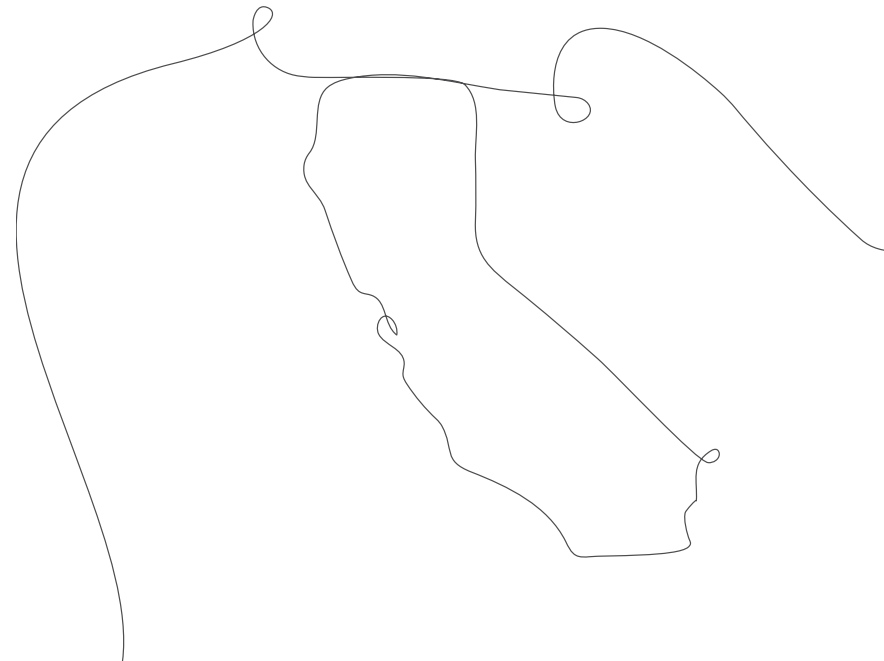


Mystery Science lesson alignment

authored by



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Table of contents

Kindergarten

Needs of Plants and Animals	4
Pushes and Pulls	6
Sunlight and Weather	8

Grade 1

Animal and Plant Defenses	10
Light and Sound	12
Spinning Earth	14

Grade 2

Plant and Animal Relationships	16
Properties of Materials	18
Changing Landforms	20

Needs of Plants and Animals

Topic	Amplify Lessons	Mystery Science Lessons	
Why are there no monarch caterpillars since the Field was made into the Garden?	1.1 Pre-Unit Assessment	55 mins	
	1.2 Science Walk	45 mins	
	1.3 Observing a Place	50 mins	Plant & Animal Needs How Do Scientists Know So Much? (See the "Back-To-School Special" section)
	1.4 Exploring Animal Needs	45 mins	Plant & Animal Needs Mystery 1: Why do woodpeckers peck wood?
	1.5 Investigating Animal Habitats	45 mins	Plant & Animal Needs Mystery 2 Read Along: Where do animals live?
	1.6 Explaining Why There Are No Caterpillars	45 mins	Plant & Animal Needs Mystery 3: How can you find animals in the woods?
Why did two milkweed seeds become plants, but the other did not?	2.1 Growing Seeds	45 mins	
	2.2 Comparing Plant Growth	45 mins	Plant Needs Mystery 5: How do plants and trees grow? (See Part 1: Plants Need Water)
	2.3 Investigating Plant Needs	45 mins	
	2.4 A Plant in the Desert	45 mins	
	2.5 Modeling Spikes	45 mins	
	2.6 Modeling Camouflage	45 mins	
	2.7 Explaining Defenses	45 mins	
	2.8 Defending the Food Supply	45 mins	

