

Gifford Pinchot

"I have been a governor every now and then, but I am a forester all the time."

— Gifford Pinchot



Young Gifford Pinchot

Born in 1865 to James and Mary Pinchot, Gifford spent most of his childhood in New York City and Connecticut. Family trips to the Adirondack Mountains immersed young Gifford in wild forests and nature, which had a deep and lasting impact on him. His parents encouraged and fostered his natural love of the outdoors, and guided him to become trained in forestry.

Gifford's grandfather had made money in the early 1800s by logging property he bought and selling some of the cleared land for farming. As Gifford grew up seeing the continued loss of forests and urbanization occurring around him, Gifford's father wanted to reverse history and heal the cut-over land he'd inherited from his father in Milford, Pennsylvania. As a result, Gifford's parents instilled in him a conservation ethic of restoring the land, in addition to a responsibility of giving back to society through public service.

Early Training

Following his graduation from Yale University, Gifford spent a year in Europe learning about sustainable forestry, then returned home eager to put his training into practice. With no forestry jobs yet in America, he created a consulting business and was hired by George Vanderbilt to manage the cut-over lands surrounding his estate, Biltmore, in North Carolina. He soon became involved in the newly-formed National Forest Commission, helping to identify lands for the federal government to acquire for a national forest reserve.

Creation of the U.S. Forest Service

In 1898, President William McKinley appointed 33-year-old Gifford to head up the (then) Division of Forestry in the U.S. Department of Agriculture. In 1901 the division was bumped up to become a bureau, then in 1905 President Theodore Roosevelt

created the U.S. Forest Service as a new agency, with Pinchot still at the helm.

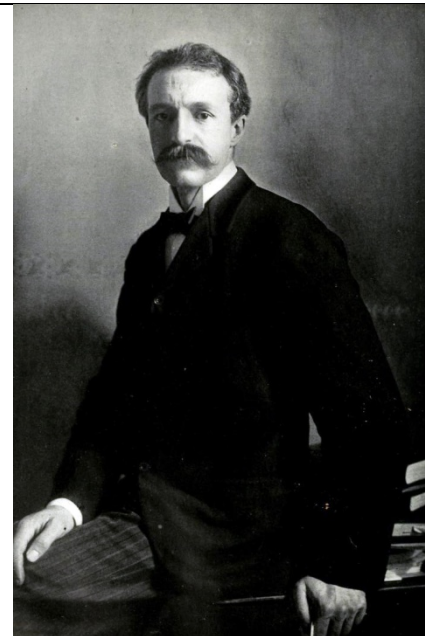
Pinchot's family endowed the Yale School of Forestry in 1900 to create a two-year program for training foresters, and Gifford founded the Society of American Foresters to provide a professional association for the foresters he would hire into his new agency.

Gifford promoted the "conservation of natural resources" with an emphasis on sustainability. His policy was summarized as "the greatest good for the greatest number in the long run." While President Roosevelt was in office, 150 million more acres were added to the national forest reserves, and Pinchot infused his vision of "wise use" into national forest management policy to balance conservation with economic benefit of the forests. Unfortunately, Gifford's tenure as US Forest chief ended in 1910 over differences with President Taft.



Cornelia Bryce Pinchot

In 1912, Gifford met Cornelia Bryce, a well-to-do social activist who was campaigning for Theodore Roosevelt and the Progressive Party. With



similar political interests, influence and energy, they were married two years later. Cornelia became a powerful partner with Gifford, campaigning tirelessly for improving the welfare of humankind by championing women's rights, pushing for child labor reform, and supporting her husband's political races.

Return to Pennsylvania

In 1920, Gifford became Pennsylvania's Commissioner of Forestry and increased the number of foresters and firefighters in the forests. He ran for governor in 1922 and won, with an aim to expand the state forest reserves and hire men to replant and reforest the landscape of northern Pennsylvania.

His interest was to also help improve the lives of women and others being neglected by political leaders, and to help solve social problems of the day.

One major accomplishment in which he demonstrated his problem-solving abilities was bringing together coal mine labor leaders and mine operators to diffuse tremendous anger on both sides and find a resolution to coal mine strikes.

Grey Towers



When Gifford was 21, his parents completed the construction of a fieldstone mansion in the style of a French chateau on family property overlooking the town of Milford, Pennsylvania along the Delaware River. Known as Grey Towers, it later became the summer home and permanent residence of Gifford and Cornelia.

Cornelia worked to improve and modernize the mansion to be better suited for entertaining guests, and added a number of interesting features and gardens around it.

Grey Towers became a place of inspiration for Gifford and others who were influential players in the conservation and progressive movements of the early 1900s. The surrounding property was also used as a training ground for students in Yale University's early forestry program.



Gifford and Cornelia's son, Dr. Gifford Bryce Pinchot, donated the building and grounds to the U.S. Forest Service in the 1960s. Designated as a National Historic Landmark in 1963, this public facility stands as a reminder of Pinchot's ethics of public service and doing the greatest good for the greatest number in the long run.

Visiting Grey Towers: School Groups

The U.S. Forest Service at Grey Towers offers a variety of curriculum-based conservation education programs for students in grades 2-12. The programs are designed to increase students' awareness, appreciation and understanding of natural resource conservation and to foster a sense of individual responsibility for land stewardship. Each program is tailored to be grade appropriate. Programs are offered free of charge.

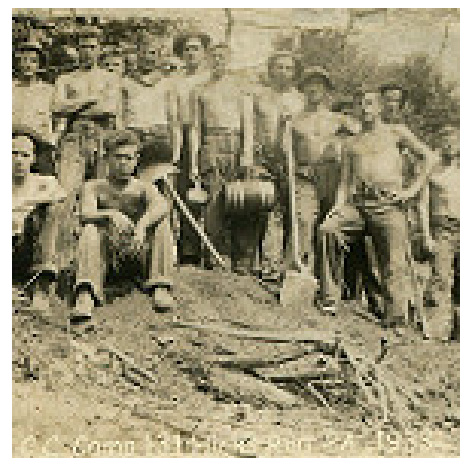
Grey Towers National Historic Site
P.O. Box 188
Milford, PA 18337
(570) 296-9630
greytowers@fs.fed.us
fs.usda.gov/main/greytowers

Putting People to Work During the Great Depression

After a required term off, Gifford Pinchot was elected for a second time as Governor of Pennsylvania in 1930 as the state and nation were faced with the tremendous unemployment resulting from the Great Depression.

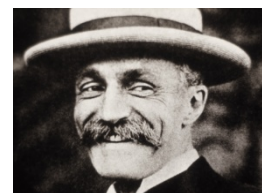
Gifford's landmark road building and paving program not only put thousands of people to work, it helped connect rural farm communities to markets for their goods and services.

He also instituted a massive tree-planting program, hiring men to restore the cut-over timber areas of the state. This experimental program became President Franklin Roosevelt's model for the federal Civilian Conservation Corps.



Gifford Pinchot

FAST FACTS



BORN 1865 to James and Mary Pinchot

AGE 23 | 1889 Graduates from Yale University and since there are no forestry schools in the U.S., spends a year in Europe learning about sustainable forestry.

