

Lake Metroparks Education Program — Science Correlations 2021-2022

Content Strand	Grade Level	Topic	Content Statement		Farm Programs	Nature, Environment, Science	Outdoor Education
ES	PreK	Observations of Nature	(*=LMP's designation) PK.ESS.1*: Weather changes every day.		Apples! Crops and Critters Farm Animals Up Close Harvest Time Little Lambs, Little Sprouts Little Red Hen Springtime On the Farm Discover Maple Syrup	Wee WeatherWatchers Seasonal Discoveries Wild In Ohio Nature's Gifts Go Wild at Penitentiary Glen	Cross-Country Ski Adventure Snowshoe Adventure Adventure Trek
ES	PreK	Observations of Nature	PK.ESS.2*: The sun and the moon are visible at different times of the day or night.			StarLab: Starlight Express Sun, Moon, and Stars StarLab: Constellation Investigation	
ES	PreK	Observations of Nature	PK.ESS.3*: Water can be observed as lakes, ponds, rivers, streams, the ocean, rainfall, hail, sleet, or snow.			Wee WeatherWatchers Wacky Waters Go Wild at Penitentiary Glen	Cross-Country Ski Adventure Snowshoe Adventure Kayak Adventure Adventure Trek
ES	PreK	Observations of Nature	PK.ESS.4*: Rocks and soil have properties that can help identify them.			Kindergarten Rocks-Soil Rule	
PS	PreK	Observations of Objects and Materials	PK.PSS.1*: Objects and materials are described by their properties.		Apples! Crops and Critters Discovering Maple Syrup Harvest Time Little Lambs, Little Sprouts Little Red Hen Springtime On the Farm Stone Soup Pizza Farm	Kindergarten Rocks-Soil Rule Sensational Senses Feelin' Wild: Textures Found In Nature Nature's Gifts Go Wild at Penitentiary Glen	Santa's Workshop Cross-Country Ski Adventure Snowshoe Adventure
PS	PreK	Observations of Objects and Materials	PK.PSS.2*: Many objects can be made to produce sound.			Sensational Senses Go Wild at Penitentiary Glen	
LS	PreK	Observations of Living Things	PK.LSS.1*: There are many distinct environments in Ohio that support different kinds of organisms.		Farm Animals Up Close Biodiversity Bonanza Discover Maple Syrup Apples	Park-wise Puppets Its Alive Seasonal Discoveries Wild In Ohio Walk About Wildlife Night Creatures Nature's Gifts No Place Like Home Adopt Apollo Adopt An Animal Go Wild at Penitentiary Glen Raptor Encounters Wacky Waters	Cross-Country Ski Adventure Snowshoe Adventure Kayak Adventure Adventure Trek

LS	PreK	Observations of Living Things	PK.LSS.2*: Similarities and differences exist among individuals of the same kind of plants and animals.		Farm Animals Up Close Apples Biodiversity Bonanza Farmyard Families Farm Animals and Me Barnyard Goes to School Crops and Critters Harvest Time Little Lambs, Little Sprouts Little Red Hen Springtime On the Farm Stone Soup Discover Maple Syrup	Park-wise Puppets Seasonal Discoveries Wild In Ohio Its Alive Walk About Wildlife Sensational Senses Night Creatures Adopt Apollo Adopt An Animal Go Wild at Penitentiary Glen Nature's Gifts No Place Like Home Raptor Encounters	
ES	K	Daily and Seasonal Changes	K.ESS.1: Weather changes are long term and short term.		Springtime On the Farm Apples Crops and Critters Discover Maple Syrup Harvest Time	Seasonal Discoveries Wee WeatherWatchers Wild In Ohio Weather Explorers (STEM in the Parks)	Cross-Country Ski Adventure Snowshoe Adventure Kayak Adventure
ES	K	Daily and Seasonal Changes	K.ESS.2: The moon, sun, and stars are visible at different times of the day or night.			StarLab: Constellation Investigation-Program StarLab: Starlight Express Sun, Moon & Stars	
PS	K	Properties of Everyday Objects and Materials	K.PS.1: Objects and materials can be sorted and described by their properties.		Apples Barnyard Goes to School Crops and Critters Discover Maple Syrup Harvest Time Little Red Hen Pizza Farm Springtime On the Farm	Kindergarten Rocks-Soil Rule Soap Bubble Chemistry Stem In the Outdoors Nature's Gifts Go Wild at Penitentiary Glen	Santa's Workshop
PS	K	Properties of Everyday Objects and Materials	K.PS.2: Some objects and materials produce sound.			Sensational Senses Go Wild at Penitentiary Glen	Adventure Trek
LS	K	Physical and Behavioral Traits of Living Things	K.LS.1: Living things have specific characteristics and traits.		Apples Barnyard Goes to School Biodiversity Bonanza Crops and Critters Discover Maple Syrup Farm Animals Up Close Farmyard Families Harvest Time Little Lambs, Little Sprouts Little Red Hen Pizza Farm Springtime On the Farm Stone Soup	It's Alive! Raptor Encounters Picky Eaters, Sticky Seeds (STEAM In the Parks) Apollo Project: Bald Eagle Adopt Apollo Adopt An Animal Go Wild at Penitentiary Glen Nature's Gifts Night Creatures No Place Like Home Park-wise Puppets Seasonal Discoveries Wacky Waters Walk About Wildlife Wild In Ohio	Adventure Trek

