

**Take A Walk on the Wildside  
Outdoor Science Program  
4th Grade  
Curriculum Standards/Activity**

<u>Lessons:</u> Earth Science Life Science Physical Science ETS	<u>Grade</u>	<u>State ID</u> NGSS TASS	<u>Description</u>	<u>Standard</u>
Weathering & Erosion	4	4.ESS1 4.ESS2 4.ETS1	Students generate multiple possible solutions to protect homes from a landslide. Students realize that there are many causes for erosion.	*Generate /support a claim with evidence that over long periods of time, erosion (weathering, transportation), deposition have changed landscapes/new landforms. *Use appropriate tools/models to build a model *Categorize the effectiveness of design solutions by comparing specific criteria for constraints.
Shadow Clocks	4	4.ESS1 4.ETS1	Students will create a shadow clock to gain an understanding of how the position of the sun can teach us.	*Use a model to explain how the orbit of the Earth/sun cause observable patterns *Use appropriate tools/models to build a model *Categorize the effectiveness of design solutions by comparing specific criteria for constraints.
Orienteering	4	4.ESS2	An activity building a topography design and studying the topography of Tennessee	*Collect/analyze data from observations to provide evidence that rock, soil, sediments are broken into smaller pieces (mechanical weathering) *Interpret maps to determine that location of Mtn range, deep ocean trenches, volcanoes, earthquakes occur in patterns. *Provide examples to support that organisms affect physical characteristics of their regions. *Analyze and interpret data on the four layers of the earth (thickness, composition, physical states)
Earth Compositions	4	4.ESS2	An activity to help students gain a visual understanding of the layers of the earth and composites (tectonic plates)	*Collect/analyze data from observations to provide evidence that rock, soil, sediments are broken into smaller pieces (mechanical weathering) *Interpret maps to determine that location of Mtn range, deep ocean trenches, volcanoes, earthquakes occur in patterns. *Provide examples to support that organisms affect physical characteristics of their regions. *Analyze and interpret data on the four layers of the earth (thickness, composition, physical states)
Monarch Maps	4	4.ESS2	A study of the monarch flight path	*Interpret maps to determine that location of Mtn range, deep ocean trenches, volcanoes, earthquakes occur in patterns.
Forestry	4	4.ESS2	Students will observe various topography while hiking our trail	*Collect/analyze data from observations to provide evidence that rock, soil, sediments are broken into smaller pieces (mechanical weathering) *Provide examples to support that organisms affect physical characteristics of their regions.
Global	4	4.ESS3	Using various items students will discuss renewable/nonrenewable resources, create practical solutions by designing a model.	*Research whether human activity can affect the land, ocean in positive/negative ways.
Forestry	4	4.LS2	Observation of the natural elements while hiking a trail	*support an argument with evidence that plants get the materials they need for growth and

**Take A Walk on the Wildside  
Outdoor Science Program  
4th Grade  
Curriculum Standards/Activity**

				<p>reproduction through photosynthesis.</p> <p>*Using information about the roles of organisms, evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.</p> <p>*Develop/use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.</p>
Hungry Caterpillar	4	4.LS2	A study/game that replicates the book and explains the life cycle	<p>*support an argument with evidence that plants get the materials they need for growth and reproduction through photosynthesis.</p> <p>*Using information about the roles of organisms, evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.</p> <p>*Develop/use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.</p>
How bees see flowers	4	4.LS2	(Coming soon)	<p>*support an argument with evidence that plants get the materials they need for growth and reproduction through photosynthesis.</p> <p>*Using information about the roles of organisms, evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.</p> <p>*Develop/use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.</p>
Flower dissection	4	4.LS2	(coming soon)	<p>*support an argument with evidence that plants get the materials they need for growth and reproduction through photosynthesis.</p> <p>*Using information about the roles of organisms, evaluate how those roles in food chains are interconnected in a food web, and communicate</p>

**Take A Walk on the Wildside  
Outdoor Science Program  
4th Grade  
Curriculum Standards/Activity**

				<p>how the organisms are continuously able to meet their needs in a stable food web.</p> <p>*Develop/use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.</p>
Honey Bee challenge	4	4.LS2	(coming soon)	<p>*support an argument with evidence that plants get the materials they need for growth and reproduction through photosynthesis.</p> <p>*Using information about the roles of organisms, evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.</p> <p>*Develop/use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.</p>
Food Chain	4	4.LS2	Through the experience of an active game, students recreate surviving in a food chain dominoes.	<p>*Develop models of terrestrial/aquatic food chains to describe the movement of energy among producers, herbivores, carnivores, omnivores, decomposers. *support an argument with evidence that plants get the materials they need for growth and reproduction through photosynthesis.</p> <p>*Using information about the roles of organisms, evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.</p> <p>*Develop/use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.</p>
Food Web	4	4.LS2	A game to help example the food web	<p>*support an argument with evidence that plants get the materials they need for growth and reproduction through photosynthesis.</p> <p>*Using information about the roles of organisms, evaluate how those roles in food chains are interconnected in a food web, and communicate</p>

