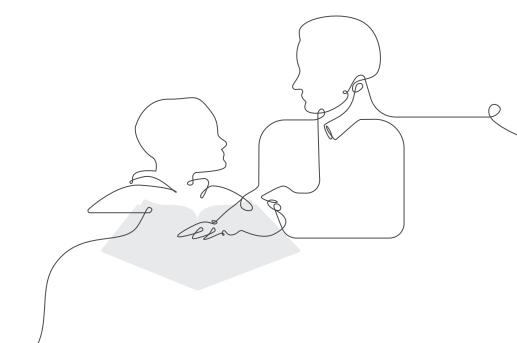
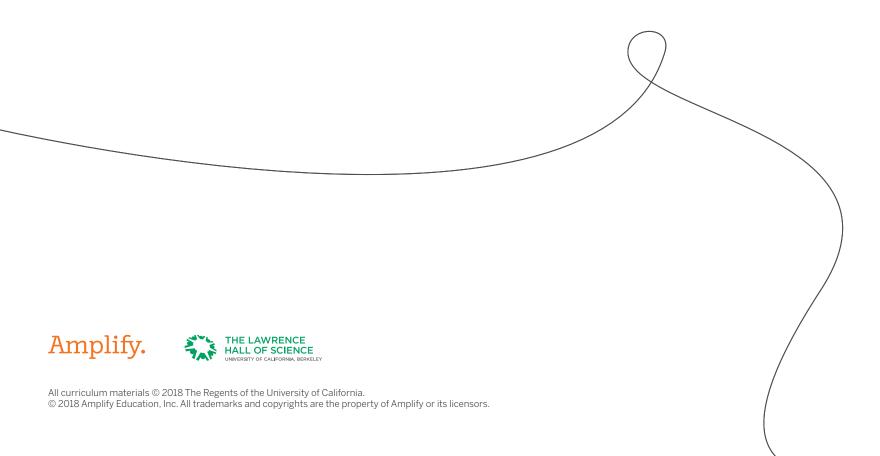
Amplify Science and Benchmark Advance crosswalk







	Benchmark unit 3	Amplify Science
Unit title	Plants and Animals have Needs: Why Do Living Things	Needs of Plants and Animals: Milkweed and Monarchs
	Have Different Needs?	Students take on the role of scientists in order to figure out why there are no monarch caterpillars in the garden since the vegetables were planted. In so doing, they investigate how plants and animals get what they need to live and grow, and make a new plan for the community garden that provides for the needs of the monarch caterpillars in addition to vegetables for humans.
Next Generation	K-LS1-1: Survival Needs	K-LS1-1: Survival Needs
Science Standards	K-ESS2-2: Impacting Environment	K-ESS2-2: Impacting Environment
	K-ESS3-1: Qualities of a Habitat	K-ESS3-1: Qualities of a Habitat
		K-ESS3-3: Reducing Impacts
		K-2-ETS1-1: Defining the Problem
		K-2-ETS1-2: Developing Possible Solutions
		Crosscutting Concepts: Systems and Systems Models; Patterns; Scale, Proportion, and Quantity; Structure and Function
ELA reading standards	 Reading Informational Text: RI.K.1; RI.K.2; RI.K.3; RI.K.9; RI.K.10; RI.K.10.A: RI.K.10.B 	• Reading Informational Text: RI.K.1; RI.K.2; RI.K.3; RI.K.4; RI.K.5; RI.K.7; RI.K.10
	• Writing: W.K.1; W.K.2; W.K.3; W.K.5; W.K.6; W.K.8	• Writing: W.K.2; W.K.7; W.K.8
	• Speaking and Listening: SP.K.1; SP.K.2; SP.K.3; SP.K.4; SP.K.5; SP.K.6	• Speaking and Listening: SL.K.1; SL.K.2; SL.K.3; SL.K.4; SL.K.5
	• Language: L.K.1.F; L.K.2.A; L.K.4; L.K.5.C; L.K.6	• Language: L.K.4; L.K.6
Math standards		Math Practices: MP1; 2; 3; 4
		• Math Content: K.CC.3; K.CC.4; K.CC.4.A; K.CC.5; K.CC.6; K.MD.1; K.MD.2; K.G.1; K.G.5
Foundational reading	• RF.K.2.C	
standards	• RF.K.2.D	
	DELCA	
	• RF.K.3.A	

Kindergarten

	Benchmark unit 8	Amplify Science
Unit title	Weather and Seasons: How Do Our Lives Change with the Seasons?	Sunlight and Weather: Solving Playground Problems In their role as weather scientists, students look into why one fictional schoolyard is too cold in the morning, while another playground nearby is too hot in the afternoon. They use physical models and firsthand investigation to figure out the impact of sunlight on Earth's surface.
Next Generation Science Standards	K-PS3-1: Sunlight on Earth's Surface K-ESS2-1: Weather Patterns K-ESS2-2: Impacting the Environment K-ESS3-1: Qualities of a Habitat K-ESS3-2: Preparing for Severe Weather	K-PS3-1: Sunlight on Earth's Surface K-PS3-2: Reducing Warming K-ESS2-1: Weather Patterns K-ESS3-2: Preparing for Severe Weather K-2-ETS1-1: Defining the Problem K-2-ETS1-2: Developing Possible Solutions K-2-ETS1-3: Comparing Different Solutions Crosscutting Concepts: Cause and Effect; Scale, Proportion, and Quantity; Energy and Matter; Patterns
ELA reading standards	 Reading Informational Text: RI.K.1; RI.K.2; RI.K.3; RI.K.5; RI.K.8; RI.K.9; RI.K.10; RI.K.10.A; RI.K.10.B Reading Literary Text: RL.K.1; RL.K.2; RL.K.3; RL.K.4; RL.K.5; RL.K.7; RL.K.9; RL.K.10; RL.K.10.A; RL.K.10B Writing: W.K.1; W.K.2; W.K.3; W.K.5; W.K.6; W.K.8 Speaking and Listening: SL.K.1; SL.K.2; SL.K.3; SL.K.4; SL.K.5; SL.K.6 Language: L.K.1.F; L.K.2.A; L.K.2.B; L.K.4; L.K.4.A; L.K.5.A; L.K.6 	 Reading Informational Text: RI.K.1; RI.K.3; RI.K.7; RI.K.10 Writing: W.K.2; W.K.7; W.K.8 Speaking and Listening: SL.K.1; SL.K.2; SL.K.5 Language: L.K.6
Math standards		 Math Practices: MP1; 2; 4; 5; 6 Math Content: K.CC.4; K.CC.5; K.CC.7; K.MD.1; K.MD.2
Foundational reading standards	• RF.K.2.D • RF.K.3.A • RF.K.3.C	

