Freedom Seekers: The Underground Railroad, Great Lakes, and Science Literacy Activities
Middle School and High School Curriculum

“Joe, come look at de Falls! ... it's your last chance. Joe, you've shook de lion's paw!, You're free!”

--Harriet Tubman
Freedom Seekers Curriculum Committee

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The curriculum committee would like to extend our thanks and appreciation to everyone who contributed to this curriculum including article authors and reviewers. Thank you for helping us share the story of Freedom Seekers!
Contents of Lesson Series

Freedom Seekers Curriculum Committee 2

Contents of Lesson Series 3

Letter to Educators 4

Educator Resources 5

Underground Railroad Lessons 7

 Lesson 1 - Harriet Tubman--the unsung naturalist 9

 Lesson 2 - The Underground Railroad and Maritime Connections 19

 Lesson 3 - How to Conduct Historical Research 25

 Lesson 4 - Connecting Environmental Resources to Historically Rich Spaces 29

 Lesson 5 - Examining the Remains of the Cataract House 33

 Lesson 6 - Using US Census Data to Investigate the Underground Railroad 42

 Lesson 7 - Race and the US Census 53

 Lesson 8 - Native Americans and the Underground Railroad 59

Extension Activities Educator Resources 66

African American History and Science Extension Activities 67

 Activity 1 - U.S. Patent System and Black Inventors 68

 Activity 2 - Black Inventors Matter 74

 Activity 3 - Famous Black Scientists and You 79
Letter to Educators

Dear Educators,

Freedom Seekers were environmentalists who learned to navigate the land. Songs like “Wade in the Water” and “Follow the Drinking Gourd” remind us that history has always been connected to the land we occupy. These lessons acknowledge the enslaved Africans who were seeking freedom. This project is a part of a larger professional development effort to train educators to increase their knowledge of the Great Lakes and environmental issues while incorporating Environmental Justice Education (EJE) approaches to K-12 teaching. These approaches leverage cross-curricular connections that focus on increasing the awareness of local issues and history in the Great Lakes Region. EJE must be contextualized to ground concepts in a time and place relevant to learners. EJE considers the environment as any spaces the students may occupy, not just distal environments. These lessons introduce an innovative way students can engage in place-based learning, by developing their understanding of their local history with the Underground Railroad and the connection to the Great Lakes.

We hope you find this resource to be thoughtful and useful for connecting educational materials on the Underground Railroad, Great Lakes literacy, and science teaching. These activities are meant to be a launching point for students to continue to engage in robust, well-rounded conversations about the Great Lakes, an area with rich environmental resources and cultural history. These lessons were designed and assembled as a collaborative effort to share the interconnections humans have with the land. Educators should feel free to adjust this curriculum to their students’ needs and incorporate, whenever possible, trips to the localities embedded in the lessons. We understand that each classroom is approaching learning in new ways due to COVID-19 restrictions, but these lessons can be used as part of remote lessons, face-to-face, and anything in between. Small and large groups, turn-and-talks, and team approaches with cross disciplinary units are ideal for delivery of instruction and teachers can easily design grading rubrics for learning targets based on each lesson’s essential question.

In memory of Freedom Seekers,
The curriculum committee

*If you use the curriculum or have additional resources that you think should be included, please fill out this short evaluation.*

**DISCLAIMER:** You have permission to customize this curriculum for non-commercial, educational and personal use. This is a living document and will continue to be updated with new lessons and resources.
To help guide you and your students with this resource, we used *emojis* to help organize lessons in the document outline.

<table>
<thead>
<tr>
<th>Additional Teacher Resources for the lesson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Reading Prompt</td>
</tr>
<tr>
<td>Student Worksheet</td>
</tr>
</tbody>
</table>

Before completing any of these lessons or activities, we recommend you consult Niagara Falls Underground Railroad Heritage Center’s [Rethinking Underground Railroad Terminology Teacher’s Guide](#). This guide was developed to support classroom discussions related to the Underground Railroad. In addition to the resources listed in this section, we provided additional resources specific to the lessons and activities shared in the curriculum guide.

- In these videos, scholars, and historians explore the [Key Concepts of the Teaching Hard History](#) framework by discussing slavery’s impact on the lives of enslaved people in what is now the United States and the nation’s development around the institution. They also explain how enslaved people influenced the nation, its culture, and its history.
- [Abolitionist Teaching Network](#)
- [EcoInclusive](#) 2021 Black History Month Events
- [Michiganology’s Teaching the Underground Railroad](#) Supplementary Resources
- [RACE - The Power of an Illusion](#) | PBS
- [Diversity Resources in the Outdoors, Science, & Environmental Justice - NYS Dept. of Environmental Conservation](#)
- [Black Perspectives](#) (African American Intellectual History Society’s award-winning blog) launched a new interdisciplinary series, [#BlackEcologies](#), and will bring together work from various scholars in Black Studies about the enduring proximity between Black communities and environmental catastrophe, as well as Black peoples' efforts to resist ecocide intellectually, politically, and in practice
- [Flipgrid’s Black History Month Featured Collection](#) (please note that you will need to create a free account to access the resources)
- [The Underground Railroad](#) - National Geographic
  - The Underground Railroad in Indiana
- [Detroit and the Underground Railroad](#)
- [Eastern Michigan University: Importance of the Underground Railroad to American History](#)
Educator Resources (continued)

- StoryMaps & ArcGIS resources
  - How to get school access to ArcGIS & Arc StoryMaps for your classroom & school
  - PA Alliance for Geographic Education’s “A Teacher's Guide to ArcGIS Online”
  - Getting Started Path for Teachers
  - ArcGIS Educational Resources
  - New (in beta) ArcHub for teachers
  - StoryMaps Resources
Underground Railroad Lessons

In this lesson series, students can complete the 8 activities as stand-alone lessons or as a series.

Lesson 1 Harriet Tubman--the unsung naturalist
In this multipart lesson, students will read an article about Harriet Tubman that outlines how historical accounts described her as a naturalist. While students may have an understanding of Harriet Tubman and her contributions to the Underground Railroad, these lessons highlight environmental skills she possessed which are not often discussed, and decipher the language used in songs to direct Freedom Seekers through the natural landscapes. Finally, they will make the connection between the benefits wetland ecosystems provided Freedom Seekers in the past to the benefits they provide our communities today.

Lesson 2 The Underground Railroad & Maritime Connections
Students will read an article about how the Great Lakes were used as a passageway during the Underground Railroad. They will learn how Great Lakes vessels and waterways were used to help Freedom Seekers escape slavery.

Lesson 3 How to Conduct Historical Research
Through investigation using different sources, students will research ships and how freedom seekers may have used them. They will learn about how each ship was used. They will also explore what happened to the ship following its potential use in the Underground Railroad. This lesson includes place-based learning opportunities like developing media to increase local understanding of the Underground Railroad.

Lesson 4 Connecting Environmental Resources to Historically Rich Spaces
Students will think critically about balancing history, environment, and community needs when designing a local park after learning more about, and visiting, the historical site of Broderick Park in Buffalo, New York.

Lesson 5 Examining the Remains of the Cataract House
Applying the skills of inquiry (observation, analysis, problem-solving) to artifacts uncovered during the archeological excavation of the historic site of the Cataract House hotel in Niagara Falls, NY, students will learn the applications of scientific practices within historical contexts while understanding the decay of wetland ecosystems on living and nonliving things.
Lesson 6 Using US Census Data to Investigate the Underground Railroad
Students will access census data for Niagara County from the years 1850-1870. They will interpret the data accordingly and act as historians in developing an understanding of US census data. Reading charts and making inferences is a literary and scientific skill that students will leverage. Additional activities for the census can be found in Lesson 7.

Lesson 7 Race and the US Census
In this multi-part lesson, students will first learn about human diversity and the origins of race and then explore what the census has taught us about race.

Lesson 8 Native Americans and the Underground Railroad
Students will read an article about Michael, a young enslaved boy who fled his quarters and sought refuge with the Native people in his area. They will learn about how Native people helped Freedom Seekers along their journeys and reflect on how they themselves (the students) could have helped Freedom Seekers around the Great Lakes.
Lesson 1 - Harriet Tubman--the unsung naturalist

Essential Question: In what ways does Harriet Tubman exemplify the term interdisciplinary (involving two or more academic, scientific, and/or artistic disciplines)?

TEACHER RESOURCES

Here you will find background and additional resources to assist you in better leading this lesson:

- This lesson connects best to Great Lakes Literacy Principles:
  - (5) The Great Lakes support a broad diversity of life and ecosystems
  - (6) The Great Lakes and humans in their watersheds are inextricably interconnected
- How Pennsylvania became a safe haven for Harriet Tubman after she escaped slavery
- Follow the Drinking Gourd Lesson Plan
- StoryMaps & ArcGIS resources
  - Sample StoryMaps about Harriet Tubman & Underground Railroad
    - Harriet Tubman Underground Railroad Byway
    - Harriet Tubman Special Resource Study
    - National Park Service’s Women & Places in the Underground Railroad
    - Underground Railroad in New York City
    - African American Heritage Water Trail Story map in Illinois
- Introduction to wetlands video, “Types of Ecosystems - Wetlands: Marshes, Swamps, Bogs, and Fens” (2 minutes long)
- Wetlands Episode of Bill Nye the Science Guy- Season 3, Episode 17 (23 minutes long)
- Wetlands student reading from ReadWorks.org, 7th grade+ Wetlands & Habitat Loss
- Bound for the Promised Land: Harriet Tubman: Portrait of an American Hero
  By Katie Clifford Larson
- Harriet (2019) PG-13 | 2h 5min | Action, Biography, Drama | 1 November 2019
- Harriet Tubman: They called her Moses (2018) | Full Movie | Dr. Eric Lewis Williams
- Harriet Tubman Underground Railroad Animation
- Harriet Tubman Biographer Kate Clifford Larson Talks About the Abolitionist’s Deep Christian Faith and Upcoming Movie
Lesson 1 - Harriet Tubman--the unsung naturalist

Part A: Harriet

Essential Question: In what ways does Harriet Tubman exemplify the term *interdisciplinary* (involving two or more academic, scientific, and/or artistic disciplines)?

