



LESSON OBJECTIVE

- Understand human impact of expansion and development on the environment

GRADES

- 8th

STANDARDS

- Science
- ELA
- Social Studies

TIME REQUIRED

- 60 min

VOCABULARY

- Exploitation of resources
- Conservation
- Industrial Revolution
- Dust Bowl

MATERIALS

- This worksheet

RECOMMENDED ASSESSMENT

- Assess students based on the quality of their arguments and their ability to engage with the other side of the issue.

Introduction

Students will study how the expansion of humans has resulted in the exploitation and displacement of wildlife. Students will then participate in a class discussion/debate about the pros and cons of continued expansion and development of wild lands.

State Standards

MS-ESS3-3: Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

8.3.9: Identify and interpret maps, graphs, and charts showing the distribution of natural resources such as forests, water sources, and wildlife in the United States at the beginning of the nineteenth century and give examples of how people exploited these resources as the country became more industrialized and people moved westward.

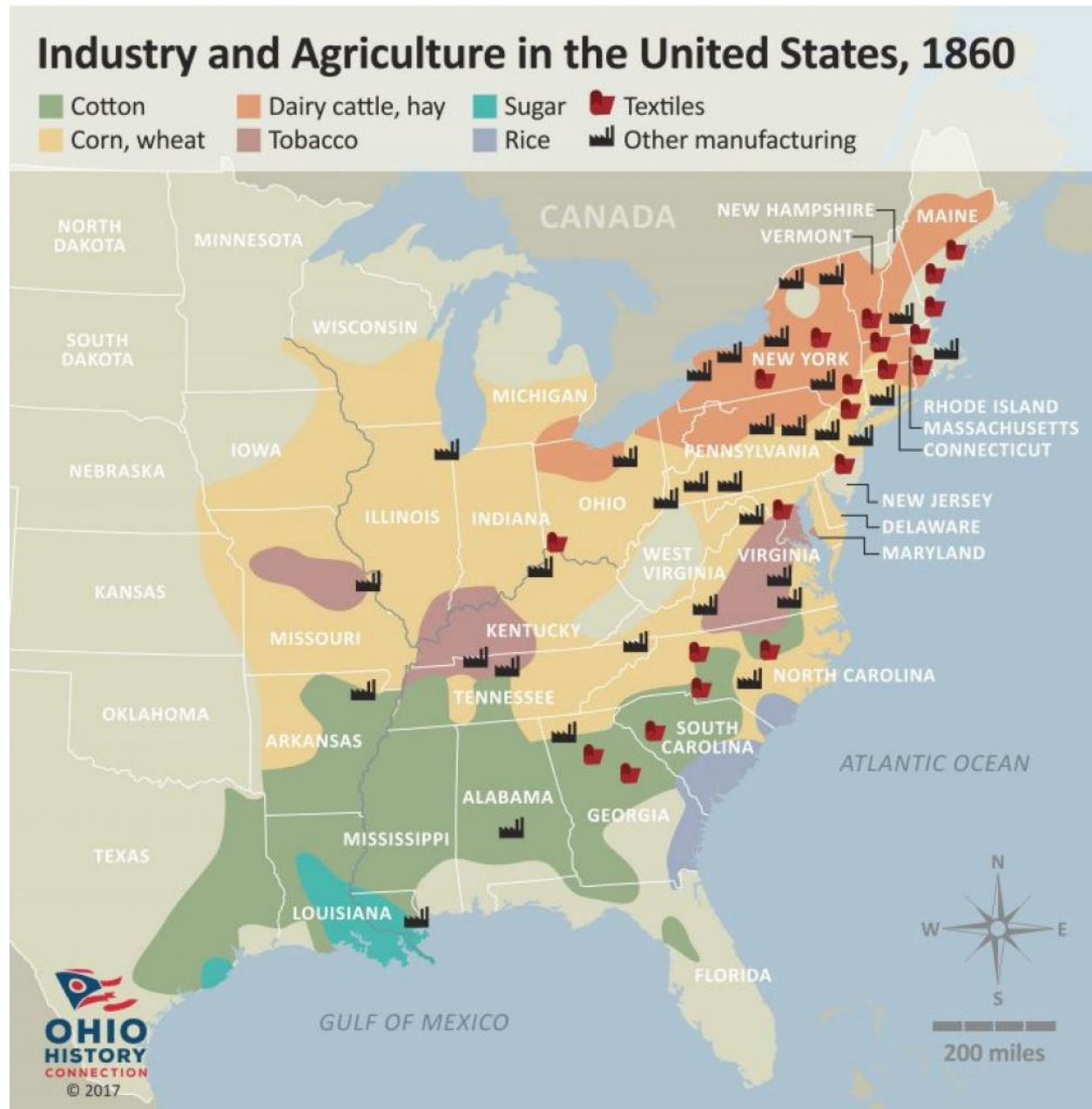
8.SL.2.1-5, 8.RN.3.3, 8.RN.4.1, 8.RN.4.3: Discussion and collaboration; reading and evaluating conflicting views/arguments