Topic	Amplify Lessons		Mystery Science Lessons	
Why do the milkweed plants that get water grow differently?	3.1 Planning a Light Investigation	45 mins	Plant Needs	25 mins
	3.2 Observing Light Investigations	45 mins		
	3.3 Growing Toward the Light	45 mins		
	3.4 Above and Below	45 mins	Plant Needs	Mystery 4 Read Along: How do animals make their home in the forest?
How can humans make sure that other living things will be able to live and grow?	4.1 Investigating Monarchs	45 mins	Animal Needs & Changing the Environment	
	4.2 Investigating Human Needs	45 mins		Mystery 6 Read Along: Why would you want an old log in your backyard?
	4.3 Reflecting on Needs of Living Things	45 mins	Animal Needs & Changing the Environment	
	4.4 End-of-Unit Assessment	10 mins/ student	Animal Needs & Changing the Environment	While teacher meets with individual students for assessment conversations, have student pairs or groups revisit any videos or "extras" from the lessons above.

Pushes and Pulls

Topic	Amplify Lessons	Mystery Science Lessons	
How do we make a pinball start to move?	1.1 Pre-Unit Assessment	45 mins	
	1.2 Talking About Forces	45 mins	Pushes, Pulls, & "Work Words" Mystery 1: What's the biggest excavator?
	1.3 Forces Happen Between Two Objects	45 mins	
	1.4 We Are Engineers	45 mins	
	1.5 Writing About Forces	45 mins	
How do we make a pinball move as far as we want?	2.1 Exploring Shorter and Longer Distances	45 mins	Strength & Direction of Force Mystery 3: How can you knock down a wall made of concrete?
	2.2 Strong and Gentle Forces	45 mins	
	2.3 Designing a New Launcher	45 mins	
How do we make a pinball move to a certain place?	3.1 Movement in Different Directions	45 mins	Strength & Direction of Force Mystery 3: How can you knock down a wall made of concrete?
	3.2 Building with Forces	45 mins	
	3.3 Direction and Strength	45 mins	
	3.4 Targets in the Box Model	50 mins	
	3.5 Applying Strength and Direction	40 mins	
How do we make a moving pinball change direction?	4.1 Changing Direction	45 mins	Strength & Direction of Force Mystery 4 Read Along: How can you knock down the most bowling pins?
	4.2 Forces Change an Object's Direction	45 mins	
	4.3 Flippers and Bumpers	45 mins	

Topic	Amplify Lessons		Mystery Science Lessons	
How can we make the pinball machine do all the things we want it to do?	5.1 Room 4 Solves a Problem	45 mins	Forces & Engineering Mystery 6 Read Along: How could you invent a trap?	45 mins
	5.2 Testing and Improving Our Box Models	45 mins		
	5.3 Showcasing Our Box Models	45 mins		
Where are forces around us?	6.1 Searching for Forces	45 mins	Pushes, Pulls, and Forces & Engineering Mystery 2 Read Along: Why do builders need so many big machines?	45 mins
	6.2 A Busy Day in Pushville	45 mins		
	6.3 End-of-Unit Assessment	10 mins/ student	Pushes, Pulls, and Forces & Engineering While teacher meets with individual students for assessment conversations, have student pairs or groups revisit any videos or "extras" from the lessons above.	

Sunlight and Weather

Topic	Amplify Lessons	Mystery Science Lessons
What is the weather like on the playgrounds?	1.1 What is the Weather Like Today?	45 mins
	1.2 Introducing Temperature	45 mins
	1.3 Pre-Unit Assessment	45 mins
	1.4 Weather & the Playgrounds	45 mins
		Weather Conditions & Tracking Mystery 1: Have you ever watched a storm?
		Weather Conditions & Tracking Mystery 3: What will the weather be like on your birthday?
Why do the playgrounds get warm?	2.1 Modeling the Sun Warming Earth's Surface	45 mins
	2.2 Learning More About Models	45 mins
	2.3 Investigating Sunlight on Earth's Surface	45 mins
	2.4 Applying Sunlight Warming Earth's Surface	45 mins
		Sun, Heat, & Engineering Mystery 5: How could you warm up a frozen playground?
Why are the playgrounds warmer in the afternoon?	3.1 Getting Warm in the Sunlight	45 mins
	3.2 Discussing Warming Over Time	45 mins
	3.3 Showing Ideas About Warming Over Time	45 mins
	3.4 Reflecting on Warming Through Time	45 mins
		Weather & Daily Patterns Mystery 4 Read Along: How do you know what to wear for the weather?