Name ______________________________  Date ______________________________

Instructions: For this activity, you will read a research article by Allison Keyes, a reporter with Audubon Magazine, published on February 25, 2020, titled “Harriet Tubman, an Unsung Naturalist, Used Owl Calls as a Signal on the Underground Railroad.” Allison shares her interviews with experts about Harriet Tubman and her knowledge of the environment. Read the following questions before you read the article so you can read purposefully. While you read the article, take notes to point out important information and questions you might have as you read. These can be helpful for quick reference when you respond to these questions afterwards. Be sure to take time to explore the embedded links to expand your understanding of Harriet Tubman as a naturalist.

1. How would you define a naturalist, in your own words?

2. What skills did Harriet Tubman have that would qualify her as a naturalist?
3. If Harriet Tubman were alive today, what additional skills might she need to assist Freedom Seekers?

4. Would you consider yourself a naturalist? Why or why not?

Lesson 1 - Harriet Tubman--the unsung naturalist

Part A: Harriet

Harriet Tubman, an Unsung Naturalist, Used Owl Calls as a Signal on the Underground Railroad

By Allison Keyes

Harriet Tubman, 1870s. Photo: Harvey Lindsley/Library of Congress

Many people are aware of Harriet Tubman's work on the Underground Railroad and as a scout, spy, guerrilla soldier, and nurse for the Union Army during the Civil War. Fewer know of her prowess as a naturalist. At the Harriet Tubman Underground Railroad State Park in Church Creek, Maryland, Ranger Angela Crenshaw calls Tubman “the ultimate outdoorswoman.” She even used bird calls to help guide her charges, eventually helping some 70 people, including her parents and four brothers, escape slavery.

"We know that she used the call of an owl to alert refugees and her freedom seekers that it was OK, or not OK, to come out of hiding and continue their journey," Crenshaw says. “It would have been the Barred Owl, or as it is sometimes called, a 'hoot-owl.' 'They make a sound that some people think sounds like ‘who cooks for you? Who cooks for you?’”

At the Harriet Tubman Underground Railroad State Park, Crenshaw likes to memorialize Tubman's connection to birds through verse. She’s memorized former U.S. poet laureate Robert Hayden's poem Runagate, Runagate, which mentions Tubman, and also the owls she mimicked with such accuracy.
Hoot-owl calling in the ghosted air,
Five times calling to the hants in the air,
Shadow of a face in the scary leaves,
Shadow of a voice in the talking leaves.

The source of the information included in the above quote comes to Crenshaw from the park’s historian, Kate Clifford Larson, author of the Tubman biography *Bound for the Promised Land*. “If you used the sound of an owl, it would blend in with the normal sounds you would hear at night. It wouldn’t create any suspicion,” Crenshaw says.

Harriet Tubman spent much of her young life in close contact with the natural world. Likely born in 1822, she grew up in an area full of wetlands, swamps, and upland forests, giving her the skills she used expertly in her own quest for freedom in 1849. Her parents were enslaved, and Tubman’s owners rented her out to neighbors as a domestic servant as early as age five. At seven, she was hired out again, and her duties included walking into wet marshes to check muskrat traps. Tubman also worked as a field hand, in timber fields with her father and brothers on the north side of the Blackwater River, and at wharves in the area. All of this helped when, later, **Tubman made 13 trips back to Maryland between 1850 and 1860 to guide people to freedom.** The abolitionist William Lloyd Garrison dubbed Tubman “Moses.”

“It was in those timber fields where she learned the skills necessary to be a successful conductor on the Underground Railroad,” Crenshaw explains, “including how to read the landscape, how to be comfortable in the woods, how to navigate and use the sounds that were natural in Dorchester County at the time.”

Being able to travel and navigate was paramount for people risking their lives for freedom, and that’s why it helped that Tubman was an astronomer, too, says Eola Dance, former coordinator for the National Park Service’s *Network to Freedom* program. Like other freedom seekers, Tubman used the North Star and the Big Dipper to orient herself.

“Tubman was leading family members as well as strangers from Maryland to Philadelphia, New York and as far as St. Catharine’s, Canada, by traveling at night, using science to find her way,” Dance says.
Wetlands along the Choptank River, Maryland. The Choptank and other waterways on Maryland's Eastern Shore played crucial roles in the Underground Railroad, both for transportation and as conduits of information.

Photo: Patrick Semansky/AP

Botany proved another necessary skill; people used plants for food and other survival needs. “Whether it was using certain plant life to quiet babies, or it could be relieving pain or cleaning wounds, this was the type of knowledge that Tubman had,” Dance says. Travelers along the Underground Railroad would have also looked for vegetables such as okra, tomatoes, collard greens, and trapped animals, such as muskrats, she notes.

Tubman’s natural expertise also helped her after her Underground Railroad days when she served in the Union Army, says Dance. She arrived at Fort Monroe, in Hampton Roads, Virginia, in 1861. Her experience with the waterways she crossed repeatedly while shepherding freedom seekers was essential again.

“If you’re thinking of traveling from Maryland through Pennsylvania, Tubman would have had to cross several rivers, creeks, and streams, and that would have been important not only directionally, but also something we don’t talk about as much: as in the way people were tracked,” Dance says. “Freedom seekers would have been tracked by dogs, and by traveling through the water and knowing these waterways, it would have aided them in throwing off their scent so that the dogs would not be able to find them.”

Combined, Harriet Tubman’s understanding of the human environment, surrounding landscapes, and wildlife prepared her for both the great and small tasks of the Underground Railroad and the Civil War. To Dance, what’s incredible is that Tubman began acquiring her expertise as a child while doing what she had to do to just survive. “We don’t really think about what knowledge and skills she had to have,” Dance says, “in order to accomplish the impossible.”

Special thank you to the National Audubon Society for granting permission to reprint for educational purposes. Direct link to the article: https://www.audubon.org/news/harriet-tubman-unsung-naturalist-used-owl-calls-signal-underground-railroad
Lesson 1 - Harriet Tubman--the unsung naturalist

Part B: Wade in the Water

Essential Question: In what ways does Harriet Tubman exemplify the term *interdisciplinary* (involving two or more academic, scientific, and/or artistic disciplines)?

Name ___________________________ Date ___________________________

Instructions: For this activity, you will read a passage about Harriet Tubman's use of song while navigating others through the Underground Railroad and interpret the lyrics for “Wade in the Water”. Before you read the passage, take a moment to read through these questions so that your reading is purposeful. While you read the passage make annotations to note important information and questions you might have as you read. These can be helpful for quick reference when you respond to these questions after reading and discussing the article. Be sure to take time to explore the embedded links to expand your knowledge of this important local story. You may listen to a rendition of “Wade in the Water” by Cornwall College Boys Choir: [https://youtu.be/WmDbZ1klszU](https://youtu.be/WmDbZ1klszU) (*Cornwall College is located in Montego Bay, Jamaica*).

1. What directions can you identify in the song?

   ___________________________

2. In listening to the song and using your prior knowledge, how do you think the water system assisted Freedom Seekers?

   ___________________________
Lesson 1 - Harriet Tubman--the unsung naturalist

Part B: Wade in the Water

Harriet Tubman was a woman said to be connected to nature and religion. She led many to freedom through her efforts in the Underground Railroad and abolition movement. Tubman was seen as a religious-like figure for those in bondage and was nicknamed ‘Moses’ (a Biblical leader who, in the 13th-century, led current Israelis from Egyptian slavery), because of her role in delivering Freedom Seekers from oppression. While some people claim Tubman used several spiritual hymns with geographical references, historians have verified that she used two songs, “Oh Hail Ye Happy Spirits” and “Go Down, Moses.” Historians have also verified that Tubman would “alter the words a bit or change the tempo as a signal to them that it was safe or not safe to come out” because “sometimes she would leave her refugees hiding somewhere while she went looking for food or help,” says Kate Clifford Larson, a Harriet Tubman Scholar. “Wade in the Water” has been attributed to Tubman likely because the song often contains references to the water. Freedom Seekers would need to pass through rivers in order to gain entry into the northern United States, and then into Canada; especially after the Fugitive Slave Act of 1850 made escaping more dangerous.

Wade in the Water Lyrics

Chorus:

Wade in the Water, wade in the water children.
Wade in the Water. God’s gonna trouble the water.

Verses:

Who are those children all dressed in Red?
God’s gonna trouble the water.
Must be the ones that Moses led.
God’s gonna trouble the water.
Chorus

Who are those children all dressed in White?
God’s gonna trouble the water.
Must be the ones of the Israelites.
God’s gonna trouble the water.
Chorus

Who are those children all dressed in Blue?
God’s gonna trouble the water.
Must be the ones that made it through.
God’s gonna trouble the water.
Lesson 1 - Harriet Tubman--the unsung naturalist

Part C: Freedom Seekers Journey Through Wetlands

Essential Question: In what ways does Harriet Tubman exemplify the term *interdisciplinary* (involving two or more academic, scientific, and/or artistic disciplines)?

Name ___________________________ Date ________________________

Instructions: For this activity you will read a passage about the Freedom Seekers Journey Through Wetlands. Before you read the passage, take a moment to read through these questions so that your reading is purposeful. While you read the passage make annotations to note important information and questions you might have as you read. These can be helpful for quick reference when you respond to these questions after reading and discussing the passage. Be sure to take time to explore the embedded links to expand your knowledge of this important local story.

1. Have you ever seen a wetland in person?  
   □ YES □ NO

   *If accessing via Google documents, right click on the box to change to a checkmark.*

2. If you have visited a wetland, what was that experience like? Describe where you were, what you saw, smelled, and what you felt.

3. Imagine you are navigating through a wetland. What would you look for to help guide you?


Lesson 1 - Harriet Tubman--the unsung naturalist

Part C: Freedom Seekers Journey Through Wetlands

Wetlands were once thought of as desolate wastelands by European settlers. A wetland, such as a swamp, marsh, bog, or fen, is an ecosystem that is flooded with water, either permanently or seasonally. Historically, many wetlands were drained and transformed into farmland. Wetlands that were too difficult to convert and develop were avoided and left wild. Freedom Seekers utilized wetland ecosystems while journeying on the Underground Railroad. They used wetland spaces and the natural resources they found there for protection, food, and hiding places. They knew the species of plants that grew there and which ones were edible. Knowledge of natural history also gave Freedom Seekers forms of navigation and communication. For example, Harriet Tubman knew and used owl calls to communicate with others at night. Knowledge of waterways informed the journey and many Freedom Seekers risked their lives to cross the Niagara River into Canada.