AGE 26 | 1892 George Vanderbilt hires Gifford to manage the cut-over lands on his estate, Biltmore in North Carolina.

AGE 33 | 1898 President McKinley appoints Gifford to lead federal Division of Forestry.

AGE 35 | 1900 Gifford's family endows the Yale School of Forestry to create a two-year program for training foresters and Gifford founds the professional Society of American Foresters.

AGE 40 | 1905 President Roosevelt creates U.S. Forest Service with Gifford at the helm. Gifford promotes the "conservation of natural resources" with an emphasis on sustainability, known as "the greatest good for the greatest number in the long run." 150 million acres are added to the national forest reserves, and forest management policy balances conservation with economic benefit.

AGE 45 | 1910 President Taft dismisses Gifford as chief of the Forest Service.

AGE 49 | 1914 Gifford marries well-to-do social activist Cornelia Bryce, who becomes a powerful partner for improving the welfare of humankind by championing women's rights, pushing for child labor reform, and supporting Gifford's political career.

AGE 55 | 1920 Gifford becomes head of Pennsylvania's state forestry program and increases the number of foresters and firefighters in the forests.

AGE 81 | 1946 Gifford dies in New York of leukemia. Acknowledged as the "father" of American forestry and largely responsible for popularizing the term "conservation" and for it becoming widely known and supported. He asserted its definition as "the greatest good for the greatest number in the long run."

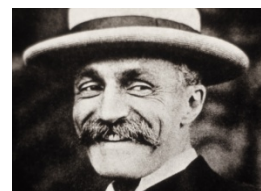
AGE 66 | 1931 Starts second term as governor in the midst of the Depression. Road building and paving program puts people to work and connects farm communities. He institutes massive tree-planting program, hiring men to restore the cut-over timber areas of the state – becomes the model for President Roosevelt's federal Civilian Conservation Corps.

AGE 62 | 1926 Barred from succeeding himself as governor at the time, runs for Senate, but loses.

AGE 58 | 1923 Elected governor of Pennsylvania with a goal to expand state forest reserves and hire men to replant and reforest the landscape of northern Pennsylvania. Finds a successful resolution to coal mine strikes.

Gifford Pinchot

GUIDING QUESTIONS



These questions and answers are designed to aid discussion of two of the main ideas presented in the film, *Gifford Pinchot's Conservation Legacy*.

- Greatest good for the greatest number in the long run
- Importance of forests and forest management

Open ended questions to begin discussion:

What is the difference between *preservation* and *conservation* (wise and sustainable *use* of the resource)?
 Why is it important to conserve?
 How can you conserve? (not just related to forests but other ways to help the environment)
 What do you conserve on a daily basis? How can you increase your conservation?
 What decisions do we make today in our personal lives and in society that are not in line with Pinchot's "greatest good" idea?

Greatest good for the greatest number in the long run (3 questions)

"...where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run."
 -Gifford Pinchot, Chief Forester, 1905

What is the "Greatest Good" philosophy?

As first head of the U.S. Forest Service, Gifford needed to create a guiding philosophy for agency decisions. Many people saw the unregulated destruction of our nation's forests as an enormous waste and believed it was immoral to convert them into vast personal fortunes. The Forest Service faced a multitude of conflicting interests on the land they managed: cattle ranchers, shepherds, miners, loggers, homesteaders, developers of water

for drinking, irrigation and hydropower, as well as those who favored a complete hands-off approach.

Gifford expanded on a phrase popularized by English Utilitarianism philosopher Jeremy Bentham, "the greatest good for the greatest number" by adding, "in the long run." This meant using trained professionals, guided by science, to make choices that best serve the most people over time. The philosophy included using nature for the benefit of people. Gifford empathized with those "who do not like to see a tree cut down", but noted, "you cannot practice forestry without it." Gifford promoted this philosophy as the conservation of natural resources, meaning that forests are not consumed faster than they can be replaced and that sufficient quantities are maintained for future generations.

This philosophy as it relates to forestry morphed into different labels over the years – conservation, multiple use – but is now known as "sustainable forestry."

What is sustainable forestry today?

Sustainable forestry means caring for and managing forests for ALL the things we value from them – trees, wood, wood products, clean water, wildlife, scenic landscapes, soils, smaller plants, as well as a place to live, recreate or make a living. It also ensures that future generations will have forests to meet their needs and values. It's an enormously complex process, constantly changing by advances in science and management techniques, as well as the ecosystem itself.

A good place to learn about sustainable forestry in Pennsylvania and all of the decisions involved in it is through the Department of Conservation and Natural Resources' (DCNR) Bureau of Forestry. DCNR manages 2.2 million acres of state forest land, or 13 percent of the

forested area in Pennsylvania. The Bureau of Forestry started the process of updating its State Forest Resource Management Plan in 2015; a wealth of information about Pennsylvania's state forests and management concerns can be found here: bit.ly/1Wfq3i6.

Which of Pinchot's Pennsylvania legacies can we still see and enjoy today?

When Gifford started his second term as governor, the country was in the depths of the Great Depression. In Pennsylvania, 30 percent – 1.5 million people – had no jobs at all. Gifford worked with the legislature to set up and fund a state relief board, and two of his first projects became the forerunner of the national Civilian Conservation Corps (CCC): a Highway Administration program that set up six work camps to house some of the 25,000 unemployed men put to work on roads; and a Department of Forests and Waters (now DCNR) project that hired 1,100 men to cut 10,000 cords of free firewood for needy families, in addition to other forestry projects. There was a widespread need for restoration of lands devastated by poor logging practices and a cadre of trained foresters available to help, thanks to Gifford's earlier tenure as head of Pennsylvania's state forest program. The state was well positioned to start the CCC program immediately, employing 190,000 young men.

The CCC planted trees, controlled erosion, built cabins and pavilions, and restored historic sites. Many of the well-loved rustic stone and timber structures we see in our state parks and forests are thanks to the CCC.

You can find a listing of the work completed by the CCC in Pennsylvania's parks and forests here: bit.ly/1Lh3dWT.



Importance of forests and forest management

(3 questions)

Why are forests so important to Pennsylvania?

When King Charles II of England granted a New World colony to William Penn, he named it *Pennsylvania* – *Penn* in honor of William's father and *sylvania* from the Latin word for *woods*... Penns Woods. The vastness of Pennsylvania's original forests – approximately 29 million acres that covered 90 percent of Pennsylvania – awed early European settlers. But it didn't take long for wholesale exploitation of the forest and its resources to happen, primarily through unscrupulous clearcutting for lumber and charcoal-making to fuel iron furnaces. By the beginning of the 1900s, the unfragmented forest was gone except for small, isolated pockets of trees. Repeated forest fires and soil erosion inhibited the forests from recovering. Due to the resilience of nature and farsighted efforts of early conservationists such as Gifford Pinchot, Pennsylvania's forests rebounded.

