

Iron Industry Knowledge Transfer Lesson Unit

CATOCTIN FURNACE MIDDLE SCHOOL SOCIAL STUDIES LESSON

UNIT (5 Lessons)

SUBJECT: Social Studies/Social Science	GRADE LEVEL: 6th-8th	BIG IDEAS: The iron industry was essential to late 18 th and early 19 th century life. Industrial enslavement in the late 18 th and 19 th century involved the ironworking skills and knowledge held by enslaved people.
COMMON CORE HISTORY/SOCIAL STUDIES LEARNING STANDARDS: http://www.corestandards.org/ELA-Literacy/RH/6-8/ CCSS.ELA-Literacy.RH.6-8.2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. CCSS.ELA-Literacy.RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies. CCSS.ELA-Literacy.RH.6-8.10 By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.		

VOCABULARY:

- Ironworking - The creation of all things iron

- Pig Iron - Iron bars known as “pigs” were convenient for transporting to market and could be cast into products at a foundry or refined into wrought iron at a refinery forge

- Moravian Brethren - A church missionary group that settled near Catoclin Furnace. Moravian missionaries had many interactions with the enslaved workers

- Industrial enslavement - American slavery within factories and other item-producing businesses. Contrast with agricultural enslavement (picking cotton in fields, for example)

- Overwork - A system where an enslaved person can put in overtime or produce extra, so that they can get paid or receive store credit

- Collier - Someone who makes charcoal

PRIOR KNOWLEDGE

- A basic framework of when the American Revolution occurred
- Who the primary combatants were (Colonists and British)
- Which general region in which the war was fought (East coast states)
- Rough geography of the 13 original colonies

CATOCTIN FURNACE MIDDLE SCHOOL SOCIAL STUDIES LESSON

ONE

LEARNING OBJECTIVES:

Students will be able to:

- **Analyze how resource availability impacted the Revolutionary War**

REQUIRED MATERIALS:

Projector and Smartboard/whiteboard, YouTube videos, (optional) posterboard, Google Maps, Catoctin Furnace website, American Revolution Institute website

ACTIVITIES:

Opening Activity – On loose-leaf paper or in journals, students write 3 facts about the Revolutionary War.

Students share the facts they have brainstormed. Record all of the facts on a whiteboard or poster board.

Discussion Question: “Who won the Revolutionary War? [Students answer. Desired answer is “America” did, or some variation]”

Discussion Question: “How was “America” able to win the war? What would give one side the upper hand in a war? [Students answer. Desired answer is “weapons and ammunition.”]”

Watch the video of Revolutionary War Weapons (American Battlefield Trust)

<https://www.youtube.com/watch?v=stzdYrfbUnw>

Discussion Question: “How would the Americans get the artillery they used? The ammunition?”

Worksheet questions (answer in pairs):

On the Catoctin Furnace Historical Society page: <https://catoctinfurnace.org/history/>

1. Where is Catoctin Furnace? What is the nearest town?

2. How did Catoctin Furnace contribute to the Revolutionary War?

In pairs, use Google Maps/Google Earth to answer the following questions:

1. How far (in miles) is Catoctin Furnace from the nearest “large” city (Baltimore, Maryland)?

2. Select 3 sites from this list:

<https://www.americanrevolutioninstitute.org/visit-a-battlefield/ten-great/>

Then, use Google Maps to find the distance in miles between Catoctin Furnace and the three sites you chose.

3. Which battle location do you think would be the most likely to have used iron products from Catoctin Furnace? Explain your reasoning.

Closing:

Discuss Google Maps, finding and reasoning regarding the purchase of Catoctin Furnace iron products.

CATOCTIN FURNACE MIDDLE SCHOOL SOCIAL STUDIES LESSON

TWO

LEARNING OBJECTIVES:

Students will be able to:

- Examine the iron-making process in the context of 18th-19th century U.S. industry

REQUIRED MATERIALS:

**Projector and Smartboard/whiteboard, YouTube videos, (optional) poster board,
Catocin Furnace website**

ACTIVITIES:

Opening Activity - Students brainstorm in journal or on loose-leaf paper 3 things in their daily life that are made of iron or metal. How do you use these items?

Discuss opening responses briefly, using a randomizer (for the whole group) or Think-Pair-Share (for pairs/small groups - <https://www.readingrockets.org/strategies/think-pair-share>). Record responses on the whiteboard or poster board.