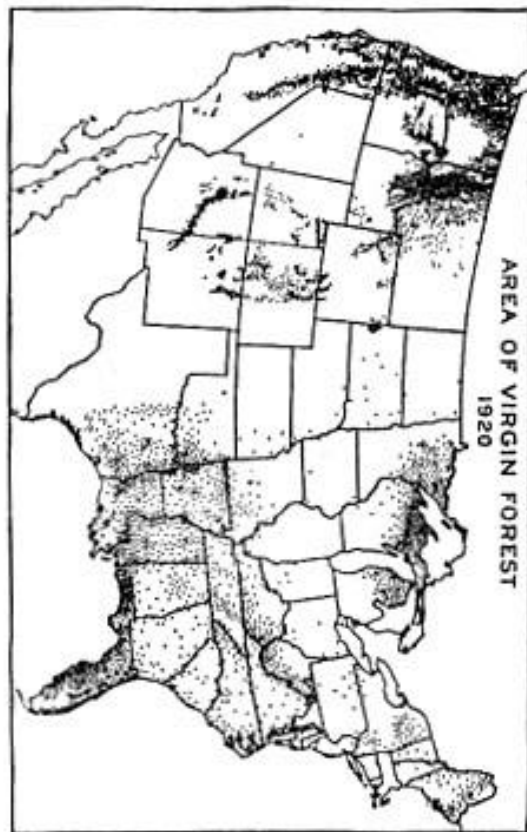
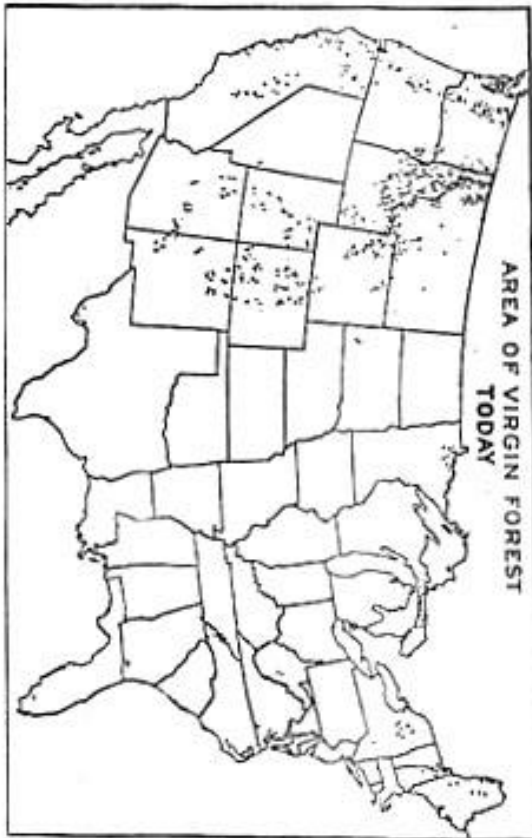
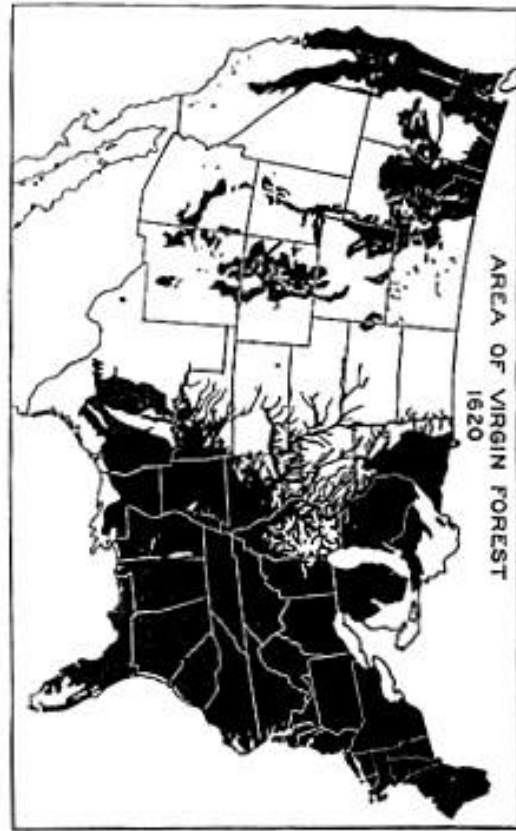
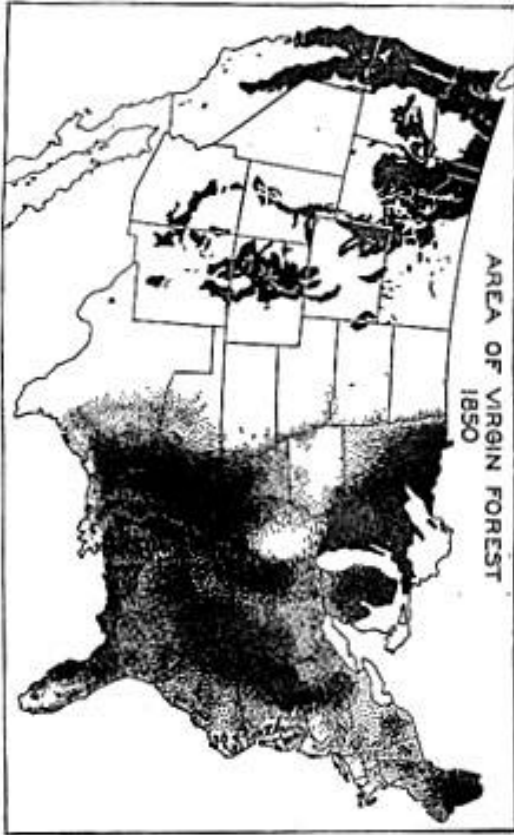
Lesson Plan