**Take A Walk on the Wildside  
Outdoor Science Program  
4th Grade  
Curriculum Standards/Activity**

				<p>how the organisms are continuously able to meet their needs in a stable food web.</p> <p>*Develop/use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.</p>
Too Munch	4	4.LS2	An activity to help students understand the how various physical traits enable animals to eat	<p>*support an argument with evidence that plants get the materials they need for growth and reproduction through photosynthesis.</p> <p>*Using information about the roles of organisms, evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.</p> <p>*Develop/use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.</p>
Thicket Game	4	4.LS2	Activity that enables students to observe characteristic of adaptations	<p>*support an argument with evidence that plants get the materials they need for growth and reproduction through photosynthesis.</p> <p>*Using information about the roles of organisms, evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.</p> <p>*Develop/use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.</p>

**Take A Walk on the Wildside  
Outdoor Science Program  
4th Grade  
Curriculum Standards/Activity**

Build a Beaver	4	4.LS2	Learn firsthand about adaptations and physical traits of an organism.	<p>*support an argument with evidence that plants get the materials they need for growth and reproduction through photosynthesis.</p> <p>*Using information about the roles of organisms, evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.</p> <p>*Develop/use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.</p>
Virtual Animals	4	4.LS2	<p>Students design an animal and explain the physical traits that enable the organism to survive and be a part of the food web.</p> <p>Symbiosis, mutualism, parasitism</p>	<p>*support an argument with evidence that plants get the materials they need for growth and reproduction through photosynthesis.</p> <p>*Using information about the roles of organisms, evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web.</p> <p>*Develop/use models to determine the effects of introducing a species to, or removing a species from, an ecosystem and how either one can damage the balance of an ecosystem.</p>
Transfer of energy	4	4.PS3  4.ETS1	<p>Using various activities (you chose) students will have firsthand experience in the transfer of energy</p> <p>Catapults, archery, rockets, zipline, slinky's, go bots, Nitro crossing, meat grinder, Ky swings</p>	<p>*Use evidence to explain the cause and effect relationship between the speed of an object and the energy of an object.</p> <p>*Observe and explain the relationship between potential energy and kinetic energy</p> <p>*Describe how stored energy can be converted into another form for practical use</p> <p>*categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.</p>
GPS	4	4.PS4	Students will use GPS units to find sites and solve a problem	<p>*model simple waves to explain regular patterns of amplitude, wavelength, direction</p> <p>*Investigate how lenses use waves to enhance</p>

**Take A Walk on the Wildside  
Outdoor Science Program  
4th Grade  
Curriculum Standards/Activity**

		4.ETS1		<p>human senses</p> <p>*categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.</p>
Gummy Waves	4	4.PS4  4.ETS1	Using household items, students will replicate a sound wave	<p>*model simple waves to explain regular patterns of amplitude, wavelength, direction</p> <p>*Investigate how lenses use waves to enhance human senses</p> <p>*categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.</p>
Monarch Maps		4.ETS1  4.ETS2	TBD	<p>*categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.</p> <p>*Determine the effectiveness of multiple solutions to a design problem given the criteria/constraints</p>
Landscaping models		4.ETS1  4.ETS2	Students will create a plan on how to work together to create a landscape to prevent erosion	<p>*categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.</p> <p>*Determine the effectiveness of multiple solutions to a design problem given the criteria/constraints</p>
Humpty Dumpty II	4	4.ETS1  4.ETS2	A revised version of an egg drop	<p>*categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.</p> <p>*Determine the effectiveness of multiple solutions to a design problem given the criteria/constraints</p>
Jenga Tower	4	4.ETS1  4.ETS2	Using massive wood blocks, students play the game Jenga	<p>*categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.</p> <p>*Determine the effectiveness of multiple solutions to a design problem given the</p>

**Take A Walk on the Wildside  
Outdoor Science Program  
4th Grade  
Curriculum Standards/Activity**

				criteria/constraints
The Birds	4	4.ETS1 4.ETS2	Using binoculars, students play bingo and discuss/create other options to binoculars	<p>*categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.</p> <p>*Determine the effectiveness of multiple solutions to a design problem given the criteria/constraints</p>
Rockets	4	4.ETS1 4.ETS2	Using paper/pvc pipes, students will create a functionable rocket that will be launched with an air compressor.	<p>*categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.</p> <p>*Determine the effectiveness of multiple solutions to a design problem given the criteria/constraints</p>
Global Trash monsters/Human footprints	4	4.ETS1 4.ETS2	Using clean trash students will design a replica of a tool to solve a world problem	<p>*categorize the effectiveness of design solutions by comparing them to specified criteria for constraints.</p> <p>*Determine the effectiveness of multiple solutions to a design problem given the criteria/constraints</p>