Forests now cover nearly two-thirds of Pennsylvania, more than 17 million acres, one of the largest tracts of eastern deciduous forest in the entire country. Our forests are home to dozens of rare plants and endangered species and support a \$19 billion a year wood-products industry that employs more than 58,000 people. They protect more than 25,000 miles of high quality streams. And they provide recreational opportunities for millions of people each year.

What are some of the benefits of effective forest management in Pennsylvania?

Economic: jobs (60,000 jobs), timber value (\$16 billion+ added to our economy), cost savings (heating with wood expanding – renewable and cheaper than fossil fuels), reduction in water treatment costs (natural recharge of aquifers and protection of surface water), other economic generators (recreation and collection and cultivation of native plants such as ginseng, goldenseal, cohosh, and mushrooms).

Social and human health: outdoor recreation and education (hunting, fishing, wildlife watching, hiking, and more), health and well-being (contributing to mental and physical well-being), better quality of life (beautiful landscapes, wildlife habitat, energy savings by cooling summer days and diverting winter winds).

Environmental: water quality and quantity (forested watersheds filter water and recharge aquifers, collect and slow stormwater, reduce flood threats), resilience (to insects, pathogens, diseases), wildlife habitat (diverse common, rare, and threatened plant and animal species, healthy, cool streams for species like trout), carbon storage and pollution reduction (sequester carbon and ameliorate effects of climate change, reduce air and water pollution). See more detail [here](https://bit.ly/1ULJHKu) (bit.ly/1ULJHKu).

Share your projects and ideas!
#LiveLikeGifford
#PAConservationHeroes



What are some of the challenges facing Pennsylvania's forests now and in the future?

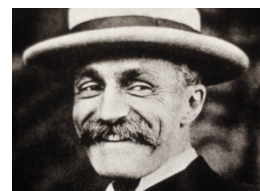
- lack of forest regeneration after timber harvesting or other forms of disturbance, due in part to high populations of [white-tailed deer](https://bit.ly/1pkN5tl) (bit.ly/1pkN5tl)
- outbreaks of exotic pests, such as [hemlock wooly adelgid](https://bit.ly/1QKiSx7) (bit.ly/1QKiSx7), [emerald ash borer](https://bit.ly/1MchbEL) (bit.ly/1MchbEL) and [gypsy moth](https://bit.ly/21mVXe4) (bit.ly/21mVXe4), and a host of native defoliators
- invasive plants
- climate change
- wildfire, particularly in the wildland/urban interface
- private forest landowners, who control most of Pennsylvania's forests, but don't often seek services of resource management professionals
- fragmentation of privately owned forests
- impact from unchecked development
- demand for timber and other wood products is greater than ever before
- industrial use of the forest, such as gas drilling and other practices
- recreational use is at an all-time high.



Source: PA Bureau of Forestry, dcnr.state.pa.us/forestry

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ACTIVITIES



Greatest Good



The Forest History Society
foresthistory.org

The Society offers programs with activities that link our forest heritage past to the future.



K-12 Teachers Guide
The Greatest Good
a Forest Service Centennial Film

K-12 Teachers Guide: The Greatest Good

foresthistory.org/Education/TGG
The guide accompanies the 2005 film, [The Greatest Good](https://youtu.be/9m-oFZMhJqc) (youtu.be/9m-oFZMhJqc), released by the U.S. Forest Service in celebration of its centennial; pulls together excellent sources for lesson plans related to the film.

Key activity:

- [Design a Community Forest](#)



If Trees Could Talk

foresthistory.org/Education/Curriculum
Middle school curriculum with activities based on archival materials. Each module compiles primary resources--documents, maps, newspaper articles, oral histories or photographs. Students gather, examine, and analyze information, and synthesize insights.

Key activities:

- [From Forest to Farm and Back Again](#)
- [Trees in Your Own Back Yard](#)

Additional activity:

- [A New Profession Takes Seed](#)

PA Forests and Forest Management

Sustaining Penn's Woods

Sustaining Penn's Woods, A Sound Use of the Land

paforestproducts.org/pennswoods
A Pennsylvania-specific five-part curriculum for middle and high schoolers designed to improve knowledge of forests and land use. It talks about environmental issues, the wood products industry, harvesting and other related topics.



PennState
College of Agricultural Sciences

Penn State Department of Ecosystem Sciences and Management offers a number of [educational activities](#) (bit.ly/21eBJ7z), including:

Key activities:

- [Sustainable Forestry \(classroom activity\)](#) (bit.ly/1Ufa31A) This activity explores what sustainable forestry is including forest management, forest health, and different approaches for sustainable forestry. It is part of an educational series for youth.
- [Sustainable Forestry \(field activity\)](#) (bit.ly/1Sy13Qq) Forestry is not merely cutting trees. It involves understanding tree growth requirements, forest history, stand dynamics, and the potential impacts of poor decisions.
- [Future Forest Steward Program](#) (bit.ly/21eBJ7z) Offers youth (ages 8-12 years old) an opportunity to learn about the forests of Pennsylvania and the important concept of forest stewardship.

Additional activities:



US Forest Service
fs.fed.us/learn/educators

Natural Inquirer

naturalinquirer.org
USDA Forest Service scientists share their research with middle school students. Students "meet the scientists," read special information about science and the environment. Students also read about a specific research project, written in a way that scientists write when publishing their research in journals. Students become scientists when they do the Discovery FACTivity, learning vocabulary words that help in understanding articles. These are just a few:

- [Freshwater Natural Inquirer](#) (bit.ly/1SHNrV0)
- [Woolly Bully- Estimating the Effect of an Invasive Insect on an Area's Water Cycle](#) (Monograph) (bit.ly/1qQ6B1z)
- [Urban Forest Edition](#) (bit.ly/1ACbFoN)



Distance learning adventures enable classrooms to 'travel' to remote locations and ask questions of the experts. Resources include webcasts, webinars, and on-line education resources. Past topics include bats, wetlands, climate change and much more.

The following sites require that you attend training to obtain their lesson plan materials. DCNR educators provide a number of workshops in Pennsylvania.



Exploring Environmental Issues: Focus on Forests (bit.ly/1Wob3Rb)
Project Learning Tree (PLT) *The Exploring Environmental Issues: Focus on Forests* fosters student understanding of and appreciation for North American forested lands. Activities provide an opportunity for hands-on study of forest resources while addressing concepts in biology, civics, ecology, economics, forest management, and other subject areas. Students examine ecological systems of a forest; analyze interdependencies within a forest ecosystem; and explore factors, such as fire, that shape the development of forests. In addition, they develop critical thinking skills and discover the importance of scientific analysis when making decisions about forest issues.

PLT Environmental Education Activity Guide (bit.ly/29Ereli)

Key activities:

- [A Forest of Many Uses](#)
- [Planet Diversity](#)
- [We All Need Trees](#)

Contact the [PLT Coordinator](#) (bit.ly/1QyM4Ui) at the PA Bureau of Forestry for workshop information, or check the [DCNR Calendar of Events](#) (bit.ly/21eBRE9) for upcoming teacher workshops.