Today, wetland ecosystems provide our communities with important benefits, just as they benefited Freedom Seekers on their journey along the Underground Railroad. Wetlands improve water quality, prevent flooding and erosion, provide critical wildlife habitat to many plants and animals, and provide opportunities for people to enjoy and learn about the natural world. Unfortunately, the Niagara River Region has lost many wetlands since the 1800s. Wetlands have been drained and the land developed to make room for houses, malls, and farmland. It is important to protect the wetland ecosystems that remain in our communities today. To further your understanding of wetlands and habitat loss, you can read this article from Readworks.org. To view wetlands in Erie County, use this link and for Niagara County, use this link.
Lesson 2 - The Underground Railroad and Maritime Connections

**Essential Question:** How did local waterways enhance the Underground Railroad?

**TEACHER RESOURCES**

Here you will find background and additional resources to assist you in better leading this lesson:

- This lesson connects best to Great Lakes Literacy Principles
  - (6) The Great Lakes and humans in their watersheds are inextricably interconnected;
  - (7) Much remains to be learned about the Great Lakes;
  - (8) The Great Lakes are socially, economically, and environmentally significant to the region, the nation and the planet.

### VOCABULARY

**Source:** Merriam-Webster

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>archaeology</td>
<td>the scientific study of material remains (such as tools, pottery, jewelry, stone walls, and monuments) of past human life and activities</td>
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**NOTE:** Maritime archaeology focuses on the study of material remains related to the maritime world (e.g. items that humans may have left underwater/on the shore OR how humans may have used water resources in the past).

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<thead>
<tr>
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<tr>
<td>Great Lakes</td>
<td>chain of five lakes (Superior, Michigan, Huron, Erie, and Ontario) of central North America in the U.S. and Canada draining through the Saint Lawrence River into the Atlantic Ocean</td>
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<tr>
<td>lighthouse</td>
<td>a structure (such as a tower) with a powerful light that gives a continuous or intermittent signal to navigators</td>
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<tr>
<td>maritime</td>
<td>of, relating to, or bordering on the sea a maritime province; of or relating to navigation or commerce on the sea</td>
</tr>
<tr>
<td>port</td>
<td>a place where ships may ride secure from storms (a haven); a harbor town or city where ships may take on or discharge cargo</td>
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<tr>
<td>schooner</td>
<td>a typically 2-masted fore-and-aft rigged vessel with a foremast and a mainmast stepped nearly amidships</td>
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**NOTE:** This definition explains where the masts are located on the ship helping differentiate it from other vessels. The mast helps hold up sails, which use wind to move the ship. These masts are located in the middle of the ship (nearly amidships). There are many types of schooners. Learn more about schooners here.
<table>
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<tr>
<td>shipwreck</td>
<td>a wrecked ship or its parts; the destruction or loss of a ship</td>
</tr>
<tr>
<td>steamer</td>
<td>a ship propelled by steam; an engine, machine, or vehicle operated or propelled by steam</td>
</tr>
<tr>
<td>waterway</td>
<td>a way or channel for water; a navigable body of water</td>
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The Underground Railroad and Maritime Connections

**Essential Question:** How did local waterways enhance the Underground Railroad?

**Instructions:** For this activity, you will read a news article by Abigail Diaz, Director of Education & Public Programs at the Wisconsin Maritime Museum, published on July 2, 2020, titled *Great Lakes vessels helped free enslaved Africans on Underground Railroad*. Before you read the article, read through these questions so that your reading is purposeful. While you read the article, make annotations to point out important information and questions you might have as you read. These can be helpful for quick reference when you respond to these questions after reading.

1. How were vessels used in the Great Lakes by Freedom Seekers traveling the Underground Railroad?

2. What was the impact of the Fugitive Slave Law on Freedom Seekers? On abolitionists?

3. Which features (both natural and human-built) from the Great Lakes basin were used as part of the Underground Railroad? How were they used?
4. How do underwater and maritime archaeologists research how (and which) vessels were used by Freedom Seekers as part of the Underground Railroad?

The Underground Railroad and Maritime Connections

Great Lakes Vessels Helped Free Enslaved Africans on Underground Railroad

By Abigail Diaz, Wisconsin Maritime Museum

In 1843, a two-masted schooner was built in Sandusky, Ohio. Unbeknownst to its builder or Chicagoan owners, this vessel was fated to impact the Great Lakes maritime landscape for more than a century to come. Built to carry grain and lumber around the Great Lakes, Home soon took on a different role.

In the mid-1800s, Sandusky [Ohio] was a bustling port with ships coming and going often, heading to destinations throughout the U.S. and Canada; these maritime connections made the city an ideal place for an Underground Railroad hub. The Maritime Museum of Sandusky estimates that 30 to 50 enslaved people arrived in Sandusky daily.

Despite the passing of the Fugitive Slave Act in 1850, which made assisting enslaved people to freedom illegal, there were brave men and women, both white and Black, who continued to fight for the end of slavery. The captain of the schooner Home was one such man.

As an abolitionist, Captain James Nugent was active in the Underground Railroad. Though his activities aboard Home were never confirmed, various historical records tell of these daring escapades to sneak enslaved people across the border. His name is listed as an operator in "The Underground Railroad from Slavery to Freedom." In 1852, Captain Nugent's role as a conductor was documented when he aided freedom seekers from Detroit to Canada.

Captain Nugent wasn’t alone in his convictions. Many Wisconsinites felt compelled to help. Separated from Canada by the Great Lakes, schooners and steamers were used to expedite escape. Joshua Glover fled to Wisconsin in 1852. He was discovered and jailed in Milwaukee, but abolitionists broke down the doors to free him. After hiding in Waukesha, he boarded a steamer in Racine and lived out his life in Canada as a free man.

More than ships were involved in the maritime Underground Railroad. As freedom-seekers raced the border, they followed the waterways. Lighthouses, like the Grand River Light, were safe harbors for runaways.

The passenger steamers like Niagara, operated by General Charles Reed, were also known as a safe refuge for those seeking to escape slavery. Reed employed Black
people on his vessels, which enabled those escaping to pass for workers until they reached Canada. He would dock in Racine, Wisconsin, to pick up fugitives, allowing free passage north. Captain Appleby, using his vessel Sultana, was another famed abolitionist.

Though white citizens helped with the Underground Railroad, it was largely organized and operated by Black people, either free people living in the North or formerly enslaved people like Harriet Tubman. Joel Stone, in his book on passenger steamships, discusses notable examples from the Great Lakes region. George DeBaptiste, a free Black man in Detroit, was a leader of this movement. He purchased the steamer T. Whitney to better help move people to freedom. William Wells Brown was employed as a porter on various streamers and claims to have helped 69 runaways reach Canada.

According to research from **underwater archaeologists** Keith Meverden and Tamara Thomsen, Great Lakes vessels like Arrow, United States, Mayflower and Bay City were known to be involved in the Underground Railroad because they were caught. It’s almost impossible to know which vessels were involved in the network if they were successful. Today, we read through personal accounts of escapees and abolitionists to better understand the ways in which the Great Lakes maritime community aided enslaved people.

Of Wisconsin’s hundreds of shipwrecks, the *Home* isn’t the most famous or the best preserved. The schooner sank in Lake Michigan in 1858 after a collision and was unable to witness the Civil War and then the abolition of slavery. Though there are many instances and reminders of Wisconsin and the Great Lakes’ role in the Underground Railroad, we should consider the clues below the waves.

Today, the schooner *Home* sits in about 160 feet of water, preserved as a lasting legacy of those who fought injustice, despite the danger.

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*Special thank you to Abigail Diaz, Wisconsin Maritime Museum for granting permission to reprint for educational purposes. Direct link to the article:*

Lesson 3 - How to Conduct Historical Research

Adapted from the WI Maritime Museum Scavenger Hunt
and Monitor National Marine Sanctuary Abandon Ship! Lesson

Essential Question: How can research (primary and secondary sources), and media be used to develop an engaging narrative?

TEACHER RESOURCES

Here you will find background and additional resources to assist you in better leading this lesson:

- This lesson connects best to Great Lakes Literacy Principles
  - (6) The Great Lakes and humans in their watersheds are inextricably interconnected;
  - (7) Much remains to be learned about the Great Lakes;
  - (8) The Great Lakes are socially, economically, and environmentally significant to the region, the nation and the planet.

- This lesson can be implemented with students individually or in a group. Before implementing with students, it’s important to determine what resources students have access to and what documents will be developed as a result of their research. They could develop a social media campaign, news reports, or videos. If desired, you could also reach out to a community partner to assist with sharing the student-developed information with their networks. Students could also create resources to be shared with elementary and middle school classrooms in your school district.

- Smithsonian Guide: Engaging Students with Primary Sources

- For this lesson, we used APA to format the citations. Please feel free to use what best suits your classroom.
How to Conduct Historical Research

Adapted from the WI Maritime Museum Scavenger Hunt and Monitor National Marine Sanctuary Abandon Ship! Lesson

Essential Question: How can research (primary and secondary sources) and media be used to develop an engaging narrative?

STUDENT RESOURCE SHEET

Background: There is always something interesting to be uncovered from the past. Through investigation using different sources, you will research different ships and how freedom seekers may have used them as part of the Underground Railroad. You will also explore what happened to the ship following its potential use in the Underground Railroad. Some of these vessels did wreck and sink, and are now preserved as shipwrecks across the Great Lakes. Others may have been scrapped and taken apart as Great Lakes ships and sometimes changed over time. You will learn about all the things the ships were used for, such as transporting cargo.

Instructions: After researching freedom seekers and your Great Lakes ship, you are charged with sharing information about Great Lakes maritime connections to the Underground Railroad. Your goal is to tell the ship’s story through different communication mediums (like podcasts, blogs, story map, Facebook, Twitter, Jamboard, TikTok, narrated Google slides, YouTube, etc.). When developing your media, think about your target audience. Try to be as specific as possible with whom you are trying to reach.