LS	K	Physical and Behavioral Traits of Living Things	K.LS.2 : Living things have physical traits and behaviors which influence their survival.		Apples Barnyard Goes to School Biodiversity Bonanza Crops and Critters Discover Maple Syrup Farm Animals Up Close Farm Animals and Me Farmyard Families Harvest Time Little Lambs, Little Sprouts Little Red Hen Pizza Farm Springtime On the Farm Stone Soup	It's Alive! Sensational Senses Parkwise Puppets Seasonal Discoveries Wild In Ohio Feelin' Wild: Textures Found In Nature Walk About Wildlife Wacky Waters Night Creatures Lunch Time Picky Eaters, Sticky Seeds (STEAM In the Parks) Apollo Project: Bald Eagle Adopt Apollo Adopt An Animal Nature's Gifts No Place Like Home Raptor Encounters Go Wild at Penitentiary Glen	Adventure Trek
ES	1	Sun Energy and Weather	1.ESS.1: The sun is the principal source of energy.		Apples Crops and Critters Discover Maple Syrup Harvest Time Springtime On the Farm Farm Animals and Me	Seasonal Discoveries StarLab: Starlight Express StarLab: Sun, Moon, and Stars It's Alive Weatherwise WeatherWatchers Wee Weather Watchers	Cross-Country Ski Adventure Snowshoe Adventure Kayak Adventure
ES	1	Sun Energy and Weather	1.ESS.2: Water on Earth is present in many forms.		Discover Maple Syrup	A Big Splash: Wonders of Water Weatherwise Weather Watchers Go Wild at Penitentiary Glen Wacky Waters	Cross-Country Ski Adventure Snowshoe Adventure Kayak Adventure Adventure Trek
PS	1	Motion and Materials	1.PS.1: Properties of objects and materials change.		Discover Maple Syrup Pizza Farm Apples Farm Animals and Me Harvest Time Springtime On the Farm	Nature's Gifts Go Wild at Penitentiary Glen Soap Bubble Chemistry	Santa's Workshop Cross-Country Ski Adventure Snowshoe Adventureshop
PS	1	Motion and Materials	1.PS.2: Objects can be moved in a variety of ways such as straight, zigzag, circular, and back and forth.		Discover Maple Syrup	Changes In Motion Go Wild at Penitentiary Glen	Santa's Workshop Cross-Country Ski Adventure Snowshoe Adventurer Kayak Adventure Archery Adventure

LS	1	Basic Needs of Living Things	1.LS.1: Living things have basic needs which are met by obtaining materials from the physical environment.		Biodiversity Bonanza Farm Animals and Me Farmyard Families Apples Barnyard Goes to School Crops and Critters Discover Maple Syrup Harvest Time Little Red Hen Pizza Farm Springtime On the Farm	Park-wise Puppets A Big Splash: Wonders of Water Sensational Senses Natures Gifts Seasonal Discoveries It's Alive Wild In Ohio Feathers, Fur, & Scales Raptor Encounters Walk About Wildlife Night Creatures Wee Weather Watchers Picky Eaters, Sticky Seeds (STEM In the Parks) Build A Beak (STEM in the Parks) Apollo Project: Bald Eagle Adopt Apollo Adopt An Animal No Place Like Home Go Wild at Penitentiary Glen Wacky Waters	Adventure Trek
LS	1	Basic Needs of Living Things	1.LS.2: Living things survive only in environments that meet their needs.		Biodiversity Bonanza Farm Animals and Me Farmyard Families Apples Barnyard Goes to School Crops and Critters Discover Maple Syrup Harvest Time Little Red Hen Pizza Farm Springtime On the Farm	Park-wise Puppets: Habitats Seasonal Discoveries It's Alive Wild In Ohio A Big Splash: Wonders of Water Feathers, Fur, & Scales Raptor Encounters Adopt an Animal Walk About Wildlife Wee Weather Watchers Night Creatures Sensational Senses Picky Eaters, Sticky Seeds (STEM In the Parks) Build A Beak (STEM in the Parks) Apollo Project: Bald Eagle Adopt Apollo No Place Like Home Go Wild at Penitentiary Glen Nature's Gifts Wacky Waters	Adventure Trek
ES	2	The Atmosphere	2.ESS.1: The atmosphere is primarily made up of air.			Weatherwise Weather Watchers It's Alive Biospheres (STEM in the Parks)	
ES	2	The Atmosphere	2.ESS.2: Water is present in the atmosphere.			Big Splash Weatherwise Weather Watchers Biospheres (STEM in the Parks)	Cross-Country Ski Adventure Snowshoe Adventure
ES	2	The Atmosphere	2.ESS.3: Long- and short-term weather changes occur due to changes in energy.			Seasonal Discoveries Weatherwise WeatherWatchers Feathers, Fur, & Scales	Cross-Country Ski Adventure Snowshoe Adventure Kayak Adventure
PS	2	Changes in Motion	2.PS.1: Forces change the motion of an object.			Changes In Motion Mission To Mars Go Wild at Penitentiary Glen	Cross-country Ski Adventure Snowshoe Adventure Santa's Workshop Kayak Adventure Archery Adventure

LS	2	Interactions within Habitats	2.LS.1: Living things cause changes on Earth.		Biodiversity Bonanza Harvest Time Springtime On the Farm Crops and Critters Discover Maple Syrup Animals and People	Seasonal Discoveries Parkwise Puppets Wild In Ohio Alien Invaders: Invasive Species Picky Eaters, Sticky Seeds (STEAM In the Parks) Operation Wormwatch Fossil Hunters Biospheres (STEM In the Parks) Go Wild at Penitentiary Glen It's Alive! Night Creatures Wacky Waters Walk About Wildlife	Adventure Trek
LS	2	Interactions within Habitats	2.LS.2: All organisms alive today result from their ancestors, some of which may be extinct. Not all kinds of organisms that lived in the past are represented by living organisms today.		Animals and People Crops and Critters Harvest Time Springtime On the Farm Apples	Raptor Encounters Feathers, Fur, & Scales Night Creatures Its Alive! Wild In Ohio Fossil Hunters Apollo Project: Bald Eagle Adopt Apollo Biospheres (STEM in the Parks) Walk About Wildlife	
ES	3	Earth's Resources	3.ESS.1: Earth's nonliving resources have specific properties.		Ice Cream Longhouse Building	Cleveland Soils Cleveland Rocks Fall Seasonal Discoveries Plate Tectonics Go Wild at Penitentiary Glen Lake Effects	Cross-country Ski Adventure Snowshoe Adventure Santa's Workshop Kayak Adventure Fishing For Fun Dogsled Adventure Adventure Trek
ES	3	Earth's Resources	3.ESS.2: Earth's resources can be used for energy.		Longhouse Building Studies In Biodiversity (STEM In the Parks)	Fall Seasonal Discoveries Plate Tectonics	
ES	3	Earth's Resources	3.ESS.3: Some of Earth's resources are limited.		Discover Maple Syrup Longhouse Building	Cleveland Soils Lake Effects	Fishing For Fun
PS	3	Matter and Forms of Energy	3.PS.1: All objects and substances in the natural world are composed of matter.		Ice Cream Discover Maple Syrup Chemistry Of Cheese Making Studies In Biodiversity (STEM In the Parks)	Measurement: Mass to Volume Go Wild at Penitentiary Glen	Fishing For Fun Santa's Workshop Adventure Trek
PS	3	Matter and Forms of Energy	3.PS.2: Matter exists in different states, each of which has different properties.		Ice Cream Discover Maple Syrup Chemistry Of Cheese Making	Measurement: Mass to Volume Go Wild at Penitentiary Glen	Fishing For Fun Santa's Workshop Adventure Trek
PS	3	Matter and Forms of Energy	3.PS.3: Heat, electricity, light, and sound are forms of energy.		Studies In Biodiversity (STEM In the Parks) Longhouse Building		

