	Cause and effect relationships are routinely identified, tested, and used to explain change.		Predicting Hurricanes p.30 (Text for Close Reading) Small Group Text:	

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FOSS CA: **Sun, Moon and Stars**Investigation 1

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Engaging in Argument from Evidence	Natural Hazards	Cause and Effect
Investigation 1 Part 2	Not addressed at this time	Investigation 1 Part 2
Focus Question (Step 9)		Focus Question (Step 11)
When do you think you will have the longest shadow		Why does a shadow change direction and length
and the shortest shadow?		between morning and afternoon?

Third Grade NGSS/Benchmark Alignment

Physical Science





3-Physical Science2 (3-PS2) Motion and Stability: Forces and Interactions

Benchmark Unit 10 Forces and Interactions

	NGSS Standard			Benchmark	
	3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object			ential Question tanding science help us achieve our goals?	
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Planning and Carrying Out Investigations Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. (3-PS2-1)	Forces and Motion Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (3-PS2-1)	Cause and Effect Cause and effect relationships are routinely identified. (3-PS-1)	NOT ADDRESSED	 Whole Group Text: What Makes Things Move? pp.6-9 (Text for Close Reading) Small Group Text: Forces and Motion in Sports Forces and Motion on Earth Unit Opener Video: Forces and Interactions Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Create a Rube Goldberg Machine, Experiment with Gravity 	NOT ADDRESSED

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FOSS CA Matter and Energy Investigation 4

Science and Engineering Practices	Disciplinary	Core Ideas	Crosscutting Concepts
Planning and Carrying Out Investigations	Forces and Motion		Cause and Effect
Investigation 4 Part 2 Science Notebook Sheet 21 (Step 9) "Melting"	Not addressed at this time		Investigation 4 Part 2 Focus Question (Step 9) Which materials did not melt completely? How could you melt them?
			Benchmark

NGSS Standard			Dencimark		
3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion		Benchmark Essential Question How does understanding science help us achieve our goals?			
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Science and Engineering Practices Disciplinary Core Ideas Crosscuttin Concepts		Crosscutting Concepts
Planning and Carrying Out Investigations Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution (3-PS2-2)	Forces and Motion The patterns of an object's motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. (3-PS2-2)	Patterns Patterns of change can be used to make predictions. (3-PS2-2)	<u>NOT</u> <u>ADDRESSED</u>	 Whole Group Text: What Makes Things Move? pp.6-9 (Text for Close Reading) Small Group Text: Gravity Isaac Newton and his Laws of Motion Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Create a Rube Goldberg Machine, Experiment with Gravity 	NOT ADDRESSED

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FOSS CA: Matter and Energy

Investigation 4

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	
Planning and Carrying Out Investigations	Forces and Motion	Patterns	
Investigation 4 Part 2 Science Notebook Sheet 11 (Step 8) "Unknown Colors"	Not addressed at this time	Investigation 4 Part 2 Focus Question (Step 22) What happens to objects when you look at them with colored light?	

Third Grade Physical Science Continued

NGSS Standard			Benchmark		
3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other			Benchmark Essential Question How does understanding science help us achieve our goals?		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Asking Questions and Defining Problems Ask questions that can be investigated based on patterns such as cause and effect relationships. (3-PS2-3)	Types of Interactions Electric, and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other. (3-PS2-3)	Cause and Effect Cause and effect relationships are routinely identified, tested, and used to explain change. (3-PS2-3)	NOT ADDRESSED	Whole Group Text: Investigate Magnetism pp.22-29 (Text for Close Reading Small Group Text: Forces and Motion on Earth Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Create a Rube Goldberg Machine	NOT ADDRESSED

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FOSS CA: Matter and Energy Investigation 3

Science and Engineering Practices	Disciplinary	/ Core Ideas	Crosscutting Concepts	
Asking Questions and Defining Problems	Types of Interactions		Cause and Effect	
Investigation 3 Part 2 Science Notebook Sheet No. 17 (Steps 21-23) "The Sponge Question"	Not addresse	ed at this time	Investigation 3 Part 2 Focus Question (Step 23) Why can a dry sponge hold more water than a wet one?	
NOOC Of and and			Benchmark	

3-PS2-4. Define a simple design problem that can be solved by applying	Benchmark Essential Question
scientific ideas about magnets	How does understanding science help us achieve our goals?

NGSS Standard

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Asking Questions and Defining Problems Define a simple problem that can be solved through the development of a new or improved object or tool. (3-PS2-4)	Types of Interactions Electric, and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other. (3-PS2-4)	Cause and Effect Cause and effect relationships are routinely identified, tested, and used to explain change.	NOT ADDRESSED	 Whole Group Text: Investigate Magnetism pp.22-29 (Text for Close Reading) Why Didn't I Think of That? P.30 (Text for Close Reading) Content Across Disciplines Inquiry Projects (ADDITIONAL RESOURCES tab): Create a Rube Goldberg Machine 	NOT ADDRESSED

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FOSS CA: Matter and Energy

Investigation 4

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Science and Engineering Practices	Disciplinary Core Ideas		Crosscutting Concepts		
Asking Questions and Defining Problems	Types of Interactions		Cause and Effect		
Investigation 4 Part 3 Focus Question (Step 11) Why do you think the mass of the baking soda/vinegar mixture was less than the mass of the starting substances?	Not addressed at this time		 Investigation 4 Part 3 Focus Questions (Step 9) What did you observe when you added vinegar to baking soda? Where did the bubbles come from? 		
NGSS Standard 3–ETS1 Engineering Design		Benchmark Unit 3 Animal Adaptations Unit 8 Weather and Climate Unit 10 Forces and Interactions			
ETS1.A: Defining and Delimiting an Engineering Problem Asking questions, making observations, and gathering information are helpful in thinking about problems. (secondary to K-ESS3-2)		NOT ADDRESSED Benchmark does not provide students opportunities to define an engineering problem within this standard band			
ETS 1.BDevloping Possible Solutions Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people		NOT ADDRESSED Benchmark does not provide students opportunities to design solutions for a problem within this standard band			
ETS 1.C – Optimizing the Design Solution Because there is always more than one possible so useful to compare and test designs.	olution to a problem, it is	NOT ADDRESSED Benchmark does not provide students opportunities to optimize design solutions for a problem within this standard band.			