Project Wild offers hands-on K-12 activities designed to support state and national academic standards. projectwild.org

Key activities:

- [Changing the Land](#)
- [Everybody Needs a Home](#)
- [Shrinking Habitat](#)
- [Sustainability: Then, Now, Later](#)

Check the [DCNR Calendar of Events](#) (bit.ly/21eBRE9) for upcoming teacher workshops.



Project Wild Aquatic uses the simple, successful format of Project WILD activities and professional training workshops but with an emphasis on aquatic wildlife and aquatic ecology. projectwild.org/aquatic/

Key activities:

- [Blue Ribbon Niche](#)
- [Watered-Down History](#)
- [Watershed](#)

Additional activities:

- [Aqua Words](#)
- [Water Wings](#)
- [Living Research: Aquatic Heroes and Heroines](#)

Contact the [Aquatic Wild Coordinator](#) (bit.ly/1TbKSIk) at the PA Fish and Boat Commission for workshop information, or check the [PFBC Calendar of Events](#) (bit.ly/1TbKSIk) for upcoming teacher workshops.

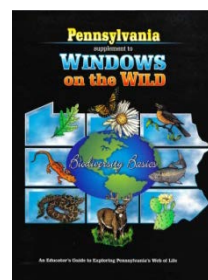


Pennsylvania Songbirds

Key activities:

- Changing the Land
- Everybody Needs a Home
- Habitat Evaluation
- If There Were No Birds
- Shrinking Habitat
- The Lorax

Check the [DCNR Calendar of Events](#) (bit.ly/21eBRE9) for upcoming teacher workshops.



Pennsylvania Supplement to Windows on the Wild (PA WOW) is an educator's guide to exploring Pennsylvania's biodiversity.

Key activities:

- Exploring PA Ecosystems
- The Edge Effect

Suggested Activities

Create a timeline for another conservationist (or for yourself!) on what things in their lifetime influenced their conservation ethic or leadership.

Gifford Pinchot

LINKS



Links	References	Films
<p>DCNR Forestry educational resources dcnr.state.pa.us/forestry/education:</p> <ul style="list-style-type: none"> Project Learning Tree in Pennsylvania bit.ly/1QyM4Ui Common Trees of Pennsylvania bit.ly/1TbQJxg Penns Woods Strategic Plan bit.ly/1WRxEWQ Penns Woods: A History of Pennsylvania Forests bit.ly/234OL8X PAForests YouTube bit.ly/1UffSMx <p>DCNR State Parks visitparks.com/learn</p> <p>Pennsylvania Forestry Association paforestry.org</p> <p>PA DCNR: The CCC Years bit.ly/1Lh3dWT</p> <p>Grey Towers Heritage Association-greytowers.org</p> <p>Grey Towers National Historic Site-fs.usda.gov/greytowers</p> <p>Pennsylvania Conservation Heritage Project paconservationheritage.org</p> <p>Pennsylvania Parks and Forests Foundation paparksandforests.org</p> <p>Department of Conservation and Natural Resources dcnr.state.pa.us</p> <p>TreeVitalize treevitalize.net</p> <p>ExplorePAHistory.com explorepahistory.com</p> <p>WITF witf.org</p> <p>Pennsylvania Forest Fire Museum paforestfiremuseum.org</p> <p>Pennsylvania Lumber Museum lumbermuseum.org/</p> <p>Forest History Society foresthstory.org</p> <p>Gifford Pinchot State Historic Markers (4 markers) bit.ly/1RAksPF</p>	<p>Patricia E. Bixler, <i>Gifford Pinchot</i>. Historic Pennsylvania Leaflet No. 39, Pennsylvania Historical and Museum Commission, 1976.</p> <p>Char Miller, <i>Gifford Pinchot and the Making of Modern Environmentalism</i>, Island Press, 2013.</p> <p>Timothy Egan, <i>The Big Burn: Teddy Roosevelt and the Fire That Saved America</i>, Houghton Mifflin Harcourt, 2009.</p> <p>Speakman, Joseph M. <i>At Work in Penn's Woods: The Civilian Conservation Corps in Pennsylvania</i>. University Park, PA: Pennsylvania State UP, 2006. Print.</p> <p>Harold Steen, <i>The Conservation Diaries of Gifford Pinchot</i>, 2001.</p> <p>U.S. Forest Service History; Chiefs; Gifford Pinchot 1898 - 1910. bit.ly/1f3QEi7</p> <p>George Perkins Marsh, <i>Man and Nature: Or, Physical Geography as Modified by Human Action</i>; C. Scribner, 1864. [Mentioned at the beginning of the film, this was an important book of influence to young Gifford Pinchot.]</p> <p>Pinchot, Gifford. <i>Breaking New Ground</i>. New York: Harcourt, Brace, 1947. Print.</p> <p>Wolensky, Kenneth C. <i>He, on the Whole, Stood First: Gifford Pinchot</i>. Pennsylvania Heritage 30, no. 1 (Winter, 2004)</p>	<p></p> <p>Gifford Pinchot's Conservation Legacy video.witf.org/video/2365606759/</p> <p>If you liked this video, others are available at Pennsylvania Conservation Heritage Project paconservationheritage.org</p> <hr/> <p>Additional Films</p> <p>Gifford Pinchot, Conservation Hero—Pennsylvania Bureau of Forestry youtube.com/watch?v=jWwUur6uHza</p> <p>Gifford Pinchot, America's First Forester--USDA Forest Service youtube.com/watch?v=SkcL5y9svpc</p> <p>The Greatest Good – USDA Forest Service youtu.be/9m-oFZMhJqc</p>