LS	3	Behavior Growth and Changes	3.LS.1: Offspring resemble their parents and each other.		Biodiversity Bonanza Crops and Critters Barnyard Goes to School Apples! Farmyard Families Harvest Time Ice Cream Springtime On the Farm Studies In Biodiversity (STEM In the Parks)	Talking Bones Seasonal Discoveries Walk About Wildlife Wild In Ohio Raptor Encounters Feathers, Fur, and Scales Apollo Project: Bald Eagle Adopt Apollo Apollo Encounter Studies In Biodiversity (STEM in the Parks) A Spider Named Charlotte (STEAM in the Parks) Go Wild at Penitentiary Glen StarLab: Biodiversity Of the Night Wildlife 911	Fishing For Fun
LS	3	Behavior Growth and Changes	3.LS.2: Individuals of the same kind of organism differ in their inherited traits. These differences give some individuals an advantage in surviving and/or reproducing.		Biodiversity Bonanza Crops and Critters Barnyard Goes to School Animals and People Apples! Chemistry Of Cheese Making Harvest Time Ice Cream Pizza Farm Springtime On the Farm Studies In Biodiversity (STEM In the Parks)	Talking Bones Seasonal Discoveries Walk About Wildlife Wild In Ohio Raptor Encounters Feathers, Fur, and Scales Picky Eaters, Sticky Seeds (STEAM In the Parks) Adopt Apollo Apollo Encounter Studies In Biodiversity (STEM in the Parks) StarLab: Biodiversity Of the Night A Spider Named Charlotte (STEAM in the Parks) Go Wild at Penitentiary Glen Wildlife 911	Fishing For Fun
LS	3	Behavior Growth and Changes	3.LS.3: Plants and animals have life cycles that are part of their adaptations for survival in their natural environments.		Biodiversity Bonanza Crops and Critters Barnyard Goes to School Apples! Discover Maple Syrup Grist for the Meal Harvest Time Pizza Farm Springtime On the Farm Studies In Biodiversity (STEM In the Parks) Longhouse Building	Talking Bones Seasonal Discoveries Walk About Wildlife Wild In Ohio Raptor Encounters Feathers, Fur, and Scales Grow As We Go Night Creatures Picky Eaters, Sticky Seeds (STEAM In the Parks) Apollo Project: Bald Eagle Adopt Apollo Apollo Encounter Studies In Biodiversity (STEM in the Parks) StarLab: Biodiversity Of the Night A Spider Named Charlotte (STEAM in the Parks) Go Wild at Penitentiary Glen Lake Effects Wildlife 911	Fishing For Fun
ES	4	Earth's Surface	4.ESS.1 Earth's surface has specific characteristics and landforms that can be identified.		Longhouse Building	Cleveland Rocks Cleveland Soils Orbit Odyssey Plate Tectonics Erosion and Deposition Chair Factory Falls: A Link To the Past Lake Effects StarLab: Biodiversity Of the Night Go Wild at Penitentiary Glen	Adventure Trek
ES	4	Earth's Surface	4.ESS.2: The surface of Earth changes due to weathering.			Cleveland Soils Cleveland Rocks Erosion and Deposition Lake Effects	Adventure Trek

ES	4	Earth's Surface	4.ESS.3: The surface of Earth changes due to erosion and deposition.			Cleveland Soils Cleveland Rocks Plate Tectonics Erosion and Deposition Chair Factory Falls: A Link To the Past Lake Effects	Kayak Adventure Adventure Trek	
PS	4	Electricity, Heat, and Matter	4.PS.1 When objects break into smaller pieces, dissolve, or change state, the total amount of matter is conserved.			Discover Maple Syrup The Chemistry of Cheese Making		
PS	4	Electricity, Heat, and Matter	4.PS.2: Energy can be transferred from one location to another or can be transformed from one form to another.			Linking Up: From Owl Pellets To Food Webs Stem In the Outdoors Chair Factory Falls: A Link To the Past Sounds Of Nature (STEAM In the Parks)	Santa's Workshop	
LS	4	Earth's Living History	4.LS.1: Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.			Biodiversity Bonanza Crops & Critters Longhouse Building Energy Through the Farm	Talking Bones Seasonal Discoveries Walk About Wildlife Wild In Ohio Raptor Encounters Feathers, Fur, and Scales Environmental & Climatic Changes Operation Wormwatch Stem In the Outdoors Apollo Project: Bald Eagle Adopt Apollo Apollo Encounter A Spider Named Charlotte (STEAM in the Parks) StarLab: Biodiversity Of the Night Sounds Of Nature (STEAM In the Parks) Go Wild at Penitentiary Glen Lake Effects Linking Up: From Owl Pellets To Food Webs Wildlife 911	Snowshoe Adventure Cross-country Ski Adventure Fishing For Fun Dogsled Adventure Escape the Yurt Adventure Trek
LS	4	Earth's Living History	4.LS.2: Fossils can be compared to one another and to present day organisms according to their similarities and differences.			Wild In Ohio		
ES	5	Cycles and Patterns in the Solar System	5.ESS.1: The solar system includes the sun and all celestial bodies that orbit the sun. Each planet in the solar system has unique characteristics.			StarLab: Orbit Odyssey StarLab: Constellation Investigation		
ES	5	Cycles and Patterns in the Solar System	5.ESS.2: The sun is one of many stars that exist in the universe.			StarLab: Orbit Odyssey StarLab: Constellation Investigation		
ES	5	Cycles and Patterns in the Solar System	5.ESS.3: Most of the cycles and patterns of motion between the Earth and sun are predictable.			Discover Maple Syrup Energy Through the Farm	StarLab: Orbit Odyssey StarLab: Constellation Investigation	