Where to research

- Alpena County George N. Fletcher Public Library Great Lakes Maritime Collection
- Bowling Green State University Historical Collections of the Great Lakes
- Chronicling America Historic American Newspapers
- Maritime History of the Great Lakes
- Michigan Department of Natural Resources Shipwrecks Wep App
- National Archives
- National Park Service Archeology Program
- Thunder Bay National Marine Sanctuary Shipwrecks
- Wisconsin Maritime Museum Online Database
- Wisconsin Shipwrecks
- Historical Museums/Societies in your state/community

Potential Ships to Research

- Arrow
- Bay City
- Home
- Mayflower
- Niagara
- Sultana
- T. Whitney
Research Process:

1. Using different resources (internet, databases, books/newspapers (if accessible), oral histories, etc.), research your Great Lakes vessel.
   a. Use keywords to search for the vessel. Using “quotation marks” makes a search engine look for exact words or phrases.
   b. Sometimes it helps to search for the vessel name with the vessel type, or other key words - like “Home Schooner.” As you find out more information about the vessel, you can use additional search terms.
   c. As you learn about different Great Lakes vessels, what are your unanswered questions? Keep a list of questions for further research (or for this next step).
   d. If you have unanswered questions and want to connect with an expert directly, here is a list of Great Lakes archival collections. You can contact archivists telling them what you are researching (e.g. name of ship) and ask if they can help! Professional historical researchers reach out to archivists & librarians if they can't make it in person to a library or archive collection!

2. Create a concept map or a table to organize your research. Your research focus may include the following topics. Remember to cite your sources!
   a. Vessel type
   b. Construction
   c. Date Launched
   d. Builder
   e. Use in the Great Lakes (there may be multiple uses)
      i. Who was it used by?
         - How was it used?
   f. If applicable, date vessel sank, research for sinking, people onboard or any other related information
   g. If applicable, date vessel was decommissioned and/or deconstructed
   h. Any other information that might be of interest to your target audience

3. After learning more about the ship, shift your attention to the freedom seekers who may have been aboard. What information can you find about their journey and how they used the ship to transform their lives? Add this information to your concept map.
   a. It might be difficult to find information about the freedom seekers. If you struggle to find information, why do you think it is difficult to find research, artifacts, etc?
   b. Do you think all histories are recorded equitably?

4. Using your concept map and research, develop an outline for your blog post, social
media campaign, video, podcast, etc.

5. Develop your media. *If you are using a tool you are not familiar with to create the media, watching a tutorial video on YouTube can make it easier to use the tool!*
   a. After developing, it is a best practice to have your research/media peer reviewed. Share with a classmate asking them to review.

6. Share media with your target audience.

**Remember to Cite!** For this lesson, we used [APA formatting](https://www.apastyle.org) for our citations. There are lots of different styles that you can use for citations - you might be most familiar with [MLA formatting](https://www.mla.org). It’s important to remember to cite where you got your information to credit your source and avoid plagiarism.

**Types of Resources:**

<table>
<thead>
<tr>
<th></th>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meaning</strong></td>
<td>Source that contain raw, original, non-interpreted and unevaluated information</td>
<td>Source that digests, analyzes, evaluates and interprets the information contained within the primary sources. They tend to be argumentative.</td>
<td>Source that compiles, analyzes, and digests secondary sources. They tend to be factual.</td>
</tr>
<tr>
<td><strong>Timing of Publication</strong></td>
<td>Tend to come first in the publication cycle</td>
<td>Tend to come second in the publication cycle</td>
<td>Tend to come last in the publication cycle</td>
</tr>
<tr>
<td><strong>Formats</strong></td>
<td>Often newspapers, diaries, letters, blueprints and oral histories</td>
<td>Often scholarly periodicals and books</td>
<td>Often reference books</td>
</tr>
<tr>
<td><strong>Example Sources that Might be Used by Historians and Maritime Archaeologists</strong></td>
<td>Vessel registries, insurance documents, log books, diaries, letters, enrollments, newspapers, oral histories, ship blueprints, wreck reports, biographies, interview, poetry, short stories, photographs, lithographs, paintings, lifesaving station logs</td>
<td>Articles in scholarly journals, such as the Society for Historical Archaeology, or the International Journal of Nautical Archaeology, published books, criticism and interpretation, history, government policy, law and legislation, political aspects, public opinion, religious aspects, social policy</td>
<td>A glossary for maritime archaeologists, atlas of the world’s submerged sites, abstracts, bibliographies, chronologies, dictionaries, encyclopedias, guidebooks, handbooks, registers, statistics, tables, index</td>
</tr>
</tbody>
</table>

Lesson 4 - Connecting Environmental Resources to Historically Rich Spaces

Essential Question: How can public spaces be designed to honor the environmental, historic, and social needs of citizens, plants, and wildlife?

TEACHER RESOURCES

Here you will find background and additional resources to assist you in better leading this lesson:

- This lesson connects best to Great Lakes Literacy Principles
  - (1) The Great Lakes, bodies of fresh water with many features, are connected to each other and to the world ocean.
  - (5) The Great Lakes support a broad diversity of life and ecosystems.
  - (6) The Great Lakes and humans in their watersheds are inextricably interconnected;
  - (8) The Great Lakes are socially, economically, and environmentally significant to the region, the nation and the planet.


- Learn more about the Niagara River Globally Significant Important Bird Area: [http://www.friendsoftimesbeachnp.org/niagara-river-corridor-globally-significant-important-bird-area.html](http://www.friendsoftimesbeachnp.org/niagara-river-corridor-globally-significant-important-bird-area.html)

- Learn more about the Network to Freedom sites through the United States National Park Service: [https://www.nps.gov/subjects/undergroundrailroad/explore-ugrr-sites.ht](https://www.nps.gov/subjects/undergroundrailroad/explore-ugrr-sites.ht)
Connecting Environmental Resources to Historically Rich Spaces

Essential Question: How can public spaces be designed to honor the environmental, historic, and social needs of citizens, plants, and wildlife?

STUDENT RESOURCE SHEET

Background: Broderick Park is located in Buffalo, New York on the shores of the Niagara River and is adjacent to critically important wetland habitats. The Niagara River corridor is recognized as a RAMSAR Wetland of International Importance because of its unique coastal fish and wildlife habitat that supports numerous rare and threatened ecological communities. Also, because of its importance to bird species like Bonaparte’s gulls, Herring gulls, and Canvasback ducks, the Niagara River is a part of a globally significant Important Bird Area.

In addition to its environmental significance, Broderick Park is listed as a designated Network to Freedom site by the United States National Parks Service. The park land is recognized by historians as the historic terminus of the Underground Railroad connecting the United States and Canada. The park is located at the foot of Ferry Street on the Niagara River and a plaque in the park pays tribute to the men and women who crossed the water from that point to freedom in Canada.

Broderick Park is an extremely important environmental and cultural resource. Its location along the Niagara River means that what happens at the park impacts the water quality of the Great Lakes—which is the source of 20% of the world’s fresh surface water. Broderick Park is also the site that many Freedom Seekers visited in their journey North. Today, the park is a popular location for fisherman, walkers, and bicyclists.
An aerial view of the Niagara River. The Niagara River connects two of the Great Lakes; Lake Erie and Lake Ontario.

An aerial view of Broderick Park. The green tree symbol marks the location of the park. On the left side of this photograph is Canada. On the right side is the United States.

A view of the Niagara River from Broderick Park. Photo credit: Buffalo Niagara Waterkeeper
Instructions: Imagine you are a member of a consultant team that specializes in designing parks. Buffalo Niagara Waterkeeper, a local non-profit organization dedicated to protecting water and surrounding ecosystems, asks for your team’s help in planning for improvements at Broderick Park. After reading this webpage and following deep discussions with your team, list specific improvements you and your team would suggest for the city of Buffalo to incorporate in the design of the park that meet the needs of the environment and the community, while honoring its historical significance. Feel free to include a sketch of your team’s design.
Lesson 5 - Examining the Remains of the Cataract House

**Essential Question:** How do artifacts help us understand the past and influence our future?

**TEACHER RESOURCES**

Here you will find background and additional resources to assist you in better leading this lesson:

- 🌊 This lesson connects best to Great Lakes Literacy Principle
  - (8) The Great Lakes are socially, economically, and environmentally significant to the region, the nation and the planet.
- Society for American Archaeology for educators
- Archaeology in New York State
- New York State Museum
- Questioning Artifacts Lessons from Alcatraz
- In regards to question 3, Christine Bacon, Interim Director of Education at the Niagara Falls Underground Railroad Heritage Center, states “The reality is that the excavation did not reveal many artifacts other than construction rubble. The UB Archeological Survey is hoping to receive grant funding to continue another round of excavation work with a goal of uncovering more, or at the very least, to determine the precise footprint of the hotel.”
Examining the Remains of the Cataract House

Essential Question: How do artifacts help us understand the past and influence our future?

Name ___________________________ Date ______________________

Instructions: For this activity you will read a newspaper article by Anne Neville, a reporter with The Buffalo News, published on September 6, 2017, titled Dig aims to unearth Underground Railroad’s daring history at old Cataract House site. Before you read the article, take a moment to read through these questions so that your reading is purposeful. While you read the article make annotations to note important information and questions you might have as you read. These can be helpful for quick reference when you respond to these questions after reading and discussing the article. Be sure to take time to explore the embedded links to expand your knowledge of this important local story.

1. Why was the Cataract House hotel important in the Underground Railroad Movement?

2. Why was Niagara Falls, NY an important location for the Underground Railroad?

3. What kind of artifacts do you think the archeologists found?
4. Do you think it is important for Niagara Falls to build a memorial for the Cataract House hotel after fire destroyed the building? Why or why not? To date, there is no memorial, but local partners are working on it.

Bill Bradberry sits in the quiet gazebo at Heritage Park, under the eye of the Turtle building, and casts his mind back in time.

In his imagination, it's 1850 or so. Directly in front of him is the railroad stop that brings visitors to Niagara Falls, many of them to the impressive, modern Cataract House, just steps away. Some of the visitors come from slave states; some have brought enslaved people with them as their servants.

As they descend from the train amid the hubub, those enslaved people would be keenly aware that right across that boiling river, within sight, is freedom.

They will soon learn that help is available inside the Cataract House, from brave, daring allies.

Among the intelligent and impeccably dressed corps of African-American waiters, who practice a showy, precision drill to serve guests their meals, there are many who were born in slave states. Some openly support abolitionist causes; most, if not all, have
turned out when needed to physically thwart those who are trying to abduct people seeking freedom.

Fast forward nearly 100 years to 1945, when a smoky, slow-moving fire destroyed the Cataract House. As was the practice, the charred ruins of the building were bulldozed into the basement and covered with dirt.