ACADEMIC STANDARDS

Key Activities Matched to Pennsylvania State Education Standards

Activity/ Source	Grade	Major Content	Environment/ Ecology (SAS)	Environment/ Ecology State Board of Education	Civics and Government (draft)	Additional
A Forest of Many Uses <i>PLT</i>	Part A 1-4 Part B 5-8	Renewable/ Non-renewable Natural Resources Forest Management	4.1.4.A 4.1.7.A 4.3.3.A 4.3.4.A 4.3.7.A 4.3.10.A 4.5.7.A 4.5.8.A	4.2.7.A 4.2.4.B 4.6.4.A 4.6.7.A 4.7.4.A 4.7.7.A 4.8.7.A 4.8.7.B 4.8.10.B 4.8.4.C 4.8.7.D 4.8.10.D		English/ Language Arts CC.1.5.2.A CC.1.5.3.A CC.1.5.4.A CC.1.5.5.A CC.1.5.6.A CC.1.5.7.A CC.1.5.8.A Geography 7.4.U.B
Blue Ribbon Niche <i>Aquatic WILD</i>	5-8	Interdependence Habitat Riparian Zone	4.1.7.A 4.1.10.A 4.1.5.C 4.1.7.C 4.1.7.D 4.1.7.E 4.1.5.F 4.1.7.F 4.2.6.C	4.1.7.B 4.1.10.B 4.1.4.C 4.1.7.C 4.1.10.C 4.6.4.A 4.6.7.A 4.6.10.A 4.7.7.B 4.8.4.C 4.8.7.C		Geography 7.2.5.A 7.2.6.A English/ Language Arts CC.1.4.5.V CC.1.5.5.A CC.1.5.6.A CC.1.5.7.A CC.1.5.8.A CC.1.5.5.D CC.1.5.6.D CC.1.5.8.D CC.1.5.6.F CC.1.5.7.F CC.1.5.8.F
Changing the Land <i>Project WILD PA Songbirds</i>	6-10	Habitat needs Limiting factors Interdependence	4.1.6.D 4.1.10.A 4.5.7.A	4.7.7.C 4.7.10.C 4.8.7.C 4.8.10.C	5.4.8.C	
Design A Community Forest <i>K-12 Teacher Guide: The Greatest Good</i>	6-8	Habitat Biodiversity Human Impact Management	4.1.7.A 4.1.10.A 4.4.5.C 4.5.7.C	4.3.7.B 4.3.10.B 4.3.7.C 4.3.10.C 4.6.7.A 4.6.10.A 4.7.7.A 4.7.10.A 4.7.7.B 4.7.10.B 4.7.7.C 4.8.7.A 4.8.10.A		English/ Language Arts CC.1.5.6.D CC.1.5.7.D CC.1.5.8.D
Everybody Needs A Home <i>Project WILD PA Songbirds</i>	K-4	Basic Needs; Habitats	4.1.4.A 4.1.3.D 4.1.4.D 4.1.4.F 4.3.4.A	4.2.4.A 4.6.4.A 4.8.4.D		Geography 7.2.3.A 7.2.4.A

Activity/ Source	Grade	Major Content	Environment/ Ecology (SAS)	Environment/ Ecology State Board of Education	Civics and Government (draft)	Additional
Exploring PA Ecosystems <i>PA Biodiversity</i>	5-10	Habitat Ecosystems Adaptation Interdependence Niche Food Web	4.1.5.A 4.1.7.A 4.1.10.A 4.1.5.C 4.1.7.C 4.1.7.D 4.1.7.E 4.1.10.E	4.6.7.A 4.6.10.A 4.7.7.A 4.7.10.A 4.7.7.B 4.7.10.B 4.7.7.C		Geography 7.2.5.A 7.2.6.A 7.2.8.A 7.4.5.B 7.4.6.B 7.4.7.B 7.4.8.B
From Forest to Farm and Back Again <i>If Trees Could Talk</i>	5-8	Natural Resource Land Use Succession	4.1.7.A 4.1.10.A 4.1.5.D 4.1.7.E 4.1.10.E 4.3.7.A 4.3.10.A 4.5.6.A 4.5.7.A	4.4.7.A 4.4.10.A 4.6.7.A 4.6.10.A 4.7.7.A 4.7.10.A 4.7.7.B 4.7.10.B 4.7.7.C 4.7.10.C	5.3.7.G 5.3.8.G	Geography 7.1.6.B 7.1.7.B 7.1.8.B 7.4.5.B 7.4.6.B 7.4.7.B 7.4.8.B 7.4.9.B 7.4.U.B Math CC.2.4.5.A.2
Future Forest Stewards Program <i>Penn State Department of Ecosystem Science and Management</i>	3-6	Habitat Natural Resources Change Over Time Human Impact Management	4.1.4.A 4.1.7.A 4.1.5.C 4.1.4.E 4.3.4.A 4.3.7.A 4.4.5.C 4.5.3.A 4.5.4.C	4.2.4.A 4.2.7.A 4.2.4.B 4.2.7.B 4.2.4.C 4.4.4.C 4.4.7.C 4.6.4.A 4.6.7.A 4.8.4.A 4.8.7.A	5.2.3.A 5.2.4.A 5.3.4.C 5.3.5.C 5.3.6.G	Geography 7.2.3.A 7.2.4.A 7.2.5.A 7.2.6.A 7.4.3.B 7.4.4.B 7.4.5.B 7.4.6.B
Habitat Evaluation <i>PA Songbirds</i>	4-8	Habitat Limiting Factor Management	4.1.4.A 4.1.5.A 4.1.7.A 4.1.10.A 4.1.7.E	4.6.4.A 4.6.7.A 4.7.4.A 4.7.7.A 4.8.4.C 4.8.7.C		English/ Language Arts CC.1.5.5.A CC.1.5.6.A C C.1.5.7.A CC.1.5.8.A
Gifford Pinchot Video/ Discussion	3-12	One individual can influence change Human Impact Conservation	4.5.6.C 4.5.7.C 4.5.4.E 4.5.7.E	4.8.4.A 4.8.7.A 4.8.10.A 4.8.4.C 4.8.7.C 4.8.10.C 4.9.7.A	5.1.7.A 5.1.C.A 5.1.12.A 5.3.5.C 5.3.7.G 5.3.8.G	English/ Language Arts CC.1.5.7.A CC.1.5.8.A CC.1.5.9-10.A CC.1.5.11-12.A CC.1.5.6.C CC.1.5.7.C
If There Were No Birds <i>PA Songbirds</i>	4-8	Natural Resources Human Impact	4.1.4.A 4.3.4.A 4.3.7.A 4.5.7.A	4.2.4.A 4.2.7.A 4.2.4.B 4.2.10.B 4.3.7.B 4.8.7.B		English/ Language Arts CC.1.4.4.V CC.1.4.5.V CC.1.5.4.A CC.1.5.5.A CC.1.5.6.A CC.1.5.7.A

Activity/ Source	Grade	Major Content	Environment/ Ecology (SAS)	Environment/ Ecology State Board of Education	Civics and Government (draft)	Additional
Planet Diversity <i>PLT</i>	4-6	Habitat Biodiversity	4.1.4.A 4.1.7.D 4.1.4.F 4.1.5.F 4.1.6.F	4.6.7.A 4.6.4.A 4.7.4.A		English/ Language Arts CC.1.5.6.A CC.1.5.4.D CC.1.5.5.D CC.1.5.6.D CC.1.5.6.F Geography 7.2.4.A 7.2.5.A 7.2.6.A
Shrinking Habitat <i>Project WILD</i> <i>PA Songbirds</i>	5-10	Habitat Human Impact	4.1.7.A 4.1.10.A 4.1.6.D 4.1.10.D 4.1.7.E 4.1.10.E 4.5.7.A	4.6.7.A 4.6.10.A 4.6.7.B 4.6.10.B 4.7.7.C 4.7.10.C 4.8.7.C 4.8.10.C	5.2.6.A 5.2.7.A	English/ Language Arts CC.1.5.5.A CC.1.5.6.A CC.1.5.7.A CC.1.5.8.A CC.1.5.9-10.A Geography 7.4.4.B 7.4.5.B 7.4.6.B 7.4.7.B 7.4.8.B
Sustainable Forestry <i>Penn State</i> <i>Department of</i> <i>Ecosystem Science</i> <i>and Management</i>	9-12	Habitat Natural Resource Management Sustainability	4.1.10.A 4.1.12.A 4.1.10.D 4.1.10.E 4.1.12.E 4.3.10.B	4.2.10.B 4.2.12.B 4.3.10.C 4.4.10.C 4.6.10.A 4.6.12.A 4.6.12.C 4.7.10.A 4.7.12.A 4.7.10.C 4.7.12.C 4.8.10.B 4.8.10.C	5.3.C.B	English/ Language Arts CC.1.5.9-10.A CC.1.5.10-12.A Geography 7.4.U.A 7.4.U.B
Sustainability: Then, Now, Later <i>Project WILD</i>	9-12	Community Natural Resources Sustainability	4.3.10.A 4.3.12.A 4.3.10.B 4.3.12.B 4.5.12.A 4.5.12.C 4.5.10.D 4.5.12.D	4.2.10.A 4.2.10.B 4.2.12.B 4.2.10.C 4.2.10.D 4.2.12.D 4.3.10.B 4.8.10.A 4.8.12.A 4.8.10.B 4.8.12.B 4.8.10.D	5.2.9.D 5.2.U.D	English/ Language Arts CC.1.5.9-10.A CC.1.5.11-12.A CC.1.5.9-10.D CC.1.5.11-12.D Geography 7.4.9.B
The Edge Effect <i>PA Biodiversity</i>	5-10	Limiting Factor Fragmentation Human Impact	4.1.7.A 4.1.10.A 4.1.7.E 4.1.10.E	4.3.10.B 4.6.7.A 4.6.10.A 4.7.7.C 4.7.10.C 4.8.7.C 4.8.10.C		Math CC.2.1.7.B.1 CC.2.4.5.A.2 CC.2.4.7.B.2