PS	5	Light, Sound, and Motion	5.PS.1: The amount of change in movement of an object is based on the weight (mass) of the object and the amount of force exerted.		Grist For the Meal	Raptor Encounters Feathers Fur and Scales Walk About Wildlife Interactions In Ecosystems Apollo Project: Bald Eagle Adopt Apollo Apollo Encounter Go Wild at Penitentiary Glen	Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Dogsled Adventure Archery Adventure
PS	5	Light, Sound, and Motion	5.PS.2 Light and sound are forms of energy that behave in predicable ways.		Energy Through the Farm	StarLab: Orbit Odyssey Biomimicry Of Ecosystems (STEM in the Parks) Sounds Of Nature (STEAM In the Parks)	
LS	5	Interactions within Ecosystems	5.LS.1: Organisms perform a variety of roles in an ecosystem.		Biodiversity Bonanza Crops and Critters Apples! The Chemistry Of Cheese Making Grist for the Meal Harvest Time Springtime On the Farm Fiber Arts From the Farm (STEAM In the Parks) Longhouse Building Discover Maple Syrup	Seasonal Discoveries Raptor Encounters Feathers, Fur, and Scales Walk About Wildlife Linking Up: From Owl Pellets To Food Webs Talking Bones Owls: The Night Shift Interactions In Ecosystems Decomposition In Action Biomimicry Of Ecosystems (STEM in the Parks) Apollo Project: Bald Eagle Adopt Apollo Apollo Encounter Sounds Of Nature (STEAM In the Parks) Go Wild at Penitentiary Glen Lake Effects Wildlife 911	Fishing For Fun Escape the Yurt Adventure Trek
LS	5	Interactions within Ecosystems	5.LS.2: All of the processes that take place within organisms require energy.		Apples Biodiversity Bonanza Crops and Critters Harvest Time The Chemistry Of Cheese Making Discover Maple Syrup Grist for the Meal Fiber Arts From the Farm (STEAM In the Parks) Energy Through the Farm	Raptor Encounters Feathers, Fur, and Scales Walk About Wildlife Linking Up: From Owl Pellets To Food Webs Talking Bones Owls: The Night Shift Interactions In Ecosystems Decomposition In Action Biomimicry Of Ecosystems (STEM in the Parks) Apollo Project: Bald Eagle Adopt Apollo Apollo Encounter Sounds Of Nature (STEAM In the Parks) Go Wild at Penitentiary Glen Wildlife 911	Fishing For Fun
ES	6	Rocks, Minerals, and Soil	6.ESS.1: Minerals have specific quantifiable properties.			Cleveland Rocks	
ES	6	Rocks, Minerals, and Soil	6.ESS.1: Igneous, metamorphic, and sedimentary rocks have unique characteristics that can be used for identification and/or classification.			Cleveland Rocks Cleveland Soils	Adventure Trek
ES	6	Rocks, Minerals, and Soil	6.ESS.3: Igneous, metamorphic, and sedimentary rocks form in different ways.			Cleveland Rocks Cleveland Soils Plate Tectonics	

ES	6	Rocks, Minerals, and Soil	6.ESS.4: Soil is unconsolidated material that contains nutrient matter and weathered rock.		Crops and Critters Harvest Time Springtime On the Farm	Cleveland Rocks Cleveland Soils Stream Study	Adventure Trek
ES	6	Rocks, Minerals, and Soil	6.ESS.5: Rocks, minerals, and soils have common and practical uses.			Cleveland Rocks Cleveland Soils Stream Study Go Wild at Penitentiary Glen	Adventure Trek
PS	6	Matter and Motion	6.PS.1: Matter is made up of small particles called atoms.		Discover Maple Syrup Energy Through the Farm		
PS	6	Matter and Motion	6.PS.2: Changes of state are explained by a model of matter composed of particles that are in motion.		Discover Maple Syrup		
PS	6	Matter and Motion	6.PS.3: There are two categories of energy: kinetic and potential.		Discover Maple Syrup	Forces and Motion Bottle Rocket Blast Sounds Of Nature (STEAM In the Parks) Go Wild at Penitentiary Glen	Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Dogsled Adventure Archery Adventure Escape the Yurt
PS	6	Matter and Motion	6.PS.4: An object's motion can be described by its speed and the direction in which it is moving.		Energy Through the Farm	Forces and Motion Bottle Rocket Blast	Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Dogsled Adventure Archery Adventure Escape the Yurt
LS	6	Cellular to Multicellular	6.LS.1: Cells are the fundamental unit of life.			Biotech Institute Structures and Functions In Nature	
LS	6	Cellular to Multicellular	6.LS.2: All cells come from pre-existing cells.			Biotech Institute Structures and Functions In Nature	
LS	6	Cellular to Multicellular	6.LS.3: Cells carry on specific functions that sustain life.			Biotech Institute Structures and Functions In Nature	
LS	6	Cellular to Multicellular	6.LS.4: Living systems at all levels of organization demonstrate the complementary nature of structure and function.		Apples Fiber Arts From the Farm (STEAM In the Parks) Discover Maple Syrup	Owls: Engineered For Stealth Biotech Institute Apollo Project: Bald Eagle Adopt Apollo Apollo Encounter Animal Architects (STEM in the Parks) Decomposition Sounds Of Nature (STEAM In the Parks) Structures and Functions In Nature Go Wild at Penitentiary Glen Raptor Encounters Walk About Wildlife	Fishing Adventure Escape the Yurt Adventure Trek
ES	7	Cycles and Patterns of Earth and the Moon	7.ESS.1: The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere, and atmosphere.			One Great Lake Stream Study The Climate For Snowshoes Go Wild at Penitentiary Glen	Fishing Adventure Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Adventure Trek