The glorious history of the Cataract House, of which the most shining example was that corps of courageous waiters, was all but forgotten as the city brushed aside its storied past to embrace the uncertain future of urban renewal.

Starting this month, that bright past will be brought to light again. Students and archaeologists from the Archaeology Survey of the University at Buffalo will dig into the former footprint of the Cataract House, searching for artifacts of the city's significant and inspiring Underground Railroad history.

And fittingly, the spot in Heritage Park where the shovels will enter the dirt is believed to be where the kitchens once stood, where the waiters practiced their meticulous meal service and also worked as a team to help enslaved people flee to freedom.

For Bradberry, chairman and president of the Niagara Falls Underground Railroad Heritage Commission, this dig is a tangible symbol of the new interest in history and heritage. For him, it's been a never-forgotten link and a lifelong passion. "I think of myself as a child of the Underground Railroad," he said. "And finally some resources have become available to implement ideas that have been fermenting for decades."

"The history of this site has been documented because of the work historians have done over the years," said Karolyn Smardz Frost, an adjunct professor of History and Classics at Acadia University in Nova Scotia and senior research fellow for African Canadian History at York University's Harriet Tubman Institute in Toronto. HarperCollins Canada has just published Frost's *Steal Away Home*, a narrative non-fiction biography of Cecelia Jane Reynolds, an enslaved woman who was brought from her home in Kentucky to the Cataract House in 1847 and escaped to freedom across the river.

The hotel opened in 1825 in a three-story building, operated by Parkhurst Whitney and later by his son and sons-in-law until the family sold it in the late 1800s.

Sitting in the gazebo in Heritage Park, across from the Red Coach Inn at 2 Buffalo Ave., Frost looked toward the vacant Turtle, the lawn and flowerbeds of the park, and the buildings and streets behind it. But she was clearly seeing the landscape of 150 years
ago, pointing out where wings of the Cataract House had been built through the years, and where other important homes and hotels once stood.

Frost, a historical archaeologist, and historian Judith Wellman, director of Historical New York Research Associates and a professor emerita from SUNY Oswego, worked together on the historical documentation to demonstrate the significance of the area, which was the first step leading to the archaeological dig.

The historical work established the physical location of the long-gone hotel so the archaeological team led by Douglas J. Perrelli, director of the Archaeological Survey and a Clinical Assistant Professor of Anthropology at the University at Buffalo "would know where to put the shovels in the ground," said Wellman.

They are working with Ally Spongr, director and curator of the Niagara Falls Underground Railroad Heritage Center, which is scheduled to open in March on the second floor of the 1863 Custom House on Whirlpool Street. Also participating in the project is Christine Bacon, the program and interpretation specialist for the Niagara Falls Underground Railroad Heritage Commission and the Niagara Falls National Heritage Area.

Bradberry has a long list of people, agencies and organizations that have supported the city's Underground Railroad work, ranging from Niagara University to the City of Niagara Falls and the New York State Office of Parks, Recreation and Historic Preservation.

"This is an unbelievably positive team that is larger than even the sum of its parts," said Frost. "We are all tuned into this historical matrix in our minds."

Perrelli calls the two 3-foot by 6-foot holes to be dug this month "test excavations." He said, "We are going to open up those two near each other on a former exterior wall of the Cataract House and see what we get."

Archaeologists will be on site every Friday and Saturday in September and October, so, Perrelli said, "we do a weekday where school groups can come out, and a weekend day where there is a different atmosphere in Niagara Falls."

But even when the archaeologists are not on site, the project will be informative. In addition to free "Digging for History" pamphlets prepared for visitors by the Niagara Falls Underground Railroad Heritage Area, Perrelli says up to 10 2-by-3-foot fact-filled posters will be placed on the secure fence around the dig will educate passers-by about the significance of the history that was made on that spot.
The plan is to supplement what Perrelli calls "a barrage of educational outreach information in the form of posters" with a dedicated shelter in the park, so visitors may sit in the shade, read the materials offered, and take in the events that happened on this significant place.

Perrelli and his students and other archaeology professionals will collect any artifacts found on the site and bring them to UB, where they will be cleaned of any contaminants, examined and catalogued. The next week, they will be returned to the site, where they can be examined by visitors.

"The beauty of archaeology is the wonderment of actually handling an object of material culture that hasn't seen the light of day in decades, or centuries, or in some cases, millennia," Perrelli said. "Here we have a situation where the significance and context of the Cataract House is undeniable, and very heavy, in a research context -- slavery, the Underground Railroad, people seeking freedom. It's going to be great to actually do the digging, produce the material and allow people to experience it in a research context."

Although community oral history and the occasional newspaper story preserved memory of the Underground Railroad efforts in Niagara Falls, Wellman drew from letters, documents, ledgers, newspaper reports and census returns to craft a well researched article in 2011 that clearly identifies not only the city's significance, but that of the Cataract House and its waiters.

Wellman's digging proved that the African-American waiters at the Cataract House covertly encouraged and assisted people seeking freedom, publicly supported abolitionist causes and more than once worked together to physically prevent enslaved people from being taken away by their owners.

"We were all just amazed," Wellman said, to find the amount of historic evidence linking the Cataract House waiters with abolitionist causes and the Underground Railroad. In 1846, John Morrison, an African American who was the head waiter at the Cataract House, joined African American Falls residents Charles Patterson and John M. Anderson in making donations to the National Anti-Slavery Standard, an abolitionist newspaper.

In 1856, the Niagara Falls Gazette reported that Morison's friends presented him with a gold-headed cane on the occasion of the end of slavery in the British West Indies. Then, in 1859, Morrison told his own story of ferrying enslaved people across the river to Canada. Wellman calls Morrison "a very important figure in the Underground Railroad."
Wellman's paper gives two reasons for the importance of Niagara Falls and the Cataract House on the Underground Railroad. The city was "located at the convergence of road and rail lines that reached all over the U.S. and Canada, bringing people to one of the narrowest international crossing points in the entire Great Lakes region," she wrote.

But the geographic advantage was supplemented by the waiters, who, Wellman wrote, "formed a well-organized, long-term and proactive network of Underground Railroad supporters, with wide contacts on both sides of the border."

Although the case of Cecelia Reynolds and another enslaved woman, Nancy Berry, who fled to freedom in the mid-1850s, are well-documented, historians believe many more were shepherded to freedom from the Cataract House. In 1859, Cataract House guest Rachel Smith, of Lancaster County, Pa., spoke with John Morrison, who told her that many fleeing people who reached him mentioned the assistance of her father, Joseph. During the two nights Rachel Smith stayed at the Cataract House, Morrison "ferried some across the river," she wrote.

The New Orleans Times Picayune once carried this notice: "The proprietors of the Cataract House keep in their employ, as servants, a set of free negroes, many of whom have wives and relatives in Canada, and they have an organized plan of taking off all slaves that come to the house. The Messrs. Whitney keep these fellows in their employ, knowing them to be engaged in this business, therefore it behooves all Southern people traveling North to avoid the Cataract House at the Falls of Niagara."

The fire and later bulldozing of the wreckage into the basement was both good and bad, Perrelli said. From the perspective of excavating the site, he said, "it's awful, it's terrible, it's the worst scenario." However, "It's nice to know where it is, that it's still there, and it increases our chances of finding something, but it's going to make the architectural debris and the rubble sort of outweigh the little bits of material culture that we hope to find."

This dig can only go down about 5 feet, but Perrelli hopes that more may be done in the future."Some of the lower levels may be the most interesting," he said, including unsubstantiated reports that the Cataract House was built with slave quarters in the basement.

And then there is the once-thriving neighborhood, including possible cabins and shacks where the Cataract House workers lived. "What if there are little cabins there?" he asked, especially with outhouses and privies, where people disposed of broken and unwanted household items. "They might be the gold mines of material culture."
Perrelli said, "Bill Bradberry says, 'I just want to hold in my hand a spoon that I know that a waiter put down on somebody's table.' And that is powerful, and I expect to find it. I think we will if we can get through the architectural debris into the personal items and the smaller bits of history that are almost certainly going to be there."

As the group explores the past, they also imagine a future for the city where its importance on the Underground Railroad is understood, with the waiters of the Cataract House getting the proper recognition and respect.

"This reminds people that Niagara Falls is a world-class site. This is a story with national and international significance," said Wellman.

Wellman has also researched the importance of history and heritage in luring visitors. "Recent studies suggest that 70-some percent of tourists visit a cultural or historic site on their vacations, and those who visit a cultural or historic site tend to stay longer and to spend more," she said.

"The future of the City of Niagara Falls is dependent on its history," said Bradberry. And, as bees buzzed through the clumps of coneflowers surrounding the gazebo and tourists walked across the grass of the park without the slightest inkling of what once happened there, he shook his head at the anonymity of the empty, peaceful site that once teemed with such intrigue and danger.

"The irony," he said, gesturing toward the rapids, "is that this spot where we are sitting is more important historically in this city than anything besides that cliff."

Special thank you to Anne Neville for granting permission to reprint for educational purposes. Direct link to the article: https://buffalonews.com/2017/09/06/freedoms-history-daring-intrigue-old-cataract-house-site/
Lesson 6 - Using US Census Data to Investigate the Underground Railroad

Essential Question: How does US Census data inform and shape our society?

TEACHER RESOURCES
Here you will find background and additional resources to assist you in better leading this lesson:

- This lesson connects best to Great Lakes Literacy Principles
  - (8) The Great Lakes are socially, economically, and environmentally significant to the region, the nation and the planet.
- The US Census website has a lot of visualizations of the data collected and inferences made from the data.
- Niagara Falls Underground Railroad Heritage Center
  - The quote from question 11 can be found here, on page 13.
- Teachers Guide to Data Access Tools for Students
- Educators/2020 Census
- Teacher Interview/ Using the Census Data in Your Classroom
- Assessing Miscounts in the 2020 Census Urban Institute
- Exploring a Common Past: Researching and Interpreting the Underground Railroad
- Identifying Resources: Underground Railroad - This site provides information on researching the Underground Railroad, although it focuses on conducting research about activities in Indiana, it can be applied to New York State, or any other state for that matter.
Using US Census Data to Investigate the Underground Railroad

Essential Question: How does US Census data inform and shape our society?

Name
Date

Instructions: This activity has two sections: Part 1 will help you explore the US Census and population growth rates and Part 2 will show how older Census data from the 1800s was used by the Niagara Falls Underground Railroad Heritage Center to assist in understanding the people from that time in Niagara County in New York State.