Topic	Amplify Lessons		Mystery Science Lessons		
Why is Woodland Elementary School's playground always warmer during recess?	4.1 Modeling Warming of Different Surfaces	45 mins			
	4.2 Reflecting on Warming of Different Surfaces	45 mins			
	4.3 Cool People In Hot Places	45 mins	Sun & Heat	45 mins	
			Mystery 6 Read Along: How could you walk barefoot across hot pavement without burning your feet?		
		4.4 Revisiting Sunlight Warming Earth's Surface	45 mins		
Why does only Woodland Elementary School's playground flood?	5.1 Tornado! Predicting Severe Weather	45 mins	Extreme Weather & Weather Watching	5 mins	
			Mini-Lesson: Why are tornadoes so hard to predict?		
	5.2 Investigating With the Flooding Model	45 mins			
	5.3 Discussing the Flooding Models	45 mins			
	5.4 Investigating Flooding Solutions	45 mins			
	5.5 Reflecting on Weather & Sunlight	45 mins	Extreme Weather & Weather Watching	45 mins	
				Mystery 2 Read Along: How can you get ready for a big storm?	
		5.6 End-of-Unit Assessment	10 mins/ student	Extreme Weather & Weather Watching While teacher meets with individual students for assessment conversations, have student pairs or groups revisit any videos or "extras" from the lessons above.	

Animal and Plant Defenses

Topic	Amplify Lessons	Mystery Science Lessons	
How does Spruce the Sea Turtle do what she needs to do to survive?	1.1 Pre-Unit Assessment	45 mins	
	1.2 Tortoise Parts	45 mins	Structure & Survival 5 mins
	1.3 Animal And Plant Structures	45 mins	Mini-lesson: Why do zebras have stripes?
	1.4 Surviving by Not Being Eaten	45 mins	
	1.5 Explaining Sea Turtle Survival	45 mins	
How can Spruce the Sea Turtle survive where there are sharks?	2.1 Whose Lunch Is This?	45 mins	
	2.2 Sharp Structures for Eating	45 mins	Structure & Survival 40 mins Mystery 1: Why do birds have beaks?
	2.3 Introducing Modeling	45 mins	
	2.4 Modeling Shells and Armor	45 mins	
	2.5 Modeling Spikes	45 mins	
	2.6 Modeling Camouflage	45 mins	Structure & Survival 45 mins Mystery 3: Why are polar bears white?
	2.7 Explaining Defenses	45 mins	Structure & Survival 5 mins Mini-Lesson: Why are butterflies so colorful?
	2.8 Defending the Food Supply	45 mins	

Topic	Amplify Lessons		Mystery Science Lessons	
How can Spruce the Sea Turtle's offspring survive where there are sharks?	3.1 Introducing Offspring	45 mins	Parenting & Offspring Survival, and Inheritance & Variation of Traits Mystery 4 Read Along: Why do family members look alike?	45 mins
	3.2 Parents and Offspring	45 mins	Parenting & Offspring Survival, and Inheritance & Variation of Traits Mystery 2 Read Along: Why do baby ducks follow their mother?	25 mins
	3.3 Offspring Defenses	45 mins		
	3.4 Young Offspring	45 mins	Parenting & Offspring Survival, and Inheritance & Variation of Traits Mini-Lesson: Why do baby animals look so cute?	5 mins
	3.5 Exploring Parental Care	45 mins	Parenting & Offspring Survival, and Inheritance & Variation of Traits Mystery 2: Extension Activities	20 mins
How can aquarium scientists explain animal defenses to visitors?	4.1 Frog Models	45 mins		
	4.2 Making Models for the Exhibit	45 mins	Plants & Engineering and Plant Survival Mystery 5: Why don't trees blow down in the wind?	60 mins
	4.3 Aquarium Animal Exhibit	45 mins		
	4.4 End-of-Unit Assessment	10 mins/ student	Plants & Engineering and Plant Survival Mystery 6: What do sunflowers do when you're not looking? Plus, while teacher meets with individual students for assessment conversations, have student pairs or groups revisit any videos or "extras" from the lessons above.	