	Benchmark unit 10	Amplify Science
Unit title	Forces and Motion: What Makes Things Move?	Pushes and Pulls: Designing a Pinball Machine
		Students play the role of pinball machine engineers as they explore the effects of pushes and pulls on the motion of an object. They conduct test in their own prototypes (models) of a pinball machine, contributing to the design of a class pinball machine.
Next Generation	K-PS2-1: Pushes and Pulls	K-PS2-1: Pushes and Pulls
Science Standards	K-PS2-2: Change Speed and Direction	K-PS2-2: Change Speed and Direction
	K-2-ETS1-1: Defining the Problem	K-2-ETS1-1: Defining the Problem
		K-2-ETS1-2: Developing Possible Solutions
		K-2-ETS1-3: Comparing Different Solutions
		Crosscutting Concepts: Cause and Effect; Structure and Function; Scale, Proportion and Quantity; Stability and Change
ELA reading standards	 Reading Informational Text: RI.K.1; RI.K.2; RI.K.3; RI.K.5; RI.K.7; RI.K.9; RI.K.10; RI.K.10.A; RI.K.10.B 	 Reading Informational Text: RI.K.1; RI.K.2; RI.K.3; RI.K.4; RI.K.5; RI.K.7 RI.K.9; RI.K.10
	• Writing: W.K.1; W.K.2; W.K.3; W.K.5; W.K.6; W.K.8	 Writing: W.K.2; W.K.7; W.K.8
	• Speaking and Listening: SL.K.1; SL.K.2; SL.K.3; SL.K.4; SL.K.5; SL.K.6	• Speaking and Listening: SL.K.1; K.1a; K.1b; SL.K.2; SL.K.4
	• Language: L.K.1.E; L.K.1.F; L.K.5.B; L.K.5.C	• Language: L.K.4; L.K.6
Math standards		• Math Practices: MP1; 2; 4; 6
		• Math Content: K.CC.5; K.MD.1; K.MD.2; K.MD.3; K.G.1; K.G.4
Foundational reading	• RF.K.2.D	
standards	• RF.K.3.A	
	• RF.K.3.B	
	• RF.K.3.C	

	Benchmark unit 3	Amplify Science
Unit title	Plants and Animals Grow and Change: Why Do Living Things Have Different Needs?	Animal and Plant Defenses: Spikes, Shells, and Camouflage Students play the role of marine scientists. In their role, students apply their understanding about plant and animal defense structures to explain to concerned visitors to an aquarium how a sea turtle at the aquarium can be released and will be able to defend herself and her offspring from predators in
Next Generation Science Standards	1-LS1-2: Parents Promote Survival of Offspring 1-LS3-1: Young Organisms Resemble Parents	1-LS1-1: Mimicking Organisms' Structures 1-LS1-2: Parents Promote Survival of Offspring 1-LS3-1: Young Organisms Resemble Parents Crosscutting Concepts: Structure and Function; Cause and Effect
ELA reading standards	 Reading Informational Text: RI.1.1; RI.1.2; RI.1.3; RI.1.7; RI.1.9; RI.1.10; RI.1.10.A; RI.1.10.B Reading Literary Text: RL.1.1; RL.1.2; RL.1.5; RL.1.7, RL.1.9; RL.1.10; RL.1.10.A; RL.1.10.B Writing: W.1.1; W.1.2; W.1.3; W.1.5; W.1.8 Speaking and Listening: SL.1.1; SL.1.2; SL.1.3; SL.1.4; SL.1.5; SL.1.6 Language: L.1.1.C; L.1.1.D; L.1.5.C; L.1.6 	 Reading Informational Text: RI.1.1; RI.1.3; RI.1.5; RI.1.7; RI.1.8; RI.1.10 Writing: W.1.2; W.1.5; W.1.7; W.1.8 Speaking and Listening: SL1.1; SL.1.2; SL.1.5; SL.1.6 Language: L.1.4; L.1.6
Math standards		 Math Practices: MP1 Math Content: 1.OA.1; 1.OA.2; 1.OA.5; 1.MD.1; 1.MD.2; 1.MD.4
Foundational reading standards	 RF.1.2.B RF.1.3.C RF.1.3.G RF.1.4.A RF.1.4.B 	

	Benchmark unit 8	Amplify Science	
Unit title	Observing the Sky: Why Do the Sun and Moon Capture Our	Spinning Earth: Investigating Patterns in the Sky	
	Imagination?	As emerging space scientists, students figure out how to explain why it is never the same time of day for a grandmother who lives in Asia as it is for her grandson in the United States when she calls him. Students record, organize, and analyze observations of the sun and other sky objects as they look for patterns and make sense of the cycle of daytime and nighttime.	
Next Generation	1-ESS1-1: Observable Patterns of Sky Objects	1-ESS1-1: Observable Patterns of Sky Objects	
Science Standards		1-ESS1-2: Amount of Daylight	
		Crosscutting Concepts: Patterns; Cause and Effect; Systems and System Models	
ELA reading standards	 Reading Informative Text: Rl.1.1; Rl.1.2; Rl.1.3; Rl.1.5; Rl.1.6; Rl.1.9; Rl.1.10; Rl.1.10.A; Rl.1.10.B Reading Literary Text: Rl.1.1; Rl.1.2; Rl.1.3; Rl.1.5; Rl.1.9; Rl.1.10; Rl.1.10.A; Rl.1.10.B Writing: W.1.1; W.1.2; W.1.3; W.1.5; W.1.8 	 Reading Informational Text: RI.1.1; RI.1.3; RI.1.5; RI.1.7; RI.1.10 Writing: W.1.2; W.1.5; W.1.7; W.1.8 Speaking and Listening: SL.1.1; SL.1.2; SL.1.5 Language: L.1.6 	
	 Speaking and Listening: SL.1.1; SL.1.2; SL.1.3; SL.1.4; SL.1.5; SL.1.6 Language: L.1.1.D; L.1.1.E; L.1.1.F; L.1.4.A; L.1.5.D; L.1.6 		
Math standards		• Math Practices: MP1; 2; 4; 5; 6	
		• Math Content: 1.OA.1; 1.OA.2; 1.MD.3; 1.MD.4; 1.G.2; 1.G.3	
Foundational reading	• RF.1.2.B		
standards	• RF.1.2.C		
	• RF.1.2.D		
	• RF.1.3.B		
	• RF.1.3.D		
	• RF.1.3.E		
	• RF.1.3.G		
	• RF.1.4.A		
	• RF.1.4.B		