ES	7	Cycles and Patterns of Earth and the Moon	7.ESS.2: Thermal-energy transfers in the ocean and the atmosphere contribute to the formation of currents which influence global climate patterns.			One Great Lake The Climate For Snowshoes	Snowshoe Adventure Cross-country Ski Adventure
ES	7	Cycles and Patterns of Earth and the Moon	7.ESS.3: The atmosphere has different properties at different elevations and contains a mixture of gases that cycle through the lithosphere, biosphere, hydrosphere, and atmosphere.			Ecosystems and Energy One Great Lake The Climate For Snowshoes	
ES	7	Cycles and Patterns of Earth and the Moon	7.ESS.4: The relative patterns of motion and positions of the Earth, moon, and sun cause solar and lunar eclipses, tides, and phases of the moon.			StarLab: Orbit Odyssey StarLab: Solar & Lunar Cycles	
ES	7	Cycles and Patterns of Earth and the Moon	7.ESS.5: The relative positions of Earth and the sun cause patterns we call seasons.		Apples Crops and Critters Discover Maple Syrup Harvest Time Springtime On the Farm	StarLab: Orbit Odyssey StarLab: Solar & Lunar Cycles One Great Lake The Climate For Snowshoes	
PS	7	Conservation of Mass and Energy	7.PS.1: Elements can be organized by properties.		Fiber Arts From the Farm (STEAM In the Parks) Discover Maple Syrup		
PS	7	Conservation of Mass and Energy	7.PS.2: Matter can be separated or changed, but in a closed system, the number and types of atoms remains constant.		Energy Through the Farm (STEM in the Parks) Fiber Arts From the Farm (STEAM In the Parks)	Advanced Linking Up: From Owl Pellets To Food Webs Ecosystems and Energy Decomposition Bottle Rocket Blast	
PS	7	Conservation of Mass and Energy	7.PS.3: Energy can be transformed or transferred but is never lost.		Energy Through the Farm (STEM in the Parks) Fiber Arts From the Farm (STEAM In the Parks)	Advanced Linking Up: From Owl Pellets To Food Webs Ecosystems and Energy Decomposition Bottle Rocket Blast	
PS	7	Conservation of Mass and Energy	7.PS.4: Energy can be transferred through a variety of ways.		Energy Through the Farm (STEM in the Parks) Fiber Arts From the Farm (STEAM In the Parks) Discover Maple Syrup	Advanced Linking Up: From Owl Pellets To Food Webs Ecosystems and Energy Decomposition Bottle Rocket Blast Go Wild at Penitentiary Glen	
LS	7	Cycles of Matter and Flow of Energy	7.LS.1 Energy flows and matter is transferred continuously from one organism to another and between organisms and their physical environments.		Energy Through the Farm (STEM in the Parks) Biodiversity Bonanza Fiber Arts From the Farm (STEAM In the Parks) Discover Maple Syrup	Advanced Linking Up: From Owl Pellets To Food Webs One Great Lake Ecosystems and Energy Decomposition Go Wild at Penitentiary Glen	Adventure Trek

LS	7	Cycles of Matter and Flow of Energy	7.LS.2: In any particular biome, the number, growth, and survival of organisms and populations depend on biotic and abiotic factors.		Apples Energy Through the Farm (STEM in the Parks) Fiber Arts From the Farm (STEAM In the Parks) Longhouse Builders	Raptor Encounters Feathers, Fur, and Scales Walk About Wildlife Advanced Linking Up: From Owl Pellets To Food Webs Owls: Engineered For Stealth One Great Lake Ecosystems and Energy Decomposition The Climate For Snowshoes Apollo Encounter Go Wild at Penitentiary Glen Stream Study	Fishing Adventure Escape the Yurt Adventure Trek
ES	8	Physical Earth	8.ESS.1: The composition and properties of Earth's interior are identified by the behavior of seismic waves.			Plate Tectonics	
ES	8	Physical Earth	8.ESS.2: Earth's lithosphere consists of major and minor tectonic plates that move relative to each other.			Plate Tectonics	
ES	8	Physical Earth	8.ESS.3: A combination of constructive and destructive geologic processes formed Earth's surface.			Plate Tectonics	Adventure Trek
ES	8	Physical Earth	8.ESS.4: Evidence of the dynamic changes of Earth's surface through time is found in the geologic record.			Plate Tectonics Cleveland Rocks Cleveland Soils Diversity Of Species Through Time (STEM in the Parks)	
PS	8	Forces and Motion	8.PS.1: Objects can experience a force due to an external field such as magnetic, electrostatic, or gravitational fields.			Bottle Rocket Blast	Archery Adventure
PS	8	Forces and Motion	8.PS.2: Forces can act to change the motion of objects.			Bottle Rocket Blast Go Wild at Penitentiary Glen	Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
LS	8	Species and Reproduction	8.LS.1: Diversity of species, a result of variation of traits, occurs through the process of evolution and extinction over many generations. The fossil records provide evidence that changes have occurred in number and types of species.		Fiber Arts From the Farm (STEAM In the Parks) Biodiversity Bonanza Crops and Critters	Feathers, Fur, and Scales Owls: Engineered For Stealth Biotech Institute Diversity Of Species Through Time (STEM in the Parks) Apollo Encounter Go Wild at Penitentiary Glen Raptor Encounters Walk About Wildlife	Fishing Adventure