Light and Sound

Topic	Amplify Lessons	Mystery Science Lessons	
How do we make brighter or darker areas on a surface?	1.1 Pre-Unit Assessment	45 mins	
	1.2 Can You See in the Dark?	35 mins	<i>Illumination</i> 45 mins
	1.3 Light-Source Hunt	45 mins	Mystery 4 Read Along: Can you see in the dark?
	1.4 Making Sense of Light Sources and Brightness	45 mins	
	1.5 Light Makes Surfaces Look Bright	45 mins	
How do we make a dark area in a bright puppet show scene?	2.1 Exploring Shadows	45 mins	<i>Illumination</i> 40 mins
	2.2 What Made This Shadow?	45 mins	Mystery 1: Could a statue's shadow move? (See Spinning Sky Unit)
	2.3 Investigating Blocking	45 mins	<i>Illumination</i> 30 mins
	2.4 Designing a Cutout to Make a Dark Area	45 mins	Mystery 3: What if there were no windows?
	2.5 Explaining the Dark Part of the Surface	45 mins	
How do we make bright, medium-bright, and dark areas in a puppet show scene?	3.1 Investigating Materials That Do Not Block	45 mins	
	3.2 Let's Test!	45 mins	<i>Engineering & Communication</i> 45 mins
	3.3 Making Sense of Full and Partial Transmission	45 mins	Mystery 5: How could you send a secret message to someone far away?
	3.4 Planning and Making Our Stencils	45 mins	
	3.5 Testing and Revising Our Solutions	45 mins	
	3.6 Explaining the Puppet-Show Scene	45 mins	

Topic	Amplify Lessons		Mystery Science Lessons	
How do we design a sound source to go with a puppet show scene?	4.1 Exploring Sound Sources	45 mins	Sounds & Vibrations	30 mins
	Mystery 1: How do they make silly sounds in cartoons?			
	4.2 What Vibrates?	45 mins		
	4.3 Explaining Vibration in Sound Sources	45 mins	Sounds & Vibrations	45 mins
	Mystery 2 Read Along: Where do sounds come from?			
	4.4 Designing Sound Sources	45 mins	Sounds & Vibrations	45 mins
Mystery 6 Read Along: How do boats find their way in the fog?				
4.5 Sharing Light and Sound Solutions	45 mins			
4.6 End-of-Unit Assessment	10 mins/ student	Sounds & Vibrations	While teacher meets with individual students for assessment conversations, have student pairs or groups revisit any videos or "extras" from the lessons above.	

Spinning Earth

Topic	Amplify Lessons	Mystery Science Lessons	
Why did the sky look different to Sai than to his grandma?	1.1 Pre-Unit Assessment	45 mins	
	1.2 After Sunset	45 mins	
	1.3 The Pattern of Daytime and Nighttime	45 mins	Sun, Shadows, & Daily Patterns Mystery 1: Could a statue's shadow move? 40 mins
	1.4 The Sky From Different Places	45 mins	
	1.5 Explaining the Sky in Different Places	45 mins	
Why was it daytime for Sai when it was nighttime for his grandma?	2.1 Observing Earth From Space	45 mins	
	2.2 Daytime & Nighttime in Places on Earth	45 mins	Sun & Daily Patterns Mystery 3: How can the sun help you if you're lost? 35 mins
	2.3 Explaining Daytime & Nighttime	45 mins	
	2.4 Explaining Sai's Problem	45 mins	
Why did daytime change to nighttime while Sai talked on the phone?	3.1 Investigating the Sunset	45 mins	
	3.2 Observing the Horizon	45 mins	Sun, Shadows, & Daily Patterns Mystery 2 Read Along: What does your shadow do when you're not looking? 45 mins
	3.3 The Sun's Position in the Sky	45 mins	
	3.4 What Spins?	45 mins	
	3.5 What We See as Earth Spins	45 mins	
	3.6 Explaining Sunset to Sai	45 mins	