	Benchmar	k unit 10	Amplify Science	
Unit title	Exploring Sound and Light: How Would Our Lives Be Different Without Light and Sound?		Light and Sound: Puppet Theater Engineers In their role as light and sound engineers, students investigate cause and effect relationships to learn about the nature of light and sound. They apply what the learn to design shadow scenery and sound effects for a puppet show.	
Next Generation	1-PS4-1: Sound a	and Vibration	1-PS4-1: Sound and Vibration	
Science Standards	1-PS4-3: Light Ir	iteraction with Materials	1-PS4-2: Seeing Requires Light	
	1-PS4-4: Light a	nd Sound for Communication	1-PS4-3: Light Interaction with Materials	
	1-ESS1-2: Amou	nt of Daylight	1-PS4-4: Light and Sound for Communication	
			K-2-ETS1-1: Defining the Problem	
			K-2-ETS1-2: Developing Possible Solutions	
			K-2-ETS1-3: Comparing Different Solutions	
			Crosscutting Concepts: Cause and Effect; Patterns	
ELA reading standards	• Reading Informative Text: RI.1.1; RI.1.2; RI.1.5; RI.1.6; RI.1.7; RI.1.9; RI.1.10; RI.1.10.A; RI.1.10.B		 Reading Informational Text: Rl.1.1; Rl.1.2; Rl.1.3; Rl.1.5; Rl.1.7; Rl.1.8 Writing: W.1.2; W.1.7; W.1.8 	
		rary Text: RL.1.1; RL.1.2; RL.1.3; RL.1.4; RL.1.6; RL.1.7; RL.1.9;	• Speaking and Listening: SL.1.1; SL.1.2; SL.1.4; SL.1.5	
	RL.1.10; RL.1.1	lo.A; RL.1.10.B	• Language: L.1.6	
	• Writing: W.1.1; W.1.2; W.1.3; W.1.5; W.1.8			
		I Listening: SL.1.1; SL.1.2; SL.1.3; SL.1.4; SL.1.5; SL.1.6		
	• Language: L.:	l.1.G; L.1.1.J; L 1.4.A; L.1.4.B; L.1.5.C; L.1.6		
Math standards			• Math Practices: MP1; 2; 4; 6; 7	
			• Math Content: 1.G.1; 1.G.2; 1.MD.4	
Foundational reading	• RF.1.2.B	• RF.1.3.E		
standards	• RF.1.2.C	• RF.1.3.G		
	• RF.1.2.D	• RF.1.4.A		
	• RF.1.3.B	• RF.1.4.B		
	• RF.1.3.D			

	Benchmark unit 3	Amplify Science	
Unit title	Plants and Animals in Their Habitats: How Do Living Things	Plant and Animal Relationships	
	Get What They Need to Survive? In this unit, students read and compare selections about plants and animals to understand how living things get what they need in their habitats.	In their role as plant scientists working at the Bengal Tiger Reserve, students work to figure out why there are no new Chalta trees growing in this part of the forest. Students investigate what the Chalta tree needs to survive, and collect and analyze qualitative and quantitative data to solve the mystery.	
Next Generation	2-LS2-1: Sunlight and Water for Plants	2-LS2-1: Sunlight and Water for Plants	
Science Standards	2-LS4-1: Diversity of Life in Different Habitats	2-LS2-2: Animals' Role in Seed Dispersal	
		2-LS4-1: Diversity of Life in Different Habitats	
		K-2-ETS1-1: Defining the Problem	
		K-2-ETS1-2: Developing Possible Solutions	
		K-2-ETS1-3: Comparing Different Solutions	
		Crosscutting Concepts: Systems and Systems Models; Scale, Proportion, an Quantity; Structure and Function	
ELA reading standards	• Reading Informational Text: RI.2.1; RI.2.4; RI.2.5; RI.2.7; RI.2.9; RI.2.10	• Reading Informational Text: RI.2.1; RI.2.2; RI.2.4; RI.2.5; RI.2.7; RI.2.10	
	 Reading Literary Text: RL.2.1; RL.2.3; RL.2.5; RL.2.7; RL.2.10 	• Writing: W.2.2; W.2.5; W.2.8;	
	• Writing: W.2.1; W.2.2; W.2.3; W.2.4; W.2.5; W.2.6; W.2.8; W.2.10	 Speaking and Listening: SL.2.1; SL.2.2; SL.2.3 	
	 Speaking and Listening: SL.2.1.A; SL.2.1.B; SL.2.1.C; SL.2.2; SL.2.2.A; SL.2.3; SL.2.4; L.2.5; SL.2.6 	• Language: L.2.4	
	• Language: L.2.1.E; L.2.1.G; L.2.2.A; L.2.2.B; L.2.2.C; L.2.2.D; L.2.4.A; L.2.4.C; L.2.4.D; L.2.4.E; L.2.5.B; L.2.6		
Math standards		• Math Practices: MP1; 2; 4; 5	
		 Math Content: 2.OA.1; 2.OA.2; 2.NBT.5; 2.MD.3; 2.MD.4; 2.MD.9; 2.MD.10; 2.G.1; 2.G.2 	
Foundational reading	• RF.2.3.A • RF.2.3.F		
standards	• RF.2.3.B • RF.2.4.A		
	• RF.2.3.C • RF.2.4.B		
	• RF.2.3.D • RF.2.4.C		
	• RF.2.3.E		