Part 1: For this activity, you will learn about the United States Census. The US Census has many uses and has changed over time. It can be used to estimate the population growth which is important for understanding whether a city is growing, which then impacts services and municipal features, such as the quantity of schools, fire houses, and social services like doctors’ offices, to support the community.

Respond to the following questions:


2. The Census is conducted every ten years, most recently in 2020. How many times have you been counted in the US Census? And how old were you during each US Census?

<table>
<thead>
<tr>
<th>Tally of times I have been included in a US Census</th>
<th>Years included and my age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How to Calculate Growth Rate

3. The population of the United States changes on a continual basis. Knowing this rate of change is important to local, state, and federal government and private businesses. The population increase or decrease in an area can help a company decide where it wishes to locate its office, based on the potential number of customers and employees. The trends could indicate the area is an expanding market, or a declining one, both valuable pieces of information.

<table>
<thead>
<tr>
<th>NEW YORK STATE HISTORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Statehood</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>US Census Population Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800</td>
<td>589,051</td>
</tr>
<tr>
<td>1850</td>
<td>3,097,394</td>
</tr>
<tr>
<td>1900</td>
<td>7,268,894</td>
</tr>
<tr>
<td>1950</td>
<td>14,830,192</td>
</tr>
<tr>
<td>2000</td>
<td>18,976,457</td>
</tr>
<tr>
<td>2010</td>
<td>19,378,102</td>
</tr>
</tbody>
</table>

a. Looking at the above US Census data from New York State over time, is the population increasing or decreasing?

b. If you were a local entrepreneur, when would you have started a business in New York State and what would your business model look like?
4. We will explore the growth rate for New York State based on US Census data. To calculate growth rate, determine the years you want to compare. This could be the population growth rate from one year to another, or you might want to determine what the increase or decrease was over a longer span of time, such as 10 or even 50 years. **As an example, let’s calculate the population change from 1900 to 1950 for New York State.**

Determine the population in the starting year for your population growth rate comparison. The U.S. Census Bureau has a website with information to help you find these numbers for the location you are comparing (see link to US Census for New York State [https://www.census.gov/schools/facts/new%20york](https://www.census.gov/schools/facts/new%20york)). The starting population in New York, for the year **1900**, according to the U.S. Census Bureau website, was **7,268,894**.

Determine the population for the ending date for the area. Once again, this can be found at the U.S. Census Bureau's website. The population in New York State in **1950**, according to the U.S. Census Bureau website, was **14,830,192**.

**Subtract the population from your starting date from the population from your ending date.** This will tell you how much the population has changed. A positive number indicates the population has grown, and a negative one indicates the population has dropped in that time frame. Take 14,830,192 (NYS population for 1950) and subtract 7,268,894 (NYS population for 1900). This gives you a positive change in population of 7,561,298 people.

In our example, **divide the population change of 7,561,298 by the starting population of 7,268,894**. This gives you a decimal answer of 1.04. Multiply this decimal by 100, and you have a positive population rate growth from 1900 to 1950 in New York State of **104%** percent. This means the population has increased over 100% of the previous population so a lot of people were moving into New York State.

\[
\text{Population Growth Rate} = \left( \frac{(\text{Ending Population}) - (\text{Starting Population})}{(\text{Starting Population})} \right) \times 100
\]
a. Based on your knowledge of the state and US history, what cities do you think people were moving to in New York State in the 1950s? What might have drawn people to these cities?

b. Your turn to calculate: what is the population growth rate from 1800 to 1850 (use the data in the chart above).

5. Based on previous years, do you think the 2020 Census will show an increase or decrease in population?

**Part 2:** Now that you have more of an understanding of what the US Census is, this data can be very helpful for understanding US populations. However, it is not always straightforward and has changed over time. We will use some historical US Census data and practice making inferences about what historians in Niagara County, NY, used to assist them in understanding the area when designing the Underground Railroad Heritage Center.

**We will use the Federal and State Census Index of African Americans in Niagara County, 1850-1880.** This database represents the results of a search of US Census
records from 1850, 1855, 1860, 1865, 1870, 1875, and 1880 to identify the names of African Americans who settled in Niagara County. The purpose of this research was to attempt to identify individuals associated with the Underground Railroad in Niagara County, including people who may have escaped from slavery during the mid-nineteenth century. We will only be exploring data where people were identified as being African American, which was noted as being Colored. The US Census was collected by hand and in person, unlike today where we can complete forms online.

You will look at actual data from the 1800s and imagine you are one of the historians on the team, tasked with sharing what you have learned about different African Americans. Under the color column, (B) stands for Black and (M) stands for Mixed Race.


1. What observations can you make from this excerpt from the 1850-1880 US Census data about African Americans in Niagara County?

2. Go to the entry for George Allen in the data table. What was Mr. Allen’s occupation?

3. What are your thoughts about the type and variety of occupations African Americans had between 1850 and 1880?
4. Do you believe Geo Allen is the same person as George Allen? Reflect on whether differences in the listed birthplaces mean that it may be a different person.

5. Look at the entry below for M. Allen, Mahitable Allen, Mehetabel, Mehitalle(?) Allen. Do you believe she is the wife of George Allen? Why or why not?

6. Which name do you think was actually hers? Why do you think this?

7. Do you think Melifor Allen was the child of George Allen? Why or why not?
8. Select someone else from the table and record their name.

9. What can you tell us about the person you selected?

10. What were some challenges you had with interpreting the data?

11. Consider this statement from the Underground Railroad Heritage Center (pg 13):

“The census in 1850 was taken in early September. All African American residents of Niagara Falls and northern states in general, whether born free or enslaved, lived under the threat of deportation to slavery as a result of the Fugitive Slave Law passed on September 18, 1850. Knowing fugitive slave legislation was imminent, how accurately did people report their places of birth? …”

a. After reading this statement, do you think African Americans accurately shared their place of birth, why or why not?
b. What would be potential consequences of their actions?

Another strategy that Black people used in an attempt to improve their quality of life was **passing**. Those with lighter complexions attempted to ‘pass’ as white. This often meant that in order for them to be successful, they relocated, and stopped all communications with family and friends. In fact, there are instances on the U.S Census where these same individuals would indicate that they were indeed ‘white’, so that their real identities would not be discovered. This gives us an indication of 1) how terrible Black people were treated if some were willing to go to such lengths, and 2) how much these people must have suffered from being completely separated from their loved ones and those they had been around their whole lives to that point.

c. Considering what you learned in Question 11, what do you think influences data collection?
12. Take a look at these projections for the 2020 US Census from a report by the Urban Institute. What do you notice? What do you wonder?

This report highlights findings from our 2020 Census count assessments nationally as well as for different population subgroups and states under low-, medium-, and high-risk scenarios. Key findings include the following:

- The overall accuracy of the national population count in 2020 could range from an undercount of 0.27 percent in the low-risk scenario to an undercount of 1.22 percent in the high-risk scenario. While these percentages may seem small, considering the overall US population, between nearly 900,000 and over 4 million people could be missed.

- If the 2020 performance of the census mirrored that of 2010, the national population could be undercounted by 0.27 percent because of demographic changes over the last decade.

- If the 2020 Census performs as the US Census Bureau expects, the national population could be undercounted by 0.84 percent.

- Some states may be more at risk for miscounts. For example, California has projected 2020 undercounts that could range from 0.95 to 1.49 to 1.98 percent by risk scenario (low, medium, and high risk, respectively).

- The miscounts may disproportionately affect some groups more than others. Black and Hispanic/Latinx-identified people in the high-risk scenario could be undercounted nationally by 3.68 and 3.57 percent, respectively. White, non-Hispanic/Latinx people are at risk of being overcounted nationally by 0.03 percent in the high-risk scenario.

- Historically undercounted, children under age 5 are again at risk of being undercounted by up to 6.31 percent in the 2020 Census in the high-risk scenario.

13. Today census data is collected both online and by census workers collecting information from others. If you were in charge, how might you alter how and what census data is collected? Why would you make these changes?
Lesson 7 - Race and the US Census

**Essential Question:** How has white supremacy and resulting systemic racism impacted Census results?

**TEACHER RESOURCES**

Here you will find background and additional resources to assist you in better leading this lesson:

- More activities and lessons can be found on the main page of this series: [http://www.pbs.org/race/000_General/000_00-Home.htm](http://www.pbs.org/race/000_General/000_00-Home.htm)
- [Teachers 4 Racial Justice resources](http://www.pbs.org/race/000_General/000_00-Home.htm)
- [Avoiding Racial Equity Detours Gorski](http://www.pbs.org/race/000_General/000_00-Home.htm)
- [US Census race](http://www.pbs.org/race/000_General/000_00-Home.htm)
- [To Fight Discrimination, the US Census needs a different question about race](http://www.pbs.org/race/000_General/000_00-Home.htm) [Science News](http://www.pbs.org/race/000_General/000_00-Home.htm)
- [Becoming Anti Racist North Carolina State University](http://www.pbs.org/race/000_General/000_00-Home.htm)
Lesson 7 - Race and the US Census

Essential Question: How has white supremacy and resulting systemic racism impacted Census results?

Part A: Understanding Race

Instructions: For this activity, you will read a passage by the Public Broadcasting Service (PBS) about human diversity and the origins of race:
http://www.pbs.org/race/000_About/002_04-godeeper.htm. Before you read the article, take a moment to read over the following questions so you can read purposefully. While you read the article, make annotations to point out important information and questions you might have as you read. These can be helpful for quick reference when you respond to the questions below.

1. What does the word “race” mean to you?

2. What race(s) do you identify with? And why do you believe you identify in this way? This can include physical and cultural descriptions.
3. Why can’t we map one gene trait or characteristic that tells us how to recognize one member of a race from another?

4. Why have other animal species been able to accumulate more genetic variations than human beings?

5. How long do you think it takes to accumulate gene variants?
6. Why do we talk in terms of ancestry instead of race when we discuss genetic differences in humans?
Lesson 7 - Race and the US Census

**Essential Question:** How has white supremacy and resulting systemic racism impacted Census results?

**Part B: Looking at the US Census through the Lens of Race**

Name _______________________________ Date _______________________________

**Instructions:** For this activity, you will read a passage by the Public Broadcasting Service (PBS) about the US Census and how race has influenced this reporting over the years: [RACE - The Power of an Illusion . Background Readings](#). Before you read the article, take a moment to read the questions listed below so you can read with a purpose in mind. While you read the article make annotations to point out important information and questions you might have as you read. These can be helpful for quick reference when you respond to the questions below.