Topic	Amplify Lessons	Mystery Science Lessons	
What will Sai see in the sky when he calls his grandma tomorrow?	4.1 Predicting Sun Patterns	45 mins	
	4.2 Nighttime Investigation	45 mins	Stars, Daily Patterns, & Seasonal Patterns Mystery 5: Why do the stars come out at night?
	4.3 Explaining the Sun's Repeating Pattern	45 mins	Stars, Daily Patterns, & Seasonal Patterns Mystery 6 Read Along: How can stars help you if you get lost?
	4.4 Explaining What Sai Will See	45 mins	Stars, Daily Patterns, & Seasonal Patterns Mini Lesson: Who created the constellations?
Why was it nighttime for Sai when he called his grandma during the winter?	5.1 A Walk Through the Seasons	45 mins	Sun & Seasonal Patterns Mystery 4 Read Along: Why do you have to go to bed early in the summer?
	5.2 Exploring and Explaining Daylight in Different Seasons	45 mins	
	5.3 End-of-Unit Assessment	10 min/ student	Sun & Seasonal Patterns While teacher meets with individual students for assessment conversations, have student pairs or groups revisit any videos or "extras" from the lessons above.

Plant and Animal Relationships

Topic	Amplify Lessons	Mystery Science Lessons	
Why aren't new chalta trees growing in the Bengal Tiger Reserve?	1.1 Pre-Unit Assessment	60 mins	
	1.2 My Nature Notebook	55 mins	Animal Biodiversity, Adaptations & Habitat, Seed Dispersal, and Roots, Water & Minerals Mystery 1: How many different kinds of animals are there?
	1.3 Investigating Habitats	60 mins	Animal Biodiversity, Adaptations & Habitat, Seed Dispersal, and Roots, Water & Minerals Mystery 5: Where do plants grow best?
	1.4 Discovering the Problem in the Reserve	60 mins	
	1.5 What are Seeds?	60 mins	Animal Biodiversity, Adaptations & Habitat, Seed Dispersal, and Roots, Water & Minerals If students need more background on seeds, see Grade K Mystery: How do plants & trees grow?
	1.6 Investigating Seeds' Needs	60 mins	Animal Biodiversity, Adaptations & Habitat, Seed Dispersal, and Roots, Water & Minerals Mystery 2: Do plants eat dirt?
Why aren't the chalta seeds getting the sunlight and water they need to grow?	2.1 Exploring Plant Parts	60 mins	
	2.2 A Plant Is a System	60 mins	Adaptations & Habitat and Light, Leaves & Competition Mystery 3: Why do trees grow so tall?
	2.3 Investigating How Roots and Leaves Grow	60 mins	
	2.4 Finding a Good Place	65 mins	Adaptations & Habitat and Light, Leaves & Competition Mystery 4: Should you water a cactus?
	2.5 Why Aren't New Chalta Trees Growing?	60 mins	

Topic	Amplify Lessons	Mystery Science Lessons
Why aren't the chalta seeds getting to places where they can grow?	3.1 Habitat Scientist	Seed Dispersal 50 mins
	3.2 Investigating How Seeds Move	Mystery 1: How did a tree travel halfway around the world?
	3.3 Investigating Seed Dispersal	Seed Dispersal 7 mins Mystery 1: Extension Activities
	3.4 Diagramming a System	60 mins
	3.5 Plant and Animal Interdependence	Seed Dispersal 55 mins Mystery 2: Why do frogs say "ribbit"?
	3.6 Explaining the Problem in the Reserve	60 mins
How are other seeds in the reserve able to get to places where they can grow?	4.1 Investigating Seeds	Biodiversity & Engineering 75 mins
	4.2 Planning the Seed Investigations	Mystery 3: How could you get more birds to visit a bird feeder?
	4.3 Conducting the Seed Investigations	60 mins
	4.4 End-of-Unit Assessment	60 mins