	Benchmar	k unit 8	Amplify Science
Unit title	Wind and Water Change Earth: How Do We React to		Changing Landforms: The Disappearing Cliff
		Nature? ents will read and compare selections about the causes of such as erosion and natural disasters.	Students play the role of earth scientists as they attempt to figure out what caused a rock cliff to change shape over time. They use models to investigat the erosion of rock and the formation of sand.
Next Generation	2-ESS1-1: Fast a	nd Slow Earth Events	2-ESS1-1: Fast and Slow Earth Events
Science Standards	2-ESS2-1: Slowin	ng the Erosion of Land Forms	2-ESS2-1: Slowing the Erosion of Land Forms
	2-ESS2-3: Water	r on Earth	2-ESS2-2: Landforms and Bodies of Water
	2-LS4-1: Diversit	y of Life in Different Habitats	2-ESS2-3: Water on Earth
	K-2-ETS1-1: Defi	ning the Problem	Crosscutting Concepts: Stability and Change; Scale, Proportion, and Quantity; Cause and Effect
ELA reading standards	 Reading Informational Text: RI.2.1; RI.2.2; RI.2.3; RI.2.6; RI.2.8; RI.2.9; RI.2.10 		• Reading Informational Text: RI.2.1, RI.2.2, RI.2.4, RI.2.5, RI.2.7, RI.2.10
	• Reading Literary Text: RL.2.3; RL.2.10		 Writing: W.2.2, W.2.5, W.2.8. Speaking and Listening: SL.2.1, SL.2.2, SL.2.3.
	 Writing: W.2.2 	2; W.2.4; W.2.5; W.2.6; W.2.7; W.2.8; W.2.10	• Language: L.2.4
	 Speaking and Listening: SL.2.1.A; SL.2.1.B; SL.2.1.C; SL.2.2; SL.2.2.A; SL.2.3; SL.2.4; SL.2.5; SL.2.6 		Language. L.Z.4
		2.1.B; L.2.1.E; L.2.1.F; L.2.1.G; L.2.2.A; L.2.2.C; L.2.2.D; L.2.4.A; D; L.2.5.B; L.2.6	
Math standards			Math Practices: MP1; 2; 4; 5
			 Math Content: 2.OA.1; 2.OA.2; 2.NBT.5; 2.MD.A.3; 2.MD.A.4; 2.MD.B.5; 2.MD.D.9; 2.MD.D.10; 2.G.2
Foundational reading standards	• RF.2.4.A	• RF.2.3.C	
	• RF.2.4.B	• RF.2.3.D	
	• RF.2.4.C	• RF.2.3.E	
	• RF.2.3.A	• RF.2.3.F	

	Benchmark	cunit 10	Amplify Science
Unit title	States of Matter: How Can Something Old Become New?		Properties of Materials: Designing Glue
		nts read and compare selections about the states of properties to analyze how matter can change.	As glue engineers, students use engineering design practices to create a glue for use at their school. They conduct tests that yield quantifiable results, graph their data, analyze and interpret results, and then use that evidence to iteratively design a series of glue mixtures, each one better than the one before
Next Generation	2-PS1-1: Propertie	es of Materials	2-PS1-1: Properties of Materials
Science Standards	2-PS1-3: Pieces C	an be Made into New Objects	2-PS1-2: Materials for Specific Purposes
	2-PS1-4: Changes	Caused by Heating and Cooling	2-PS1-3: Pieces Can be Made Into New Objects
	2-ESS1-1: Fast and	d Slow Earth Events	2-PS1-4: Changes Caused by Heating and Cooling
	2-ESS2-3: Water of	on Earth	K-2-ETS1-1: Defining Problems
	K-2-ETS1-2: Devel	loping Possible Solutions	K-2-ETS1-3: Comparing Different Solutions
			Crosscutting Concepts: Cause and Effect; Patterns
ELA reading standards	 Reading Informational Text: RI.2.1; RI.2.2; RI.2.3; RI.2.4; RI.2.5; RI.2.6; RI.2.7; RI.2.9; RI.2.10 		 Reading Informational Text: RI.2.1; RI.2.3; RI.2.4; RI.2.5; RI.2.6; RI.2.7; RI.2.10
		W.2.4; W.2.5; W.2.6; W.2.7; W.2.8; W.2.10	• Writing: W.2.1; W.2.7; W.2.8
	_	Listening: SL.2.1.A; SL.2.1.B; SL.2.1.C; SL.2.2; SL.2.2.A;	 Speaking and Listening: SL.2.1; SL.2.1.A; SL.2.1.B; SL.2.2; SL.2.6 Language: L.2.4
	• Listening: L.2.1 L.2.4.A; L.2.4.B	l.C; L.2.1.D; L.2.1.E; L.2.1.G; L.2.2.A; L.2.2.C; L.2.2.D; L.2.2.E; ; L.2.4.C	• Reading Foundational Skills: RF.2.4
Math standards			• Math Practices: MP1; 2; 3; 4; 5; 6; 7; 8
			• Math Content: 2.OA.1; 2.MD.A.3; 2.MD.D.9; 2.MD.D.10
Foundational reading	• RF.2.3.A	• RF.2.3.F	
standards	• RF.2.3.B	• RF.2.4.A	
	• RF.2.3.C	• RF.2.4.B	
	• RF.2.3.D	• RF.2.4.C	