Activity/ Source	Grade	Major Content	Environment/ Ecology (SAS)	Environment/ Ecology State Board of Education	Civics and Government (draft)	Additional
The Lorax <i>PA Songbirds</i>	4-10 based on dis- cussion	Habitat Basic needs Human Impact Natural Resources Conservation	4.3.10.B 4.1.4.A 4.1.10.A	4.2.7.B 4.2.10.B 4.6.4.A 4.6.7.A 4.6.10.A 4.6.10.B 4.7.7.C 4.8.7.B 4.8.10.B 4.8.7.C 4.8.10.C 4.8.7.D 4.8.10.B 4.9.7.A	5.2.5.A 5.2.6.A 6.2.7.A	English/ Language Arts CC.1.5.4.A CC.1.5.7.A CC.1.5.8.A CC.1.5.10.A
Trees in Your Own Back Yard <i>If Trees Could Talk</i>	5-8	Natural Resources Habitat Human Impact	4.1.7.A 4.3.7.A 4.4.6.A 4.5.7.C	4.2.7.A 4.2.10.A 4.2.7.B 4.2.10.B 4.3.7.B 4.6.7.A 4.7.10.A 4.6.10.B 4.8.7.B 4.8.10.B 4.8.7.C 4.8.10.C	5.2.5.A 5.2.6.A 5.2.7.A 5.2.8.A 5.2.6.D	English/ Language Arts CC.1.5.5.A CC.1.5.6.A CC.1.5.7.A CC.1.5.8.A CC.1.5.6.C CC.1.5.7.C CC.1.5.6.D CC.1.5.7.D CC.1.5.8.D
Watered-Down History <i>Aquatic WILD</i>	5-10	Water Quality Human Impact	4.1.5.F 4.1.10.F 4.2.5.C 4.2.6.C	4.1.7.B 4.1.10.B 4.2.12.B 4.8.7.C 4.8.10.C 4.1.12.C		Geography 7.1.7.A 7.1.8.A 7.2.6.A 7.2.7.A 7.2.8.A
Watershed <i>Aquatic WILD</i>	5-10	Watershed Human Impact	4.2.7.A 4.2.10.A 4.2.6.C	4.1.7.B 4.1.10.B 4.1.7.C 4.1.10.C 4.1.7.D 4.1.7.E 4.1.10.E		Geography 7.2.5.A 7.2.6.A 7.2.8.A 7.2.U.A 7.2.9.A Math CC.2.4.5.A.2
We All Need Trees <i>PLT</i>	2-6	Renewable/ Non-renewable Natural Resources Conservation	4.3.3.A 4.3.4.A 4.3.7.A 4.3.3.B 4.5.3.A 4.5.4.A	4.2.4.B 4.2.7.A 4.2.7.B 4.2.4.C		English/ Language Arts CC.1.5.2.A CC.1.5.3.A CC.1.5.4.A CC.1.5.5.A CC.1.5.6.A CC.1.5.6.D

Academic Standards

Environment and Ecology (Dept of Ed.) on SAS		Environment and Ecology (State Board of Education, aligned to STEE Anchors)
4.1 Ecology 4.1.4.A Explain how living things are dependent upon other living and non-living things. 4.1.5.A Describe the roles of producers, consumers, and decomposers within a local ecosystem. 4.1.7.A Describe relationships between biotic and abiotic components of an ecosystem. 4.1.10.A Evaluate factors affecting the use of natural resources. 4.1.12.A Analyze the significance of biological diversity in an ecosystem. 4.1.5.C Describe different food webs including a food web containing humans. 4.1.7.C Explain the flow of energy within an ecosystem. 4.1.3.D Identify organisms that are dependent on one another in a given ecosystem. 4.1.5.D Explain the differences between threatened, endangered, and extinct organisms. 4.1.6.D Identify reasons why organisms become threatened, endangered and extinct. 4.1.7.D Explain how biological diversity relates to the viability of ecosystems. 4.1.10.D Research practices that impact biodiversity in specific ecosystems. 4.1.4.E Explain that ecosystems change over time due to natural and/or human influences. 4.1.7.E Identify factors that contribute to change in natural and human-made systems. 4.1.10.E Analyze how humans influence the pattern of natural changes. 4.1.12.E Research solutions addressing human impacts on ecosystems over time. 4.1.4.F- 4.1.12.F Scientific Inquiry 4.2 Watersheds and Wetlands 4.2.7.A Explain how water enters, moves through and leaves a watershed. 4.2.10.A Examine the interactions between abiotic and biotic factors within a watershed. 4.2.5.C Identify physical, chemical and biological factors that affect water quality. 4.2.6.C Identify natural and human-made factors that affect water quality. 4.2.7.C Use appropriate tools and techniques to analyze a freshwater environment. 4.3 Natural Resources 4.3.3.A Identify the natural resources used to make various products.	4.3.4.A Identify ways humans depend on natural resources for survival. 4.3.7.A Explain how products are derived from natural resources. 4.3.10.A Evaluate factors affecting the use of natural resources. 4.3.12.A Evaluate the advantages and disadvantages of using renewable and nonrenewable resources. 4.3.3.B Identify local natural resources. 4.3.10.B Analyze how humans manage and distribute natural resources. 4.3.12.B Analyze factors that influence the local, regional, national and global availability. 4.4 Agriculture and Society 4.4.6.A Explain how different plants and animals have specific growing requirements related to climate and soil conditions. 4.4.5.C Investigate the factors influencing plant and animal growth. 4.5 Humans and the Environment 4.5.3.A Identify resources humans take from the environment for their survival. 4.5.4.A Identify how people use natural resources in sustainable and non-sustainable ways. 4.5.6.A Examine how historical events have shaped the sustainable use of natural resources. 4.5.7.A Describe how the development of civilization affects the use of natural resources. 4.5.12.A Research how technology influences the sustainable use of natural resources. 4.5.4.C Describe how human activities affect the environment. 4.5.6.C Identify key people and events that shaped the environmental history in the United States. 4.5.7.C Explain how human actions affect the health of the environment. 4.5.12.C Analyze the costs and benefits of means to control pollution. 4.5.10.D Evaluate various methods of managing waste as related to economic, environmental and technological factors. 4.5.12.D Evaluate waste management practices. 4.5.4.E Identify different ways human health can be affected by pollution. 4.5.7.E Describe how length and degree of exposure to pollutants may affect human health.	4.1 Watersheds and Wetlands 4.1.4.A Identify various types of water environments. 4.1.7.B Understand the role of the watershed- Explain factors that affect water quality. 4.1.10.B Explain the relationship among landforms, vegetation and the amount and speed of water- Define factors that affect the quality of water. 4.1.4.C Identify living things found in water environments. 4.1.7.C Explain the effects of water on the life of organisms in a watershed. 4.1.10.C Describe the physical characteristics of a stream and determine the types of organisms found in aquatic environments. 4.1.12.C Analyze the parameters of a watershed- Interpret physical, chemical and biological data as a means of assessing the environmental quality of a watershed. 4.1.7.D Explain and describe characteristics of a wetland. 4.1.7.E Describe the impact of watersheds and wetlands on people. 4.1.10.E Identify and describe natural and human events on watersheds and wetlands. 4.2 Renewable and Nonrenewable Resources 4.2.4.A Identify the needs of people. 4.2.7.A Know that raw materials come from natural resources. 4.2.10.A Explain that renewable and nonrenewable resources supply energy and materials. 4.2.4.B Identify products derived from natural resources. 4.2.7.B Examine the renewability of resources. 4.2.10.B Evaluate factors affecting the availability of natural resources. 4.2.12.B Analyze factors affecting the availability of renewable and nonrenewable resources. 4.2.4.C Know that some natural resources have limited life spans. 4.2.7.C Explain natural resource distribution. 4.2.10.C Analyze how manmade systems have impacted the management and distribution of natural resources. 4.2.10.D Explain different management alternatives involved in recycling and solid waste management. 4.2.12.D Evaluate solid waste management practices.