LS	8	Species and Reproduction	8.LS.2: Every organism alive today comes from a long line of ancestors who reproduced successfully every generation.		Apples Biodiversity Bonanza	Biotech Institute Diversity Of Species Through Time (STEM in the Parks) Walk About Wildlife	Escape the Yurt
LS	8	Species and Reproduction	8.LS.3: The characteristics of an organism are a result of inherited traits received from parent(s).		Apples Fiber Arts From the Farm (STEAM In the Parks) Biodiversity Bonanza	Feathers, Fur, and Scales Owls: Engineered For Stealth Biotech Institute Diversity Of Species Through Time (STEM in the Parks) Apollo Encounter Go Wild at Penitentiary Glen Raptor Encounters Walk About Wildlife	Escape the Yurt
Content Strand	Grade Level	Topic	Sub-topic		Farm Programs	Nature, Environment, Science	Outdoor Education
Biology							
Bio	9/10	Heredity	B.H.1: Cellular Genetics			Biotech Institute	Escape the Yurt
Bio	9/10	Heredity	B.H.2: Structure and function of DNA in cells			Biotech Institute	Escape the Yurt
Bio	9/10	Heredity	B.H.3: Genetic mechanisms and inheritance (Mendelian in Grade)			Owls: Engineered For Stealth Biotech Institute	Escape the Yurt
Bio	9/10	Heredity	B.H.4: Mutations			Owls: Engineered For Stealth Biotech Institute	Escape the Yurt
Bio	9/10	Heredity	B.H.5: Modern Genetics			Biotech Institute	Escape the Yurt
Bio	9/10	Evolution	B.E.1: Mechanisms			Owls: Engineered For Stealth	
Bio	9/10	Evolution	Natural Selection			Owls: Engineered For Stealth Raptor Encounters	Escape the Yurt
Bio	9/10	Evolution	Mutation			Owls: Engineered For Stealth	
Bio	9/10	Evolution	Genetic drift				
Bio	9/10	Evolution	Gene flow (immigration, emigration) and mutation			Owls: Engineered For Stealth	
Bio	9/10	Evolution	Sexual selection			Raptor Encounters	
Bio	9/10	Evolution	B.E.2: Speciation		Biodiversity Bonanza	Owls: Engineered For Stealth Raptor Encounters Feathers, Fur, and Scales	Fishing Adventure 201
Bio	9/10	Evolution	Biological classification expanded to molecular evidence			Biotech Institute	Escape the Yurt
Bio	9/10	Evolution	Variation of organisms within a species due to population genetics and gene frequency			Owls: Engineered For Stealth	Fishing Adventure 201 Escape the Yurt
Bio	9/10	Diversity and Interdependence of Life	B.DI.1: Biodiversity		Biodiversity Bonanza	Raptor Encounters Feathers, Fur, and Scales Owls: Engineered For Stealth Go Wild at Penitentiary Glen Walk About Wildlife	Fishing Adventure 201 Survivor: Ecoprotectors Escape the Yurt Adventure Trek

Bio	9/10	Diversity and Interdependence of Life	Genetic Diversity		Biodiversity Bonanza	Raptor Encounters Feathers, Fur, and Scales Owls: Engineered For Stealth Go Wild at Penitentiary Glen	Fishing Adventure 201 Survivor: Ecoprotectors Escape the Yurt Adventure Trek
Bio	9/10	Diversity and Interdependence of Life	Species Diversity		Biodiversity Bonanza	Raptor Encounters Feathers, Fur, and Scales Owls: Engineered For Stealth Go Wild at Penitentiary Glen	Fishing Adventure 201 Survivor: Ecoprotectors Escape the Yurt Adventure Trek
Bio	9/10	Diversity and Interdependence of Life	B.DI.2: Ecosystems (Biomes are in middle school)			Owls: Engineered For Stealth Stream Study Snowshoe Climatology Go Wild at Penitentiary Glen Walk About Wildlife	Fishing Adventure 201 Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Survivor: Eco-protectors Escape the Yurt Adventure Trek
Bio	9/10	Diversity and Interdependence of Life	Carrying capacity			Owls: Engineered For Stealth Stream Study Snowshoe Climatology	Fishing Adventure 201 Survivor: Eco-protectors Escape the Yurt Adventure Trek
Bio	9/10	Diversity and Interdependence of Life	Equilibrium and disequilibrium			Owls: Engineered For Stealth Stream Study Snowshoe Climatology	Fishing Adventure 201 Survivor: Eco-protectors
Bio	9/10	Diversity and Interdependence of Life	B.DI.3: Loss Of Diversity			Owls: Engineered For Stealth Stream Study Snowshoe Climatology	Fishing Adventure 201 Survivor: Eco-protectors
Bio	9/10	Diversity and Interdependence of Life	Climate Change			Owls: Engineered For Stealth Stream Study Snowshoe Climatology	Fishing Adventure 201 Survivor: Eco-protectors Adventure Trek
Bio	9/10	Diversity and Interdependence of Life	Anthropocene effects			Owls: Engineered For Stealth Stream Study Snowshoe Climatology	Fishing Adventure 201 Survivor: Eco-protectors Adventure Trek
Bio	9/10	Diversity and Interdependence of Life	Extinction			Owls: Engineered For Stealth Stream Study Snowshoe Climatology Raptor Encounters	Fishing Adventure 201 Survivor: Eco-protectors
Bio	9/10	Diversity and Interdependence of Life	Invasive Species			Owls: Engineered For Stealth Stream Study Snowshoe Climatology Go Wild at Penitentiary Glen	Fishing Adventure 201 Survivor: Eco-protectors Adventure Trek
Bio	9/10	Cells	B.C.1: ^{SEP} Cell Structure and Function				
Bio	9/10	Cells	Structure, function, and interrelatedness of cell organelles (Some organelles are introduced in middle school)			Biotech Institute	
Bio	9/10	Cells	Eukaryotic cells and prokaryotic cells			Biotech Institute	Escape the Yurt
Bio	9/10	Cells	B.C.2: Cellular Processes				
Bio	9/10	Cells	Characteristics of life regulated by cellular processes (Cell Theory is introduced in middle school)			Biotech Institute	Escape the Yurt
Bio	9/10	Cells	Photosynthesis, chemosynthesis, cellular respiration, biosynthesis of ^{SEP} macromolecules ^{SEP}				
Physical Science							