	Benchmark unit 3	Amplify Science
Unit title	Animal Adaptations: How Do Living Things Adapt	Environments and Survival: Snail Trait Biomimicry
	to Change?	As engineers who specialize in biomimicry—designing structures modeled on organisms in the natural world—students investigate the adaptive traits of the grove snail population and use what they learn to design a protective she to transport the eggs of endangered sea turtles.
Next Generation	3-LS3-1: Traits are Inherited and Vary	3-LS2-1: Animals' Social Interactions
Science Standards	3-LS3-2: Traits can be Influenced by Environment	3-LS4-1: Fossils and Evidence of Environment
	3-LS4-2: Adaptive and Non-Adaptive Traits	3-LS4-2: Adaptive and Non-Adaptive Traits
	3-LS4-3: Survival Impact of Different Environments	3-LS4-3: Survival Impact of Different Environments
	3-LS4-4: Solutions to Environmental Changes	3-LS4-4: Solutions to Environmental Changes
		3-5-ETS1-1: Defining the Problem
		3-5-ETS1-2: Developing Possible Solutions
		3-5-ETS1-3: Improving Designs
		Crosscutting Concepts: Structure and Function; Systems and System Models; Cause and Effect
ELA reading standards	 Reading Informational Text: RI.3.1; RI.3.2; RI.3.3; RI.3.4; RI.3.5; RI RI.3.7; RI.3.8; RI.3.9; RI.3.10 	 Reading Informational Text: RI.3.1; RI.3.2; RI.3.3; RI.3.4; RI.3.5; RI.3.7; RI.3.10
	• Writing: W.3.6; W.3.7; W.3.8; W.3.10	• Writing: W.3.2; W.3.2.A; W.3.2.B; W.3.4; W.3.8; W.3.10
	• Speaking and Listening: SL.3.1.A; SL.3.1.B; SL.3.1.C; SL.3.1.D; SL.3.2; SL.3.6	 Speaking and Listening: SL.3.1; SL.3.1.A; SL.3.1.B; SL.3.1.C; SL.3.1.D; SL.3.2; SL.3.4
	• Language: L.3.4.A; L.3.4.D; L.3.6; L.3.1.J; L.3.2.F	• Language: L.3.4; L.3.6
Math standards		• Math Practices: MP1; 2; 4; 5; 6
		• Math Content: 3.OA.8, 3NF.3.B; 3.NF.3.D; 3.MD.3; 3.MD.4; 3.MD.7.D
Foundational reading	• RF.3.4.A	

	Benchmark unit 6	Amplify Science
Unit title	Making Decisions: What Helps Us Solve Problems?	Inheritance and Traits: Variation in Wolves
		Students play the role of wildlife biologists working in Greystone National Park as they study two wolf packs and are challenged to figure out why an adoptive wolf in one of the packs has the traits it does. Students investigate variation among and within different species and inherited and acquired traits. They conclude the unit by writing an explanation of the origin of the adoptive wolf's traits for the visitors in Greystone National Park.
Next Generation	3-LS2-1: Animals' Social Interactions	3-LS1-1: Life Cycles and Life Stages
Science Standards	3-LS3-1: Traits are Inherited and Vary	3-LS2-1: Animals' Social Interactions
	3-LS4-2: Adaptive and Non Adaptive Traits	3-LS3-1: Traits are Inherited and Vary
		3-LS3-2: Traits can be Influenced by Environment
		Crosscutting Concepts: Patterns; Cause and Effect
ELA reading standards	• Reading Informational Text: RI.3.1; RI.3.2; RI.3.10	• Reading Informational Text: RI.3.1; RI.3.2; RI.3.3; RI.3.5; RI.3.7; RI.3.10
	• Reading Literary Text: RL.3.1; RL.3.2; RL.3.3; RL.3.6; RL.3.9; RL.3.10	 Writing: W.3.2; W.3.2.A; W.3.2.B; W.3.4; W.3.7; W.3.8
	 Writing: W.3.2.B; W.3.7; W.3.8 Speaking and Listening: SL.3.1; SL.3.2; SL.3.3; SL.3.4; SL.3.5; SL.3.6 	 Speaking and Listening: SL.3.1; SL.3.1.A; SL.3.1.B; SL.3.1.C; SL.3.1.D; SL.3.2; SL.3.3
	• Language: L.3.4.A; L.3.4.D	• Language: L.3.4; L.3.6
Math standards		Math Practices: MP1; 2; 4; 5
		• Math Content: 3.NF.1, 3, 3.MD.3
Foundational reading	• RF.3.3.D	
standards	• RF.3.3	

	Benchmark unit 8	Amplify Science
Unit title	Weather and Climate: How Can We Predict the Unknown?	Weather and Climate: Establishing an Orangutan Colony
		As weather scientists for a nature conservation group, students determine which of four fictional islands will be the best location for an orangutan reserve. They analyze and interpret weather data in order to compare and construct arguments about the weather patterns for a particular location in the world over a given span of time.
Next Generation	3-ESS2-1: Represent Weather Patterns	3-ESS2-1: Represent Weather Patterns
Science Standards	3-ESS2-2: Describe Climates	3-ESS2-2: Describe Climates
	3-ESS3-1: Reducing Impact of Weather Hazards	3-ESS3-1: Reducing Impact of Weather Hazards
		3-5-ETS1-2: Developing Possible Solutions
		Crosscutting Concepts: Patterns; Scale, Proportion, and Quantity; Stability and Change; Cause and Effect
LA reading standards	• Reading Informational Text: RI.3.1; RI.3.2; RI.3.3; RI.3.4; RI.3.5; RI.3.8; RI.3.9	• Reading Informational Text: RI.3.1; RI.3.4; RI.3.5; RI.3.7; RI.3.10
	• Writing: W.3.3.A; W.3.3.C; W.3.3.B; W.3.4; W.3.5; W.3.6; W.3.7; W.3.8; W.3.10	• Writing: W.3.1; W.3.4; W.3.8; W.3.10
	 Speaking and Listening: SL.3.1.A; SL.3.1.B; SL.3.1.C; SL.3.1.D; SL.3.2; SL.3.3; SL.3.6 	 Speaking and Listening: SL.3.1; SL.3.2; SL.3.3 Language: L.3.4
	• Language: L.3.1.H; L.3.1.I; L.3.1.J; L.3.2.F; L.3.4.D; L.3.5.A; L.3.6	
Math standards		• Math Practices: MP1; 2; 3; 4; 5; 6; 7
		• Math Content: 3.OA.8; 3.NBT.2; 3.MD.2; 3.MD.3; 3.MD.4; 3.MD.5.B
oundational reading	• RF.3.3.C	
tandards	• RF.3.4.A	
	• RF.3.4.B	