<p>4.3 Environmental Health</p> <p>4.3.4.A Know that plants, animals and humans are dependent on air and water.</p> <p>4.3.7.B Describe how human actions affect the health of the environment.</p> <p>4.3.10.B Explain how multiple variables determine the effects of pollution on environmental health, natural processes and human practices.</p> <p>4.3.7.C Explain biological diversity.</p> <p>4.3.10.C Explain biological diversity as an indicator of a healthy environment.</p> <p>4.4 Agriculture and Society</p> <p>4.4.7.A Explain society's standards of living in relation to agriculture.</p> <p>4.4.10.A Describe the importance of agriculture to society.</p> <p>4.4.4.C Know that food and fiber originate from plants and animals.</p> <p>4.4.7.C Explain the functions of the components of the food and fiber system.</p> <p>4.4.10.C Analyze and research the social, political and economic factors that affect agricultural systems.</p> <p>4.6 Ecosystems and their Interactions</p> <p>4.6.4.A Understand that living things are dependent on nonliving things in the environment for survival.</p> <p>4.6.7.A Explain the flows of energy and matter from organism to organism within an ecosystem- demonstrate the dependency of living components in the ecosystem on the nonliving components.</p> <p>4.6.10.A Explain the biotic and abiotic components of an ecosystem and their interactions. Demonstrate the dependency of living components in the ecosystem on the nonliving components.</p> <p>4.6.12.A Analyze the interdependence of an ecosystem.</p> <p>4.6.7.B Explain the concepts of cycles.</p> <p>4.6.10.B Explain how cycles affect the balance in an ecosystem.</p> <p>4.6.12.C Analyze how human action and natural changes affect the balance within an ecosystem.</p> <p>4.7 Threatened, Endangered and Extinct Species</p> <p>4.7.4.A Identify differences in living things.</p> <p>4.7.7.A Describe diversity of plants and animals in ecosystems.</p> <p>4.7.10.A Explain the significance of diversity to ecosystems.</p> <p>4.7.12.A Analyze biological diversity as it relates to the stability of an ecosystem.</p> <p>4.7.7.B Explain how species of living organisms adapt to their environment.</p>	<p>4.7.10.B Explain how structure, function and behavior of plants and animals affect their ability to survive.</p> <p>4.7.4.C Define and understand extinction.</p> <p>4.7.7.C Explain natural or human actions in relation to the loss of species- explain how a habitat management practice affects a population.</p> <p>4.7.10.C Identify and explain why adaptations can lead to specialization- explain how management practices may influence the success of a specific species.</p> <p>4.7.12.C Analyze the effects of threatened, endangered or extinct species on human and natural systems.</p> <p>4.8 Humans and the Environment</p> <p>4.8.4.A Identify the biological requirements of humans.</p> <p>4.8.7.A Describe how the development of civilization relates to the environment.</p> <p>4.8.10.A Analyze how society's needs relate to the sustainability of natural resources.</p> <p>4.8.12.A Explain how technology has influenced the sustainability of natural resources over time.</p> <p>4.8.4.B Know that environmental conditions influence where and how people live.</p> <p>4.8.7.B Explain how people use natural resources.</p> <p>4.8.10.B Analyze the relationship between the use of natural resources and sustaining our society.</p> <p>4.8.12.B Analyze technology's role on natural resource sustainability.</p> <p>4.8.4.C Explain how human activities may change the environment.</p> <p>4.8.7.C Explain how human activities may affect local, regional and national environments.</p> <p>4.8.10.C Analyze how human activities may cause changes in an ecosystem.</p> <p>4.8.4.D Know the importance of natural resources in daily life.</p> <p>4.8.7.D Explain the importance of maintaining the natural resources at the local, state and national levels.</p> <p>4.8.10.D Explain how the concept of supply and demand affects the environment.</p> <p>4.9 Environmental Laws and Regulations</p> <p>4.9.7.A Explain the role of environmental laws and regulations - explain the role of local and state agencies in enforcing environmental laws and regulations.</p>	<p>Civics and Government -Draft (on SAS)</p> <p>5.1. Principles and Documents of Government</p> <p>5.1.7.A Cite functional examples of how the rule of law protects property rights, individual rights and the common good.</p> <p>5.1.C.A Analyze the sources, purposes, functions of law, and how the rule of law protects individual rights and promotes the common good.</p> <p>5.1.12.A Analyze the sources, purposes, functions of law, and how the rule of law protects individual rights and promotes the common good.</p> <p>5.2. Rights and Responsibilities of Citizenship</p> <p>5.2.3.A Identify personal rights and responsibilities.</p> <p>5.2.4.A Identify individual rights and needs and the rights and needs of others in the classroom, school and community.</p> <p>5.2.5.A Identify individual rights and needs and the rights and needs of others in the classroom school, community state and nation.</p> <p>5.2.6.A Compare and contrast rights and responsibilities of citizenship in the community, state, and nation.</p> <p>5.2.7.A Compare and contrast rights and responsibilities of citizenship in the community, state and nation.</p> <p>5.2.8.A Summarize the role of citizens in terms of rights and responsibilities in different government systems.</p> <p>5.2.6.D Explain why participation in government and civic life is important.</p> <p>5.2.9.D Analyze citizens' roles in the political process toward the attainment of goals for individual and public good.</p> <p>5.2.U.D Evaluate and demonstrate what make competent and responsible citizens.</p> <p>5.3. How Government Works</p> <p>5.3.4.C Identify the services performed by local and state governments.</p> <p>5.3.5.C Describe the role of local and state government officials.</p> <p>5.3.6.G Identify individual interest groups and how they impact government.</p> <p>5.3.7.G Explain the role of interest groups in local and Pennsylvania governments.</p> <p>5.3.8.G Explain the role of interest groups in federal government process.</p> <p>5.3.C.B Analyze the roles of local, state and national governments in policy-making.</p>