Properties of Materials

Topic	Amplify Lessons	Mystery Science Lessons		
How can you make a sticky glue?	1.1 Pre-Unit Assessment	60 mins		
	1.2 What If Rain Boots Were Made of Paper?	55 mins	<i>Invention, Engineering, Material Properties, & Engineering</i> Mini-Lesson: Why is it so hard to make new inventions?	35 mins
	1.3 Observing Properties of Glue	60 mins	<i>Invention, Engineering, Material Properties, & Engineering</i> "Materials Song"	3 mins
	1.4 Supporting Claims with Evidence	60 mins		
	1.5 Observing and Testing Ingredients	45 mins	<i>Invention, Engineering, Material Properties, & Engineering</i> Mystery 1: Why do we wear clothes?	55 mins
	1.6 Evaluating Sticky Test Evidence	60 mins		
	1.7 Jelly Bean Engineer	45 mins		
	1.8 Using Evidence to Plan Glues	60 mins		
	1.9 Making Our First Glue	60 mins		
Can heating a substance (and returning it to its original temperature) make a better glue?	2.1 Can You Change It Back?	60 mins	<i>Material Properties, Classification, Material Changes, & Phases of Matter</i> Mystery 2: Can you really fry an egg on a hot sidewalk?	50 mins
	2.2 Exploring Heating and Cooling	60 mins		
	2.3 Cause and Effect	50 mins	<i>Material Properties, Classification, Material Changes, & Phases of Matter</i> Mystery 3: Why are so many toys made out of plastic?	55 mins
	2.4 Writing About Heating Ingredients	60 mins		

Topic	Amplify Lessons		Mystery Science Lessons		
What ingredients can be used to make a glue that is sticky and strong?	3.1 Jess Makes Hair Gel	60 mins	Material Changes & Phases of Matter Mystery 4: What materials might be invented in the future?	45 mins	
	3.2 Adding Strength as a Design Goal	60 mins		Material Changes & Phases of Matter Real Young Inventors & Their inventions	6 mins
	3.3 Observing Ingredients and Setting Up Tests	60 mins			
	3.4 Writing Design Arguments	60 mins			
	3.5 Making Our Second Glue	60 mins	Materials, Inventions, & Engineering Mystery 5: Could you build a house out of paper?	50 mins	
What is the glue recipe that best meets our design goals?	4.1 Evaluating Second Glues and Revising Recipes	60 mins			
	4.2 Making Final Glues	60 mins			
	4.3 Mystery Mixtures	60 mins			
	4.4 End-of-Unit Assessment	60 mins			

Changing Landforms

Topic	Amplify Lessons	Mystery Science Lessons	
How did the edge of the cliff get to be so close to the flagpole?	1.1 Pre-Unit Assessment	60 mins	
	1.2 Observations About Landforms	60 mins	
	1.3 Observing Sand Samples	60 mins	Erosion, Earth's Surface, & Landforms 55 mins
	1.4 Gary's Sand Journal	60 mins	Mystery 2: Why is there sand at the beach?
	1.5 Making Sense of Sand Samples	60 mins	
	1.6 Explaining Landform Changes	60 mins	
How did the recreation center's cliff change?	2.1 Diagramming Landform Changes	60 mins	
	2.2 Modeling Landform Changes	60 mins	Erosion, Earth's Surface, & Landforms 60 mins
	2.3 What's Stronger?	60 mins	Mystery 3: What's strong enough to make a canyon?
	2.4 Diagramming How a Landform Erodes	60 mins	
	2.5 Scale of Erosion	60 mins	
	2.6 Explaining How the Cliff Changed	55 mins	
How did the recreation center's cliff erode without the director noticing?	3.1 Introduction to Maps	60 mins	Mapping, Earth's Surface, & Landforms 50 mins
	3.2 Investigating Differences in Scale	60 mins	Mystery 1: If you floated down a river, where would you end up?
	3.3 Accumulation of Small Changes	60 mins	
	3.4 Landform Change Over Time	60 mins	
	3.5 End-of-Unit Assessment Part 1	55 mins	