	Benchmark unit 10	Amplify Science	
Unit title	Forces and Interactions: How Does Understanding Science Help Us Achieve Our Goals?	Balancing Forces: Investigating Floating Trains	
		In their role as consulting scientists, students are challenged to figure out how a floating train works in order to explain it to the citizens of the fictiona city of Faraday. They apply ideas about non-touching forces as well as balanced and unbalanced forces.	
Next Generation	3-PS2-1: Balanced and Unbalanced Forces	3-PS2-1: Balanced and Unbalanced Forces	
Science Standards	3-PS2-2: Predicting Motion	3-PS2-2: Predicting Motion	
	3-PS2-3: Non-Touching Forces	3-PS2-3: Non-Touching Forces	
	3-PS2-4: Solve a Problem with Magnets	3-PS2-4: Solve a Problem with Magnets	
		Crosscutting Concepts: Stability and Change; Cause and Effect; Patterns	
ELA reading standards	• Reading Literary Text: RL.3.1; RL.3.2; RL.3.3; RL.3.4; RL.3.5; RL.3.9	• Reading Informational Text: RI.3.1; RI.3.4; RI.3.5; RI.3.7; RI.3.10	
	 Reading Informational Text: RI.3.1; RI.3.2; RI.3.3; RI.3.4; RI.3.5; RI.3.7; 	• Writing: W.3.2; W.3.4	
	RI.3.8; RI.3.9; RI.3.10	• Speaking and Listening: SL.3.1; SL.3.6	
	• Writing: W.3.1.A; W.3.1.B; W.3.1.D; W.3.4; W.3.5; W.3.6; W.3.7; W.3.8; W.3.10	• Language: L.3.6	
	 Speaking and Listening: SL.3.1.A; SL.3.1.B; SL.3.1.C; SL.3.1.D; SL.3.3; SL.3.6 		
	• Language: L.3.1.H; L.3.1.J; L.3.2; L.3.2.A; L.3.2.E; L.3.2.F; L.3.2.G; L.3.4.B; L.3.4.C; L.3.4.D; L.3.5.A; L.3.5.C		
Math standards		• Math Practices: MP1; 2; 4	
		• Math Content: 3.MD.2; 3.MD.3	
Foundational reading	• RF.3.3.A		
standards	• RF.3.3.B		
	• RF.3.4.A		
	• RF.3.4.B		
	• RF.3.4.C		

	Benchmark unit 3	Amplify Science
Unit title	Observing Nature: How Do We Reveal Ourselves to Others?	Vision and Light: Investigating Animal Eyes
		As wildlife biologists, students work to figure out why a local population of geckos has decreased since the construction of a new stadium. Students consider the bright lights of the stadium and use a computer simulation to investigate the relationship of light and vision, specifically the sensitivity to different animals' eyes to light, and make a recommendation for mitigating the situation.
Next Generation	4-LS1-2: Patterns to Transfer Information	4-LS1-1: Internal and External Structures
Science Standards		4-LS1-2: Patterns to Transfer Information
		Crosscutting Concepts: Structure and Function; Systems and System Models; Cause and Effect; Patterns
ELA reading standards	• Reading Informational Text: RI.4.1; RI.4.2; RL.4.4; RL.4.5; RI.4.6; RL.4.7;	• Reading Informational Text: RI.4.1; RI.4.3; RI.4.7; RI.4.10
	RI.4.9; ŘI.4.10	• Writing: W.4.1; W.4.2; W.4.4; W.4.7; W.4.8; W.4.9; W.4.10
	• Writing: W.4.6; W.4.7; W.4.8; W.4.9.B	• Speaking and Listening: SL.4.1; SL.4.2; SL.4.4; SL.4.6
	 Speaking and Listening: SL.4.1; SL.4.2; SL.4.3; SL.4.4; SL.4.5; SL.4.6 Language: L.4.4.A; L.4.4.C; L.4.5; L.4.5.A; L.4.5.B 	• Language: L.4.4; L.4.6
Math standards		• Math Practices: MP1; 2; 5
		• Math Content: 4.MD.5; 4.MD.6; 4.G.1
Foundational reading standards	• RF.4.3.A	

	Benchmark unit 5	Amplify Science
Unit title	Technology for a Green Future: How Do We Make Decisions About Developing New Technology?	Waves, Energy, and Information: Investigating How Dolphins Communicate
		In their role as marine scientists, students work to figure out how mother dolphins communicate with their calves. They investigate how sound travels and learn about how to look for and to create patterns of communication.
Next Generation	4-ESS3-1: Energy and Fuels	4-PS3-2 Energy Can Be Transferred
Science Standards	4-PS3-2: Energy Can Be Transferred	4-PS3-3: Collisions
	4-PS3-4: Information, Senses and the Brain	4-PS4-1: Waves
	3-5 ETS1-1: Defining the Problem	4-PS4-3: Patterns to Transfer Information
	3-5-ETS1-2: Developing Possible Solutions	4-LS1-2: Info, Senses and the Brain
		4-ESS3-2: Reduce Impacts of Earth Processes
		3-5-ETS1-1: Defining the Problem
		3-5-ETS1-2: Developing Possible Solutions
		Crosscutting Concepts: Patterns; Energy and Matter; Scale, Proportion, and Quantity
ELA reading standards	• Reading Informational Text: RI.4.1; RI.4.2; RI.4.3; RI.4.5; RI.4.8; RI.4.9;	• Reading Informational Text: RI.4.1; RI.4.3; RI.4.4; RI.4.6; RI.4.7; RI.4.10
	RI.4.10	• Writing: W.4.2; W.4.2.B; W.4.2.D; W.4.4; W.4.7; W.4.8; W.4.9; W.4.10
	 Writing: W.4.1; W.4.1.C; W.4.1.D; W.4.2.B; W.4.2.E; W.4.3; W.4.3.A; W.4.3.B; W.4.3.D; W.4.4; W.4.5; W.4.8; W.4.9.B; W.4.10 	 Speaking and Listening: LS.4.1; LS.4.1.A; LS.4.1.B; LS.4.1.C; LS.4.1.D; LS.4.2; LS.4.4; LS.4.6
	• Speaking and Listening: SL.4.1; SL.4.2; SL.4.3; SL.4.4; SL.4.5; SL.4.6	• Language: L.4.4; L.4.6
	• Language: L.4.1.C; L.4.1.D; L.4.1.E; L.4.2.C; L.4.4.A; L.4.4.C;	
Math standards		• Math Practices: MP1; 2; 4; 5; 6; 7
		• Math Content: 4.OA.5; 4.MD.2; 4.G.1
Foundational reading standards	• RF.4.3.A	