PS	9/10	Study of Matter	PS.M.1 Classification of Matter				
PS	9/10	Study of Matter	Heterogeneous vs. homogeneous				
PS	9/10	Study of Matter	Properties of matter				
PS	9/10	Study of Matter	States of matter and its changes				
PS	9/10	Study of Matter	PS.M.2 Atomic Structure				
PS	9/10	Study of Matter	Models of the atom (components)				
PS	9/10	Study of Matter	Ions (cations and anions)				
PS	9/10	Study of Matter	Isotopes				
PS	9/10	Study of Matter	PS.M.3 Periodic Trends of the Elements				
PS	9/10	Study of Matter	Periodic Law				
PS	9/10	Study of Matter	Representative groups				
PS	9/10	Study of Matter	PS.M.4 Bonding and Compounds				
PS	9/10	Study of Matter	Bonding (ionic and covalent)				
PS	9/10	Study of Matter	Nomenclature				
PS	9/10	Study of Matter	PS.M.5 Reactions of Matter				
PS	9/10	Study of Matter	Chemical reactions				
PS	9/10	Study of Matter	Nuclear reactions				
PS	9/10	Energy and Waves	PS.EW.1 Conservation of Energy				
PS	9/10	Energy and Waves	Quantifying Kinetic Energy				
PS	9/10	Energy and Waves	Quantifying Gravitational Potential Energy				
PS	9/10	Energy and Waves	PS.EW.2 Transfer and Transformation of Energy (including work)				
PS	9/10	Energy and Waves	PS.EW.3 Waves				
PS	9/10	Energy and Waves	Refraction, Reflection Diffraction, Absorption, Superposition				
PS	9/10	Energy and Waves	Radiant energy and the electromagnetic spectrum				
PS	9/10	Energy and Waves	Doppler shift				
PS	9/10	Energy and Waves	PS.EW.4 Thermal Energy				
PS	9/10	Energy and Waves	PS.EW.5 Electricity				
PS	9/10	Energy and Waves	Movement of Electrons				
PS	9/10	Energy and Waves	Current				
PS	9/10	Energy and Waves	Electric Potential				
PS	9/10	Energy and Waves	Resistors and Transfer of Energy				

PS	9/10	Forces and Motion	PS.FM.1 Motion				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	Forces and Motion	Introduction to one-dimensional vectors				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	Forces and Motion	Displacement velocity and acceleration				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	Forces and Motion	Interpreting position vs. time and velocity vs. time graphs				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	Forces and Motion	PS.FM.2 Forces				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	Forces and Motion	Force diagrams				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	Forces and Motion	Types of forces				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	Forces and Motion	Field model for forces at a distance				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	Forces and Motion	PS.FM.3 Dynamics				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	Forces and Motion	Objects at rest				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	Forces and Motion	Objects moving with constant velocity				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	Forces and Motion	Accelerating objects				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
PS	9/10	The Universe	PS.U.1 History of the Universe			StarLab: Constellation Investigation	
PS	9/10	The Universe	PS.U.2 Galaxies			StarLab: Constellation Investigation	
PS	9/10	The Universe	PS.U.3 Stars			StarLab: Constellation Investigation	
PS	9/10	The Universe	Formation; stages of evolution			StarLab: Constellation Investigation	
PS	9/10	The Universe	Fusion in stars			StarLab: Constellation Investigation	
Chem.							
C	HS	Structure And Properties Of Matter	C.PM.1: Atomic structure				

C	HS	Structure And Properties Of Matter	C.PM.2: Periodic Table				
C	HS	Structure And Properties Of Matter	C.PM.3: Chemical bonding				
C	HS	Structure And Properties Of Matter	C.PM.4: Representing compounds				
C	HS	Structure And Properties Of Matter	C.PM.5: Quantifying matter				
C	HS	Structure And Properties Of Matter	C.PM.6: Intermolecular forces of attraction				
C	HS	Interactions Of Matter	C.IM.1: Chemical reactions				
C	HS	Interactions Of Matter	C.IM.2: Gas laws				
C	HS	Interactions Of Matter	C.IM.3: Stoichiometry				
ENV. Science							
ES	HS	Earth Systems: Interconnected Spheres Of Earth	ENV.ES.1: Biosphere				Adventure Trek
ES	HS	Earth Systems: Interconnected Spheres Of Earth	ENV.ES.2: Atmosphere			Snowshoe Climatology	
ES	HS	Earth Systems: Interconnected Spheres Of Earth	ENV.ES.3: Lithosphere			Snowshoe Climatology	
ES	HS	Earth Systems: Interconnected Spheres Of Earth	ENV.ES.4: Hydrosphere			Snowshoe Climatology Stream Study	
ES	HS	Earth Systems: Interconnected Spheres Of Earth	ENV.ES.5: Movement of matter and energy through the hydrosphere, lithosphere, atmosphere and biosphere			Snowshoe Climatology Stream Study	Adventure Trek
ES	HS	Earth's Resources	ENV.ER.1: Energy resources				
ES	HS	Earth's Resources	ENV.ER.2: Air and air pollution				Adventure Trek
ES	HS	Earth's Resources	ENV.ER.3: Water and water pollution			Stream Study	Adventure Trek
ES	HS	Earth's Resources	ENV.ER.4: Soil and land				Adventure Trek
ES	HS	Earth's Resources	ENV.ER.5: Wildlife and wilderness		Biodiversity Bonanza	Feathers, Fur, and Scales Night Creatures Raptor Encounters Stream Study Walkabout Wildlife	Adventure Trek
ES	HS	Global Environmental Problems And Issues	ENV.GP.1: Human Population				Adventure Trek
ES	HS	Global Environmental Problems And Issues	ENV.GP.2: Potable water quality, use and availability			Stream Study	Adventure Trek
ES	HS	Global Environmental Problems And Issues	ENV.GP.3: Climate change			Snowshoe Climatology	Adventure Trek
ES	HS	Global Environmental Problems And Issues	ENV.GP.4: Sustainability		Biodiversity Bonanza		Adventure Trek
ES	HS	Global Environmental Problems And Issues	ENV.GP.5: Species depletion and extinction		Biodiversity Bonanza Crops and Critters	Feathers, Fur, and Scales Raptor Encounters Walkabout Wildlife	Adventure Trek
ES	HS	Global Environmental Problems And Issues	ENV.GP.6: Air quality				