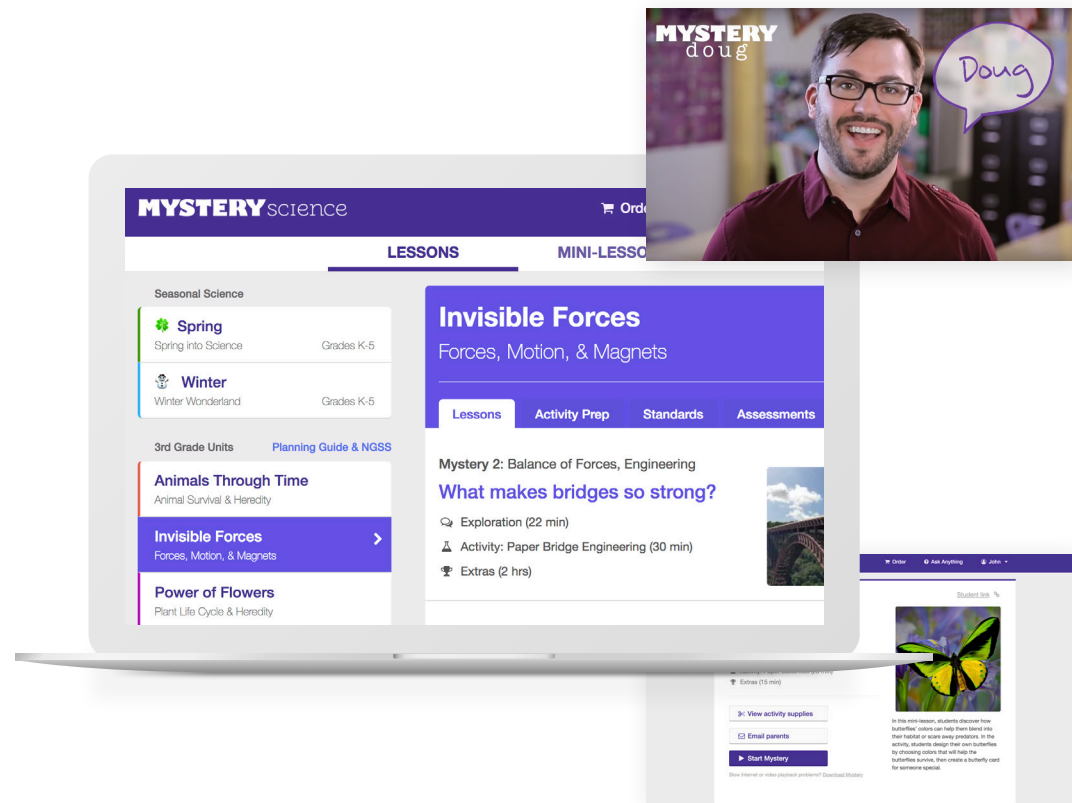
Topic	Amplify Lessons		Mystery Science Lessons	
Could the recreation center’s cliff erode quickly?	4.1 Exploring How Landforms Erode Quickly	60 mins		
	4.2 Modeling How Landforms Erode Quickly	55 mins		
	4.3 Making Models of Streams	60 mins		
	4.4 Making Sense of How Landforms Erode Quickly	60 mins	<i>Erosion & Engineering</i>	55 mins
	4.5 End-of-Unit Assessment Part 2	60 mins	Mystery 4: How can you stop a landslide?	