Grade 4

	Benchmark unit 8	Amplify Science
Unit title	Earth Changes: How Do Earth's Natural Processes	Earth's Features: Mystery in Desert Rocks Canyon
	Impact Our Lives?	Playing the role of geologists, students help the National Park Service explain what a particular bony-looking rock is, how it formed, and how it came to be in its current location at the bottom of Desert Rocks National Park. Then they explain to park visitors how the canyon was formed.
Next Generation	4-ESS2-2: Reduce Impacts of Earth Processes	4-ESS1-1: Landscape Changes
Science Standards		4-ESS2-1: Evidence of Weathering or Erosion
		4-ESS2-2: Patterns of Earth's Features
		4-ESS3-1: Energy and Fuels
		4-ESS3-2: Reduce Impacts of Earth Processes Crosscutting Concepts: Stability and Change; Patterns; Cause and Effect
ELA reading standards	• Reading Informational Text: RI.4.1; RI.4.2; RI.4.3; RI.4.5; RI.4.6; RI.4.7;	• Reading Informational Text: RI.4.1; RI.4.3; RI.4.4; RI.4.7; RI.4.9; RI.4.10
	RI.4.9; RI.4.10	 Writing: W.4.1; W.4.4; W.4.7; W.4.8; W.4.9; W.4.10
	 Writing: W.4.3.A; W.4.3.B; W.4.3.C; W.4.3.D; W.4.3.E; W.4.4; W.4.5; W.4.6; W.4.7; W.4.8; W.4.9.B 	• Speaking and Listening: SL.4.1; SL.4.4
	• Speaking and Listening: SL.4.1; SL.4.2; SL.4.3; SL.4.4; SL.4.5; SL.4.6	• Language: L.4.4; L.4.6
	• Language: L.4.1.D; L.4.4.A; L.4.4.C	
Math standards		• Math Practices: MP1; 2; 8
		• Math Content: 4.NBT.A.1; 4.NBT.A.2; 4.MD.A.1
Foundational reading standards	• RF.4.3.A	

	Benchmark unit 10	Amplify Science
Unit title	The Power of Electricity: Where Do Scientific Discoveries	Energy Conversions: Blackout in Ergstown
	Lead Us?	Students play the role of systems engineers for Ergstown, a fictional town that experiences frequent blackouts. They explore reasons why an electrical system can fail, choose new energy sources and energy converters for the town, and use evidence to explain why their choices will make the town's electrical system more reliable.
Next Generation	4-PS3-2: Energy can be Transferred	4-PS3-1: Relationship Between Speed and Energy
Science Standards	4-PS3-4: Design an Energy Converter	4-PS3-2: Energy can be Transferred
	4-ESS3-1: Energy and Fuels	4-PS3-3: Collisions
		4-PS3-4: Design an Energy Converter
		4-ESS3-1: Energy and Fuels
		3-5-ETS1-1: Defining the Problem
		3-5-ETS1-2: Developing Possible Solutions
		Crosscutting Concepts: Systems and Systems Models; Energy and Matter; Structure and Function; Cause and Effect
ELA reading standards	• Reading Informational Text: RI.4.1; RI.4.2; RI.4.6; RI.4.7; RI.4.8; RI.4.9; RI.4.10	• Reading Informational Text: RI.4.1; 4.2; 4.3; 4.4; 4.6; 4.7; 4.10
		• Writing: W.4.1; 4.2; 4.4; 4.8; 4.9; 4.10
	 Writing: W.4.1; W.4.1.A; W.4.1.B; W.4.1.C; W.4.1.D; W.4.4; W.4.5; W.4.6; W.4.7; W.4.8; W.4.9.B; W.4.10 	• Speaking and Listening: SL.4.1; 4.4; 4.6
	• Speaking and Listening: SL.4.1; SL.4.2; SL.4.3; SL.4.4; SL.4.5; SL.4.6	• Language: L.4.6
	• Language: L.4.4.A; L.4.4.C; L.4.6	
Math standards		• Math Practices: MP1; 2; 4; 5
		• Math Content: 4.OA.3; 4.NBT.2; 4.NBT.4; 4.MD.5.A; 4.MD.6
Foundational reading standards	• RF.4.3.A	

	Benchmark unit 3	Amplify Science
Unit title	Cultivating Natural Resources: How Do We Decide Which Resources We Should Develop?	Ecosystem Restoration: Matter and Energy in a Rainforest Students engage as ecologists as they figure out why the plants and animals in a failing Costa Rican rainforest ecosystem aren't growing and thriving. Growing a terrarium, using physical models, and investigating how matter and energy flow with a computer model, students solve the mystery and create a plan for rainforest restoration.
Next Generation Science Standards	5-ESS2-1: Interaction of Spheres 5-ESS3-1: Protecting Earth 5-PS3-1: Use and Origin of Energy in Food 5-LS1-1: Plant Materials from Air and Water 5-LS2-1: Matter Flows	5-PS3-1: Use and Origin of Energy in Food 5-LS1-1: Plant Materials from Air and Water 5-LS2-1: Matter Flows 5-ESS3-1: Protecting Earth 5-PS1-1: Matter is Made of Particles 3-5-ETS1-1: Defining the Problem 3-5-ETS1-2: Developing Possible Solutions Crosscutting Concepts: Energy and Matter; Systems and Systems Models; Scale, Proportion, and Quantity; Cause and Effect
ELA reading standards	 Reading Information Text: RI.5.1; RI.5.2; RI.5.3; RI.5.6; RI.5.7; RI.5.8; RI.5.9; RI.5.10 Writing: W.5.5; W.5.6; W.5.7; W.5.8; W.5.9b; W.5.10 Speaking and Listening: SL5.1; SL.5.2; SL.5.3; SL.5.4; SL.5.5; SL.5.6 Language: L.5.4.A; L.5.4.C 	 Reading Informational Text: RI.5.1; RI.5.3; RI.5.4; RI.5.7; RI.5.9; RI.5.10 Writing: W.5.1; W.5.4; W.5.8; W.5.9; W.5.10 Speaking and Listening SL.5.1; SL.5.4; SL 5.6 Language: L.5.4; L.5.6
Math standards		 Math Practices: MP1; 2; 4; 5; 6; 7 Math Content: 5.OA.2; 5.OA.3; 5.NBT.1; NBT.3.A; 5.MD.3; 5.MD.3.A; 5.MD.3.B; 5.MD.4; 5.MD.5; 5.MD.5.A; 5.MD.5.B; 5.MD.5.C
Foundational reading standards	• RF.5.3.A	