1. What are two things you found interesting from this passage?

2. What are two things you now wonder since reading this passage?
3. What is at least one new thing you learned so far from the census activities?

4. Why do you think the Civil Rights Act impacted how the Census is interpreted?
Lesson 8 - Native Americans and the Underground Railroad

Essential Question: In what ways did nonwhite citizens support each other as they navigated the Underground Railroad?

TEACHER RESOURCES

Here you will find background and additional resources to assist you in better leading this lesson:

<table>
<thead>
<tr>
<th>VOCABULARY</th>
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<td>Source: Merriam-Webster</td>
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| **chattel** | an item of tangible movable or immovable property except for real estate and things (such as buildings) connected with real property; SLAVE, BONDMAN |
|-------------|
| **subterfuge** | deception by artifice or stratagem in order to conceal, escape or evade |

- This lesson connects best to Great Lakes Literacy Principles
  - (5) The Great Lakes support a broad diversity of life and ecosystems
  - (6) The Great Lakes and humans in their watersheds are inextricably interconnected
- Native Americans and the Underground Railroad
- Native Americans who Assisted the Underground Railroad
- Unlikely Conductors: The Role of Native Americans in the Underground Railroad video
- How Native Americans adopted slavery from white settlers | Conflict News | Al Jazeera
- How Native American Slaveholders Complicate the Trail of Tears Narrative
Native Americans and the Underground Railroad

Essential Question: In what ways did nonwhite citizens support each other as they navigated the Underground Railroad?

Name ___________________________ Date ___________________________

Instructions: For this activity, you will read a research article by Dr. Tiya Miles, a Professor of History at Harvard University, titled “Native Americans and the Underground Railroad.” Before you read the article, take a moment to read through the questions listed below so that your reading is purposeful. While you read the article take notes to point out important information and questions you might have as you read. These can be helpful for quick reference when you respond to the questions below.

1. What is the importance of Michael’s story and his attempt at freedom?

2. How did Native Americans help Freedom Seekers? How did their knowledge as naturalists, or people connected to nature, help Freedom Seekers?

3. List important information about living and nonliving things in wetland areas that surround the Great Lakes. Use the link below for additional information from class material. https://www.nationalgeographic.org/encyclopedia/wetland/
4. If you had an understanding about living and nonliving things in wetlands, how could you have helped Freedom Seekers on their path to freedom?

When an enslaved Black teenager named Michael ran from the quarters he shared with his mother in the Cherokee Nation (present-day northwest Georgia), he triggered a frantic search. Michael's mother, Pleasant, had been purchased by the Moravian Church of Salem, North Carolina. She arrived with Moravian missionaries in 1805 when they took up their new post at the Springplace Mission near the home of wealthy Cherokee slaveholder, James Vann. Pleasant had given birth to her son along the way, but did not have the right to name him. The missionaries chose the name for her child and directed Pleasant in numerous tiring tasks at the fledgling mission. Pleasant served as an unwilling anchor of the missionaries' church and school, for which she was the cook, cleaner, and woman of all work. As Michael grew into the physical strength of adolescence, he became more valuable to the Moravian Church and its representatives. According to the missionary diarist at Springplace, tensions with his mother led Michael to flee in May of 1819. “We had a difficult day,” missionary Anna Rosina Gambold wrote. “Our Michael got into a bad argument with his mother and it turned into a fight.
We tried seriously to guide him back to his duty, but instead of doing this, he jumped up and ran away. We did not go after him because we believed he would come back in the evening, as has already happened twice, but this time he stayed away."[1]

The missionary diarist refers to this young man in the possessive language of “our Michael” and may have been psychologically invested – consciously or not -- in blaming his mother for his departure. It is possible that frustration with his mother was indeed the spark of Michael’s anger that day, but it is just as likely that he chaffed against his proscribed “duty” and the constraints he faced while maturing into self-consciousness as the property of others. The missionaries hunted for days, but found that Michael had employed various subterfuges. He “spent the night” in the home of a Cherokee woman and told her “he was free and allowed to go wherever her wanted.” Prior to this, the Mission diarist noted, Michael had attempted to "pass as an Indian" by having “his hair cut by an Indian . . . and his face painted.” The missionaries finally enlisted the aid of a Cherokee man in recapturing Michael. The hunter found Michael on the fifth day, working in the fields of an elderly Cherokee man thirty miles away from his owners. Although Michael “grabbed a knife to defend himself,” he was seized and returned to the missionaries, who “thanked the good man and promised to repay him for his troubles.”[2] This story of one boy’s bravery is complex and fleeting like most accounts of fugitivity in the antebellum era. Cherokees helped him as well as hurt him in a place where Native Americans also held Blacks as chattel. Nevertheless, Michael clearly depended on the aid of many Native people during more than one attempted escape from his white Christian owners. Although the documentary record reveals little about Indigenous participation in the networks that enslaved people accessed to free themselves – stories like Michael’s demonstrate that such activity did occur.

Indeed, Michael was not alone. Bits and pieces of evidence point to other African American individuals, families, and even larger parties who sought and received the assistance of Native people while traveling through and from the South in the hopes of reaching freer territories. Thus far, discoveries of written and oral evidence of such activity predominate in the Midwest and Great Lakes region, as recent research by the historian Roy Finkenbine has underscored. This makes geographic sense, as African
Americans seeking to cross the Ohio River and then the Canadian border from various (often water-bound) points were moving through territory still occupied, well known, and to a measurable extent controlled by Native people, particularly Shawnees, Anishinaabeg (Ojibwes, Potawatomis, Odawas), and Iroquois Confederacy populations such as the Tuscaroras and Mohawks.[3]

One of the most dramatic and detailed stories of collaboration in the Great Lakes comes to us from Josiah Henson, whose narrative of enslavement in Kentucky and escape to Upper Canada was a model for Harriet Beecher Stowe’s blockbuster novel, *Uncle Tom’s Cabin*. In *The Life of Josiah Henson, Formerly a Slave*, Henson recounts the harrowing escape undertaken with his wife and son. The small family was lost, famished, and clinging to an old military road from the War of 1812 as they tried to reach Lake Erie in 1830. Their anxiety escalated when they realized they were being tracked by a group of Native men. Henson reports that instead of attempting to turn back, he and his family asked for help, were taken to a nearby village, fed, welcomed, and given shelter, and then accompanied to the water’s edge the next morning.[4] While Henson does not name the community who likely saved his family and certainly helped to secure their freedom, given their location in northern Ohio, these abettors were likely Shawnee or Cayuga.[5]

Roy Finkenbine has documented other Great Lakes examples based on the records of traders and missionaries living near the Stockbridge reservation of Wisconsin, who, in one instance, describe Stockbridge Indians assisting four Black Missourians on the run.[6] An oral history passed down among community members in the Odawa village of Hungry Hollow in western Michigan describes a community effort to help a group of runaways on the Grand River.[7] The historian Tiffany McKinney has noted the abolitionist politics of free Afro-Native New Englanders such as the Wampanoag sailor, Paul Cuffee, pointing to another region for further exploration of Native American underground railroad activism.[8]

While Michael did not escape long-term from his captors that spring of 1819, a fate he shared with most enslaved people who attempted flight in the Deep South, he did steal time for himself and demonstrate to his owners that he was not pliant “property.” Exactly
what Michael did and who he consorted with during the days that he called himself free remains a secret.[9] In Michael’s case, and perhaps in many other cases where Black people entered Indigenous spaces, absence in the archival record might just indicate that a freedom-seeker’s journey was aided by Native agents on the underground railroad.

Footnotes


Special thank you to Dr. Tiya Miles and The National Underground Railroad Network to Freedom for granting permission to reprint for educational purposes. Direct link to the article: https://www.nps.gov/articles/000/native-americans-and-the-underground-railroad.htm
Extension Activities Educator Resources

To help guide you and your students with this resource, we used *emojis* to help organize lessons in the document outline.

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<td>![Icon]</td>
<td>Additional Teacher Resources for the lesson</td>
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<td>Student Reading Prompt</td>
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<td>![Icon]</td>
<td>Student Response Sheet</td>
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Before completing any of these lessons or activities, we recommend you consult Niagara Falls Underground Railroad Heritage Center’s [Rethinking Underground Railroad Terminology Teacher’s Guide](#). This guide was developed to support classroom discussions related to the Underground Railroad. In addition to the resources listed in this section, we provided additional resources specific to the lessons and activities shared in the curriculum guide.

- [For Black Inventors, Road to Owning Patents Paved with Barriers](#)
- [With Patents or Without, Black Inventors Reshaped American Industry](#)
- [Eight Black Inventors who made Daily Life Easier](#)
- [Roadmap to Patent Application Process](#) video
- [First African American Patent Holders](#) video
- [Five African American Inventors who Improved the World](#) video
- [The A-Z List of Black Inventors](#)
African American History and Science Extension Activities

In this lesson series, students can complete the three activities as stand-alone or in a series.

Activity 1 - U.S. Patent System and Black Inventors
Students will read an article by Dr. Shontavia Johnson, entitled “With Patents or Without, Black Inventors Reshaped American History.” Dr. Johnson explains how the U.S. Patent System, which is designed to protect inventors’ intellectual and financial interests in the products they invent, has not always been available to Black inventors.

Activity 2 - Black Inventors Matter
Students will learn more about Black inventors that were alive in the 1800s and where they would have been living around the time of the Underground Railroad (early-mid 1800s). During this time many enslaved inventors did not get credit for their inventions and Black Americans were not always permitted to submit patented designs.

Activity 3 - Famous Black Scientists and You
Students will learn more about a famous Black scientist while reviewing their oral history on The History Makers website. Questions will follow to enhance their learning on the scientist and help the students reflect on what qualities they possess that contribute to the world.
Activity 1 - U.S. Patent System and Black Inventors

Essential Question: How can knowledge of Black inventors impact the ways you think about your own future endeavors?