Background Knowledge –

- Industrial Revolution*: a period of mechanization and innovation that began in Great Britain during the mid-18th century and early 19th century.
- Exploitation (of resources)*: the action of making excessive use of a resource.
- Conservation*: prevention of wasteful use of a resource and preservation, protection, and restoration of the natural environment and of wildlife.
- Dust Bowl*: an area of land where vegetation has been lost and soil reduced to dust and eroded, especially as a consequence of drought or unsuitable farming practices.

The westward expansion of humans across the United States resulted in the *Dust Bowl*, a period of severe dust storms that greatly damaged the ecology and agriculture of the American prairies during the 1930s as a result of drought and poor farming methods established during the previous century. Many forests were cut down to make room for both agricultural and industrial expansion. Share these maps with your students to illustrate this development from a land covered in forests to one of industry:







Activity –

1. Divide your students into 6 teams. Assign each team one of the opinions stated below. Each team must come up with arguments to support the opinion that has been assigned to them. The students can then debate the issue they have researched.
2. Teams A1 and A2 should debate each other, Teams B1 and B2 should debate each other, and teams C1 and C2 should debate each other.

Post Activity –

The United States has been steadily adding back forests since the 1940s and according to the North American Forest Commission, we have about 70% of the trees that we had in the year 1600. Re-planting initiatives, stricter laws on harvesting timber, and the formation of groups aimed to protect habitats have all had a positive effect on helping to restore America's forestland and protect endangered and threatened species. Can the students come up with any specific examples of what organizations or individuals are doing to protect the environment? What are some things they can do as individuals? If students feel defeated by the scope of the problems we are facing, it might be helpful to remind students of the Dr. Seuss story of the Lorax wherein one creature was able to make a difference.

Discover Further

Extending the Lesson –

- Have students research how rebuilding forests and other natural animal habitats has helped animals and humans survive.
- Explore the idea of “forest bathing” (the practice of immersing yourself in nature in a mindful way, using all of your senses) and take your students on a trip out into nature and see if their ideas about environmental conservation change. The average American spends 93% of his or her time indoors. Numerous studies have shown that connection with nature increases feelings of calm and happiness. Give it a try!
- Pick one of the quotes on the last page and have a discussion about how the quote makes them feel.

Learn More –

The Fort Wayne Children's Zoo has several conservation partners that can be found on our website at <https://kidszoo.org/conservation/conservation-partners/>. The Help the Hellbender Project is taking place right here in Indiana, working to help keep our rivers and streams clean and raise populations of this native freshwater salamander. Because hellbenders breathe through their skin, they need clean water to live in. Planting trees to prevent erosion and helping prevent pollution into Indiana's waterways are some great ways to help Hellbenders thrive!

Name: _____

A1: Scientist

- “So many farmers cut down trees that the forest has no chance to grow back.”

A2: Farmer

- “To feed my family, I must cut down trees to grow crops like corn and wheat.”

B1: Citizen

- “There are no wildlife preserves or forests near me. I don’t need to care about them.”

B2: Doctor

- “Forest plants may hold a cure for cancer or other diseases. The forests must be saved so we can learn from them.”

C1: Ecologist

- “Forests should be preserved for future generations. Man has no right to destroy them completely.”

C2: Government Official

- “Laws protecting the environment are expensive to enforce. Our people need food, not trees.”



Extending the Lesson: Write one of these quotes on the board (or read it out loud) and have the students discuss the meaning or write a paragraph about what it means to them.

“Destroyed buildings can be rebuilt; destroyed works of art may possibly be replaced by new creations; but every animal and every flower which becomes extinct is lost forever in the most absolute of all deaths.”

- Joseph Wood Krutch

“In the end, we will conserve only what we love.
We will love only what we understand.
We will understand only what we are taught.”

- Baba Dioum

“The blame will lie with us if the world becomes empty of many of the lovable creatures who not only have the same right to live as ourselves, but who are of vital importance to the balance of nature.”

- Joy Adamson

“Earth provides enough to satisfy every man’s need, but not every man’s greed.”

- Mahatma Gandhi

“We do not inherit the earth from our ancestors, we borrow it from our children.”

- Native American Proverb

“Live in each season as it passes; breathe the air, drink the drink, taste the fruit, and resign yourself to the influence of each.”

- Henry David Thoreau

“You cannot get through a single day without having an impact on the world around you. What you do makes a difference, and you have to decide what kind of difference you want to make.”

- Jane Goodall