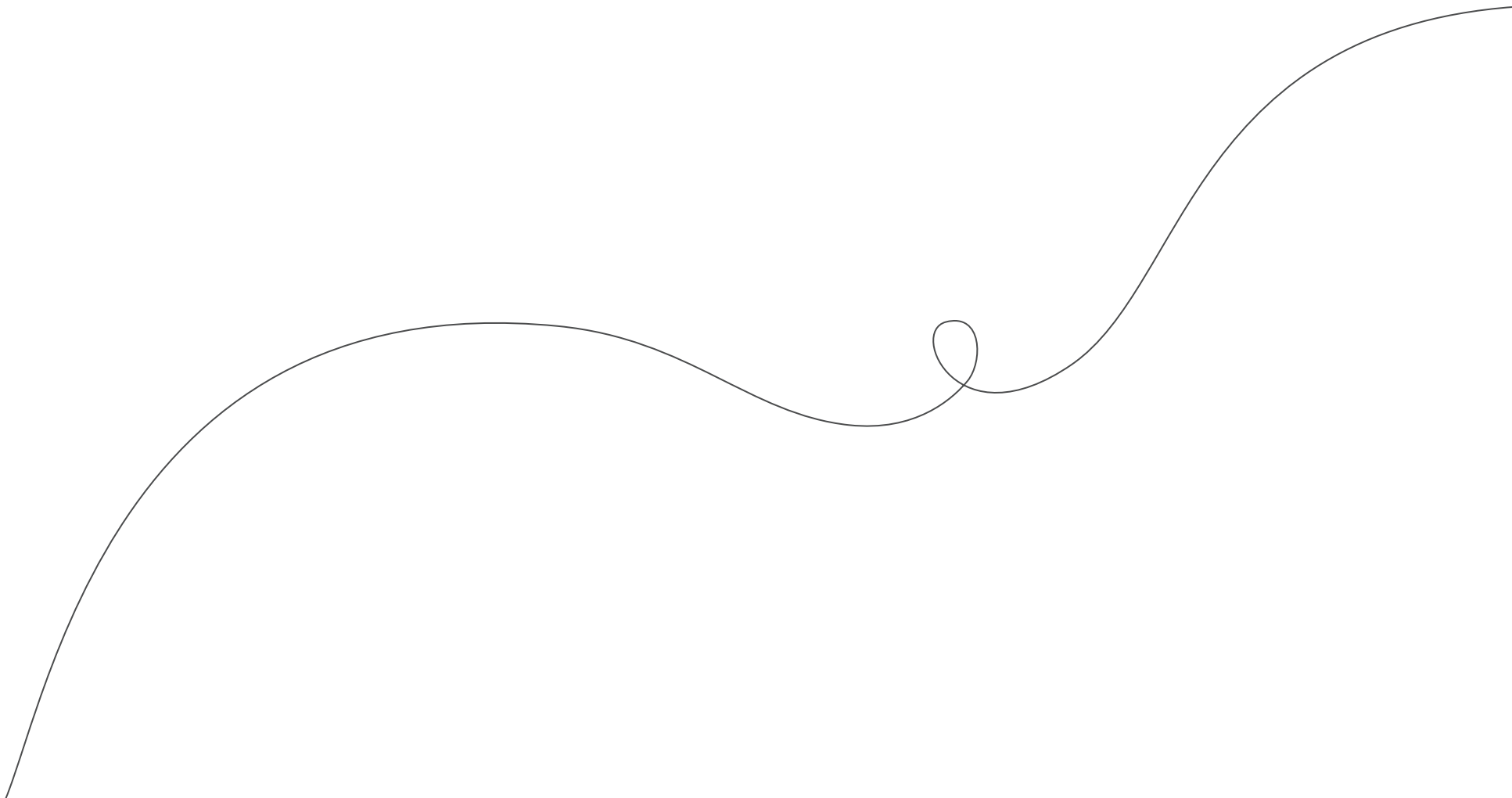
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