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<p>5.4. How International Relationships Function</p> <p>5.4.8.C Explain how common problems are addressed by organizations and governments.</p> <p>Geography</p> <p>7.1. Basic Geographic Literacy</p> <p>7.1.7.A Explain how common geographic tools are used to organize and interpret information about people, places and environments.</p> <p>7.1.8.A Explain how common geographic tools are used to organize and interpret information about people, places and environments.</p> <p>7.1.6.B Describe and locate places and regions as defined by physical and human features.</p> <p>7.1.7.B Explain and locate places and regions as defined by physical and human features.</p> <p>7.1.8.B Explain and locate places and regions as defined by physical and human features.</p> <p>7.1.U.B Analyze the effects of human activity on the physical systems.</p> <p>7.2. Physical Characteristics of Places and Regions</p> <p>7.2.3.A Identify the physical characteristics of places and regions.</p> <p>7.2.4.A Identify the physical characteristics of places and regions.</p> <p>7.2.5.A Describe the physical characteristics of places and regions.</p> <p>7.2.6.A Describe the physical characteristics of places and regions.</p> <p>7.2.7.A Explain the characteristics of places and regions.</p> <p>7.2.8.A Explain the characteristics of places and regions.</p> <p>7.2.9.A Explain the physical characteristics of places and regions including spatial patterns of Earth's physical systems.</p> <p>7.2.U.A Analyze the physical characteristics of places and regions, including the interrelationships among the components of Earth's physical systems.</p> <p>7.4. Interactions Between People and the Environment</p> <p>7.4.3.B Identify the effect of people on the physical systems within a community.</p> <p>7.4.4.B Identify the effect of people on the physical systems within a community.</p> <p>7.4.5.B Identify the effect of people on the physical systems within a community.</p>	<p>7.4.6.B Describe and explain the effects of people on the physical systems within regions.</p> <p>7.4.7.B Describe and explain the effects of people on the physical systems within regions.</p> <p>7.4.8.B Interpret the effects of people on the physical systems within regions.</p> <p>7.4.9.B Compare and contrast the effect of people on the physical region across regions of the United States.</p> <p>7.4.U.A Analyze the effects of changes in the physical systems.</p> <p>7.4.U.B Analyze the effects of human activity on the physical systems.</p>	<p>English- Language Arts</p> <p>1.4 Writing</p> <p>CC.1.4.4.V Conduct short research projects that build knowledge about a topic.</p> <p>CC.1.4.5.V Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.</p> <p>1.5. Speaking and Listening</p> <p>CC.1.5.2.A Participate in collaborative conversations with peers and adults in small and larger groups.</p> <p>CC.1.5.3.A Engage effectively in a range of collaborative discussions on grade level topics and texts, building on others' ideas and expressing their own clearly.</p> <p>CC.1.5.4.A Engage effectively in a range of collaborative discussions, on grade-level topics, texts and issues, building on other's ideas and expressing their own clearly.</p> <p>CC.1.5.5.A Engage effectively in a range of collaborative discussions, on grade-level topics, texts and issues, building on others' ideas and expressing their own clearly.</p> <p>CC.1.5.6.A Engage effectively in a range of collaborative discussions, on grade-level topics, texts, and issues, building on others' ideas and expressing their own clearly.</p> <p>CC.1.5.7.A Engage effectively in a range of collaborative discussions, on grade-level topics, texts and issues, building on others' ideas and expressing their own clearly.</p> <p>CC.1.5.8.A Engage effectively in a range of collaborative discussions, on grade-level topics, texts and issues, building on others' ideas and expressing their own clearly.</p> <p>CC.1.5.9-10.A Initiate and participate effectively in a range of collaborative discussions on grade level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.</p> <p>CC.1.5.11-12.A Initiate and participate effectively in a range of collaborative discussions on grade level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.</p> <p>CC.1.5.6.C Interpret information presented to diverse media and formats and explain how it contributes to a topic, text or issue under study.</p>
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<p>CC.1.5.7.C Analyze the main ideas and supporting details presented in diverse media formats and explain how the ideas clarify a topic, text or issue under study.</p> <p>CC.1.5.4.D Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes, speak clearly with adequate volume, appropriate pacing and clear pronunciation.</p> <p>CC.1.5.5.D Report on a topic or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes, speak clearly with adequate volume, appropriate pacing and clear pronunciation.</p> <p>CC.1.5.6.D Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciations.</p> <p>CC.1.5.7.D Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciations.</p> <p>CC.1.5.8.D Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciations.</p> <p>CC.1.5.9-10.D Present information, findings and supporting evidence clearly, concisely and logically such that listeners can follow the line of reasoning, ensure that the presentation is appropriate to purpose, audience and task.</p> <p>CC.1.5.11-12.D Present information, findings and supporting evidence clearly, concisely and logically such that listeners can follow the line of reasoning, ensure that the presentation is appropriate to purpose, audience and task.</p> <p>CC.1.5.6.F Include multimedia components and visual displays in presentations to</p>	<p>clarify information.</p> <p>CC.1.5.7.F Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.</p> <p>CC.1.5.8.F Integrate multimedia and visual display into presentations to add interest, clarify information and strengthen claims and evidence.</p>	<p><u>Mathematics</u></p> <p>2.1 Numbers and Operations</p> <p>CC.2.1.7.B.1 Analyze proportional relationships and use them to model and solve real-world and mathematical problems.</p> <p>2.4 Measurement, Data and Probability</p> <p>CC.2.4.3.A.1 Solve problems involving measurement and estimation of temperature, liquid, volumes, mass and length.</p> <p>CC.2.4.5.A.2 Represent and interpret data using appropriate scale.</p> <p>CC.2.4.7.B.2 Draw informal comparative inferences about two populations.</p>
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