	Benchmark unit 6	Amplify Science
Unit title	Up Against the Wild: What Compels Us to Survive?	Patterns of Earth and Sky
		In their role as astronomers, students investigate an artifact found on an archeological dig that seems to show patterns in the daytime and nighttime sky. Using a computer simulation of stars, physical models, and a reference text, students figure out how the position of stars around the Earth, and the spin and orbit of the earth, cause us to see daily and yearly patterns of stars.
Next Generation	5-ESS1-2: Patterns of Daily and Seasonal Changes	5-PS2-1: Gravity
Science Standards	5-ESS3-1: Protecting Earth	5-ESS1-1: Apparent Brightness of Stars
		5-ESS1-2: Patterns of Daily and Seasonal Changes
		Crosscutting Concepts: Patterns; Cause and Effect; Systems and System Models; Scale, Proportion, and Quantity
ELA reading standards	• Reading Information Text: RI.5.1; RI.5.2; RI.5.3; RI.5.7; RI.5.8; RI.5.9	• Reading Informational Text: RI.5.1; RI.5.3; RI.5.4; RI.5.7; RI.5.9; RI.5.10
	• Writing: W.5.7; W.5.8; W.5.1; W.5.1.A; W.5.10; W.5.4; W.5.7; W.5.8; W.5.5;	• Writing: W.5.2; W.5.2.B; W.5.2.D; W.5.4; W.5.7; W.5.8; W.5.9; W.5.10
	W.5.7; W.5.8 • Speaking and Listening: SL5.1; SL.5.2; SL.5.3; SL.5.4; SL.5.5; SL.5.6	 Speaking and Listening: SL.5.1; SL.5.1.A; SL.5.1.B; SL.5.1.C; SL.5.1.D; SL.5.2; SL.5.4; SL.5.6
	• Language: L.5.4.A; L.5.4.C	• Language: L.5.6
Math standards		• Math Practices: MP1; 2; 4; 5; 7
		• Math Content: 5.NBT.1; 5.NBT.2; 5.G.2
Foundational reading standards	• RF.5.3.A	

	Benchmark unit 8	Amplify Science
Unit title	Water: Fact and Fiction: What Does Water Mean to	The Earth System: Investigating Water Shortages
	People and the Societies They Live In?	As water resource engineers, students figure out what caused a water shortage on the east side of a fictional island called East Ferris, and work to design a solution to the problem. Applying their knowledge of water distribution and analyzing the flow of water among the hydrosphere, atmosphere, and geosphere, students communicate the nature of the problem and possible solutions to the island's residents.
Next Generation	5-ESS2-1: Interaction of Spheres	5-ESS2-1: Interaction of Spheres
Science Standards	5-ESS2-2: Distribution of Water on Earth	5-ESS2-2: Distribution of Water on Earth
	5-ESS3-1: Protecting Earth	5-ESS3-1: Protecting Earth
		5-PS1-1: Matter is Made of Particles
		5-PS1-2: Conservation of Matter
		5-PS1-3: Properties of Materials
		5-PS1-4: Mixing Substances
		3-5-ETS1-1: Defining Problems
		3-5-ETS1-2: Developing Possible Solutions
		3-5-ETS1-3: Improving Solutions
		Crosscutting Concepts: Systems and System Models; Scale, Proportion, and Quantity; Energy and Matter; Stability and Change
ELA reading standards	• Reading Information Text: RF.5.4.A; RI.5.1; RI.5.2; RI.5.3; RI.5.5; RI.5.6;	• Reading Informational Text: RI.5.1; RI.5.3; RI.5.4; RI.5.7; RI.5.9; RI.5.10
	RI.5.7; RI.5.8; RI.5.9; RI.5.10	• Writing: W.5.2; W.5.2.B; W.5.2.D; W.5.4; W.5.7; W.5.8; W.5.9; W.5.10
	• Writing: W.5.2; W.5.2.A; W.5.2.B; W.5.4; W.5.5; W.5.6; W.5.7; W.5.8; W.5.9.A; W.5.10	 Speaking and Listening: SL.5.1; SL.5.1.A; SL.5.1.B; SL.5.1.C; SL.5.1.D; SL.5.2; SL.5.4; SL.5.6
	 Speaking and Listening: SL5.1; SL.5.2; SL.5.3; SL.5.4; SL.5.5; SL.5.6 Language: L.5.4.A; L.5.5.A 	• Language: L.5.4, L.5.6
Math standards		• Math Practices: MP1; 2; 4; 5; 7
		• Math Concepts: 5.NBT.1; 5.NBT.2; 5.G.2
Foundational reading standards	• RF.5.3.A	

	Benchmark unit 10	Amplify Science	
Unit title	Transforming Matter: How Can We Use Science to Accomplish the Impossible?	Modeling Matter: The Chemistry of Food	
		As food scientists working in a lab for a large food production company, students take on two work assignments, one related to food safety and one related to creation of a new food product. In so doing, they figure out that the properties of materials are related to the properties of the nano-particles that make up those materials.	
Next Generation	5-PS1-1: Matter is made of Particles	5-PS1-1: Matter is made of Particles	
Science Standards	5-PS1-2: Conservation of Matter	5-PS1-3: Properties of Materials	
	5-PS1-3: Properties of Materials	5-PS1-4: Mixing Substances	
	5-PS1-4: Mixing Substances	Crosscutting Concepts: Scale, Proportion, and Quantity; Energy and Matter; Patterns; Stability and Change	
ELA reading standards	• Reading Information Text: RI.5.1; RI.5.2; RI.5.3; RI.5.7; RI.5.8; RI.5.9	• Reading Informational Text: RI.5.1; RI.5.3; RI.5.4; RI.5.7; RI.5.9; RI.5.10	
	• Writing: W.5.1; W.5.1.A; W.5.10; W.5.4; W.5.7; W.5.8; W.5.5; W.5.7; W.5.8	• Writing: W.5.2; W.5.4; W.5.8; W.5.9; W.5.10	
	• Speaking and Listening: SL5.1; SL.5.2; SL.5.3; SL.5.4; SL.5.5; SL.5.6	Speaking and Listening: SL.5.1	
	• Language: L.5.4.A; L.5.4.C	• Language: L.5.6	
Math standards		• Math Practices: MP 1; 2; 4; 5; 6; 7	
		• Math Content: 5.NBT.2; 5.NBT.3.A; 5.G.4	
Foundational reading standards	• RF.5.3.A		

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