ES	HS	Global Environmental Problems And Issues	ENV.GP.7: Food production and availability		Biodiversity Bonanza Crops and Critters Discover Maple Syrup Harvest Time Pizza Farm Springtime On the Farm		
ES	HS	Global Environmental Problems And Issues	ENV.GP.8: Deforestation and loss of biodiversity		Biodiversity Bonanza		Adventure Trek
ES	HS	Global Environmental Problems And Issues	ENV.GP.9: Waste management (solid and hazardous)				Adventure Trek
Physical Geology							
PG	HS	PG.M: Minerals	PG.M.1: Atoms and elements				
PG	HS	PG.M: Minerals	PG.M.2: Chemical bonding (ionic, covalent, metallic)				
PG	HS	PG.M: Minerals	PG.M.3: Crystallinity (crystal structure)				
PG	HS	PG.M: Minerals	PG.M.4: Criteria of a mineral (crystalline solid, occurs in nature, inorganic, defined chemical composition)				
PG	HS	PG.M: Minerals	PG.M.5: Properties of minerals (hardness, luster, cleavage, streak, crystal shape, fluorescence, flammability, density/specific gravity, malleability)				
PG	HS	PG.IMS: Igneous, Metamorphic And Sedimentary Rocks	PG.IMS.1: Igneous				
PG	HS	PG.IMS: Igneous, Metamorphic And Sedimentary Rocks	PG.IMS.2: Metamorphic				
PG	HS	PG.IMS: Igneous, Metamorphic And Sedimentary Rocks	PG.IMS.3: Sedimentary				
PG	HS	PG.IMS: Igneous, Metamorphic And Sedimentary Rocks	PG.IMS.4: Ocean				
PG	HS	PG.EH: Earth's History	PG.EH.1: The geologic rock record				Adventure Trek
PG	HS	PG.PT: Plate Tectonics	PG.PT.1: Internal Earth				
PG	HS	PG.PT: Plate Tectonics	PG.PT.2: Structure of Earth				Adventure Trek
PG	HS	PG.PT: Plate Tectonics	G.PT.3: Historical review (Note: this would include a review of continental drift and sea-floor spreading found in grade 8)				
PG	HS	PG.PT: Plate Tectonics	PG.PT.4: Plate motion				
PG	HS	PG.ER: Earth's Resources	PG.ER.1: Energy resources				
PG	HS	PG.ER: Earth's Resources	PG.ER.2: Air				
PG	HS	PG.ER: Earth's Resources	PG.ER.3: Water				Adventure Trek
PG	HS	PG.ER: Earth's Resources	PG.ER.4: Soil and sediment				Adventure Trek
PG	HS	PG.GG: Glacial Geology	PG.GG.1: Glaciers and glaciation				Adventure Trek

Physics							
P	HS	P.M: Motion	P.M.1: Motion Graphs				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
P	HS	P.M: Motion	P.M.2: Problem Solving				
P	HS	P.M: Motion	P.M.3: Projectile Motion				
P	HS	P.F: Forces, Momentum & Motion	P.F.1: Newton's laws applied to complex problems				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
P	HS	P.F: Forces, Momentum & Motion	P.F.2: Gravitational force and fields				
P	HS	P.F: Forces, Momentum & Motion	P.F.3: Elastic forces				
P	HS	P.F: Forces, Momentum & Motion	P.F.4: Friction force (static and kinetic)				
P	HS	P.F: Forces, Momentum & Motion	P.F.5: Air resistance and drag			Raptor Encounters	Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
P	HS	P.F: Forces, Momentum & Motion	P.F.6: Forces in two dimensions				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
P	HS	P.F: Forces, Momentum & Motion	P.F.7: Momentum, impulse and conservation of momentum				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
P	HS	P.E: Energy	P.E.1: Gravitation				
P	HS	P.E: Energy	P.E.2: Energy in springs				
P	HS	P.E: Energy	P.E.3: Work and Power				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
P	HS	P.E: Energy	P.E.4: Conservation of Energy				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
P	HS	P.E: Energy	P.E.5: Nuclear Energy				
P	HS	P.W: Waves	P.W.1: Wave properties				
P	HS	P.W: Waves	P.W.2: Light phenomena				
P	HS	P.EM: Electricity And Magnetism	P.EM.1: Charging objects (friction, contact and induction)				
P	HS	P.EM: Electricity And Magnetism	P.EM.2: Coulomb's law				
P	HS	P.EM: Electricity And Magnetism	P.EM.3: Electric fields and electric potential energy				
P	HS	P.EM: Electricity And Magnetism	P.EM.4: DC circuits				
P	HS	P.EM: Electricity And Magnetism	P.EM.5: Magnetic fields				
P	HS	P.EM: Electricity And Magnetism	P.EM.6: Electromagnetic interactions				
ANAT. & PHYS.							
A & P	HS	Anatomy and Physiology 2018	AP.LO: Levels Of Organization				

A & P	HS	Anatomy and Physiology 2019	AP.SM: Support And Motion				Snowshoe Adventure Cross-country Ski Adventure Kayak Adventure Archery Adventure
A & P	HS	Anatomy and Physiology 2020	AP.IC: Integration And Coordination				
A & P	HS	Anatomy and Physiology 2021	AP.T: Transport				
A & P	HS	Anatomy and Physiology 2022	AP.AE: Absorption And Excretion				
A & P	HS	Anatomy and Physiology 2023	AP.R: Reproduction				