Name ___________________________ Date ___________________________

Instructions: For this activity, you will read an article by Dr. Shontavia Johnson published on February 16, 2017, in the Smithsonian Magazine, titled “With Patents or Without, Black Inventors Reshaped American History.” Before you read the article, take a moment to read through the questions below so that your reading is purposeful. While you read the article, make annotations to point out important information and questions you might have as you read. These can be helpful for quick reference when you respond to the questions below. Also be sure to explore the links embedded in the article to grow your understanding and knowledge of Black inventors and their significant contributions to our lives.

1. In your own words, how would you describe the purpose of a patent?

2. The article provides several examples in which a slave owner attempted to apply for a patent based on an enslaved person’s invention. In your opinion, do the rejected patent applications support the idea that the patent system worked to protect inventors’ rights? Provide justification for why you think the way you do.

3. The article provides several examples in which free Black people received patent protection for their inventions. How do you feel about free Black people and enslaved Black people experiencing different outcomes when they submitted a patent application during the historical timeframe of the early 1800s?
4. The article provides an example of Bishop Curry V, a 10-year old boy, applying for a patent for a device designed to prevent accidental death of children in hot cars. Typically the government does not interact with children directly, but rather guardians intervene on a child’s behalf. For example, children do not independently fill out the paperwork to enroll in school. If a guardian used their own name to apply for a patent for their child’s invention, do you think the patent should be rejected? Why or why not?

American slaves couldn’t hold property, including patents on their own inventions. But that didn’t stop black Americans from innovating in our country.

America has long been the land of innovation. More than 13,000 years ago, the Clovis people created what many call the “first American invention” – a stone tool used primarily to hunt large game. This spirit of American creativity has persisted through the millennia, through the first American patent granted in 1641 and on to today.

One group of prolific innovators, however, has been largely ignored by history: black inventors born or forced into American slavery. Though U.S. patent law was created with color-blind language to foster innovation, the patent system consistently excluded these inventors from recognition.
As a law professor and a licensed patent attorney, I understand both the importance of protecting inventions and the negative impact of being unable to use the law to do so. But despite patents being largely out of reach to them throughout early U.S. history, both slaves and free African-Americans did invent and innovate.

**Why patents matter**

In many countries around the world, innovation is fostered through a patent system. Patents give inventors a monopoly over their invention for a limited time period, allowing them, if they wish, to make money through things like sales and licensing.

The patent system has long been the heart of America’s innovation policy. As a way to recoup costs, patents provide strong incentives for inventors, who can spend millions of dollars and a significant amount of time developing an invention.

The history of patents in America is older than the U.S. Constitution, with several colonies granting patents years before the Constitution was created. In 1787, however, members of the Constitutional Convention opened the patent process to people nationwide by drafting what has come to be known as the Patent and Copyright Clause of the Constitution. It allows Congress:

> “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”

This language gives inventors exclusive rights to their inventions. It forms the foundation for today’s nationwide, federal patent system, which no longer allows states to grant patents.

Though the language itself was race-neutral, like many of the rights set forth in the Constitution, the patent system didn’t apply for black Americans born into slavery. Slaves were not considered American citizens and laws at the time prevented them from applying for or holding property, including patents. In 1857, the U.S. commissioner of patents officially ruled that slave inventions couldn’t be patented.

**Slaves’ inventions exploited by owners**

During the 17th and 18th centuries, America was experiencing rapid economic growth. Black inventors were major contributors during this era – even though most did not obtain any of the benefits associated with their inventions since they could not receive patent protection.

Slave owners often took credit for their slaves’ inventions. In one well-documented case, a black inventor named Ned invented an effective, innovative cotton scraper. His
slave master, Oscar Stewart, attempted to patent the invention. Because Stewart was not the actual inventor, and because the actual inventor was born into slavery, the application was rejected.

Stewart ultimately began selling the cotton scraper without the benefit of patent protection and made a significant amount of money doing so. In his advertisements, he openly touted that the product was “the invention of a Negro slave – thus giving the lie to the abolition cry that slavery dwarfs the mind of the Negro. When did a free Negro ever invent anything?”

Reaping the benefits of [their] own inventions

The answer to this question is that black people – both free and enslaved – invented many things during that time period.

One such innovator was Henry Boyd, who was born into slavery in Kentucky in 1802. After purchasing his own freedom in 1826, Boyd invented a corded bed created with wooden rails connected to the headboard and footboard.

The “Boyd Bedstead” was so popular that historian Carter G. Woodson profiled his success in the iconic book “The Mis-education of the Negro,” noting that Boyd’s business ultimately employed 25 white and black employees.

Though Boyd had recently purchased his freedom and should have been allowed a patent for his invention, the racist realities of the time apparently led him to believe that he wouldn’t be able to patent his invention. He ultimately decided to partner with a white craftsman, allowing his partner to apply for and receive a patent for the bed.

Some black inventors achieved financial success but no patent protection, direct or indirect. Benjamin Montgomery, who was born into slavery in 1819, invented a steamboat propeller designed for shallow waters in the 1850s. This invention was of particular value because, during that time, steamboats delivered food and other necessities through often-shallow waterways connecting settlements. If the boats got stuck, life-sustaining supplies would be delayed for days or weeks.

Montgomery tried to apply for a patent. The application was rejected due to his status as a slave. Montgomery’s owners tried to take credit for the propeller invention and patent it themselves, but the patent office also rejected their application because they were not the true inventors.

Even without patent protection, Montgomery amassed significant wealth and became one of the wealthiest planters in Mississippi after the Civil War ended. Eventually his son, Isaiah, was able to purchase more than 800 acres of land and found the town of Mound Bayou, Mississippi after his father’s death.
A legacy of black innovators

The patent system was ostensibly open to free black people. From Thomas Jennings, the first black patent holder, who invented dry cleaning in 1821, to Norbert Rillieux, a free man who invented a revolutionary sugar-refining process in the 1840s, to Elijah McCoy, who obtained 57 patents over his lifetime, those with access to the patent system invented items that still touch the lives of people today.

This legacy extends through the 21st century. Lonnie Johnson generated more than US$1 billion in sales with his Super Soaker water gun invention, which has consistently been among the world’s top 20 best-selling toys each year since 1991. Johnson now owns more than 80 patents and has since developed different green technologies.

Bishop Curry V, a 10-year-old black inventor from Texas, has already applied for a patent for his invention, which he says will stop accidental deaths of children in hot cars.

Black women are also furthering the legacy of black inventors. Lisa Ascolese, known as “The Inventress,” has received multiple patents and founded the Association for Women Inventors and Entrepreneurs. Janet Emerson Bashen became the first black woman to receive a patent for a software invention in 2006. And Dr. Hadiyah Green recently won a $1 million grant related to an invention that may help treat cancer.

True to the legacy of American innovation, today’s black inventors are following in the footsteps of those who came before them. Now patent law doesn’t actively exclude them from protecting their inventions – and fully contributing to American progress.

This article was originally published on The Conversation. Read the original article.

Special thank you to Dr. Shontavia Johnson for granting permission to reprint for educational purposes. Direct link to the article: https://www.smithsonianmag.com/innovation/with-patents-or-without-black-inventors-reshaped-american-industry-180962201/
Activity 2 - Black Inventors Matter

Essential Question: How can knowledge of black inventors impact the ways you think about your own future endeavors?

Instructions: Before you begin this activity, read through it with a partner to clarify your understanding of the tasks ahead. This can help you read with a purpose in mind. While you read the information below, make annotations to point out important information and questions you might have as you read. These can be helpful for quick reference when you respond to the questions that follow.

Throughout US history, Black inventors have made large contributions to American society, and without their inventions and knowledge, the world would be a different place! During the time of the Underground Railroad (early-mid 1800s), many enslaved inventors did not get credit for their inventions. In addition, Black Americans were not always permitted to submit patented designs. While we have a limited listing of Black inventors, this does not account for the large number of unrecognized Black inventors in the United States. From George Washington Carver to Marie Van Brittan Brown, many others have made contributions to general society and science.

In general, the world benefits from advances in technology and how scientists and inventors incorporate inventions into their research. Science and technology is used all around you and can be seen in areas such as:

- **Community Life**: infrastructure, government, transportation, and public safety.
- **Work**: inventions that lessen the physical workload like wheels, levers, and pulleys.
- **Communication**: knowledge and information transmission.
- **Health**: inventions that help us fight or prevent diseases.

Thinking about how scientific fields would be lacking without their discoveries, inventions, and knowledge, use the links and search engines to research Black inventors and how they impacted science and the world.
<table>
<thead>
<tr>
<th>Name</th>
<th>Website</th>
<th>What did they invent?</th>
<th>How did it impact society?</th>
<th>Why is it important to science? Think about new inventions or scientific discoveries of today</th>
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**Please respond to the following:**

1. Science needs technological advancements. How did these inventors pioneer knowledge within science? Select an inventor and write out examples of how their technology impacted science or the world we live in today.
2. What are some modern science and technological advancements that these Black inventors aided in by providing the baseline research?

3. Did you know of any of these inventors prior to this activity? Were you surprised by any of the information you found? Why do you think it is important to learn about Black inventors?
Activity 3 - Famous Black Scientists and You

Essential Question: How can knowledge of Black inventors impact the ways you think about your own future endeavors?

Name _____________________________ Date _____________________________

Directions: The History Maker’s Homepage | The HistoryMakers is the Nation’s Largest African American video oral history collection. There are over 3,311 videos of interviews with recent African American history makers from a variety of content areas, from sports and entertainment to religion and science. For this science activity, you will visit the ScienceMakers | The HistoryMakers page. There are 220 biographies to select from. Choose someone you would like to learn more about. Read their passage, watch their video and respond to the questions below. At a later time, we encourage you to watch more videos to learn about the wide range of contributions that African Americans have made to the world.

1. Who did you select and why? During which era did they make a contribution?


2. What is their science area/subject/ career area?


3. What are at least two interesting facts you learned about this person?


4. List three contributions they made to science.

5. How do you think the world might be different without their contribution?

6. For those who were enslaved, and even for us today, why is it important to see role models such as Harriett Tubman and George Washington Carver playing influential roles in the field of science?

7. What qualities and strengths do you have that aid you in science?

8. How can your qualities help science and your community? Provide an example of something you could do to make your community better?
9. In the box below, draw an advertisement for your scientist to encourage others to watch the video you selected. Include images, interesting facts, terms, history and other relevant details. Be creative and make your advertisement stand out. *If accessing via Google Documents, insert your advertisement below using Google Drawing. To learn how to use Google Drawing with Google Docs, visit here.*