Discussion Question: “How were these items created? Where do the materials come from?”

Iron making in the 18th and early 19th century was a complicated process. Charcoal needed to be created nearby, in order to make the iron. Hopewell Furnace in Pennsylvania, is located about a 2-hour drive (120 miles, roughly) from Catoclin Furnace in Maryland.

Show the video of charcoal making at Hopewell Furnace. As students watch the video, they will write down on loose-leaf paper/journal “2 things they notice and 1 thing they wonder about” from the video.

<https://www.youtube.com/watch?v=wtlr0FI4vbo>

At the conclusion of the Hopewell Furnace Charcoal video, ask a few students to share what they noticed/wondered (alternatively, students can Think-Pair-Share what they noticed/wondered).

Follow up with the Iron Casting at Hopewell Furnace video, again writing down 1 thing they notice and 1 thing they wonder.

Iron Casting at Hopewell Furnace -

<https://www.youtube.com/watch?v=TJMZwYVOgZA>

Discuss the I Notice/I Wonder responses.

Discussion Question: Where do you think the best geographic locations for iron production might be? Based on what we've seen from the videos and read on the websites, what natural resources should be nearby?

Mini-Webquest: Find all the answers on the Catoclin Furnace Historical Society website

<https://catoclinfurnace.org/history/>

Who... was involved in the ironworking process at Catoclin Furnace?

What... was it like for the people creating the iron, in your opinion?

Where... was the closest town to Catoclin Furnace?

When... was this type of ironworking taking place?

Why... were people of African descent used as ironworks laborers, in your opinion?

Closing:

Discuss responses. Students should answer on loose leaf/journal paper: How was the iron-making process dependent on the natural resources of the Catoclin Mountain region? Would I (the student) be able to cut it as an ironworker? Provide 2 pieces of evidence to support their opinions.

CATOCTIN FURNACE MIDDLE SCHOOL SOCIAL STUDIES LESSON

THREE

LEARNING OBJECTIVES:

Students will be able to:

- **Investigate the process of 19th century industrialized enslavement**
- **Characterize how skills and technology were brought from Africa by enslaved populations**

REQUIRED MATERIALS:

Projector and Smartboard/whiteboard, YouTube videos, (optional) posterboard, Catoctin Furnace website, KWL Chart (can be quickly drawn on loose-leaf paper also)

ACTIVITIES:

Opening Activity

KWL (What I Know, what I Want to know, and what I Learned) of US Slavery

<https://www.readwritethink.org/classroom-resources/printouts/chart-0>

Think-pair-share the KW of the KWL organizer or entire class discuss the KW of the KWL.

**Discussion Question: What types of work did enslaved persons do in America? [s1]
What were their “jobs?”**

Show images of enslaved working in the fields.

<https://www.loc.gov/item/2012648060/>

<https://www.loc.gov/item/2002698525/>

Discussion Question: Besides the fields, what other kinds of work did the enslaved do? (Ironworking, mining, blacksmithing, crafting, etc.)

Partner read Industrial Slavery - The Baltimore Iron Works article

(mountclare.org/history/slave_industrialworks.html). Complete graphic organizer:

How did many iron works begin using enslaved people?

What types of skills did the enslaved people have?

What is “overworking?” How would “overworking” benefit the enslaved persons?

Make a Venn-Diagram comparing the experiences of enslaved workers in agricultural jobs versus industrial jobs. In what ways would they be similar and in what ways would they be different? Use examples such as working in tobacco fields or working at an iron furnace. Explain your thinking.

Have about 3 students share out their “best skills.” How did you learn these skills?

Watch Ironworking Henry Louis Gates video (3 min)

<https://www.youtube.com/watch?v=xAy-D2hYSN4>

In journals/loose-leaf, students write down their answers to the following questions.

How would ironworking skill be useful in the American society?

How did Africans learn the ironworking skills?

Closing -

Complete the L from the KWL chart. What have you Learned about enslavement in the United States through this lesson?

CATOCTIN FURNACE MIDDLE SCHOOL SOCIAL STUDIES LESSON

FOUR

LEARNING OBJECTIVES:

Students will be able to:

- Evaluate the effects of 19th century industrialized enslavement on the enslaved

REQUIRED MATERIALS: Projector and Smartboard/whiteboard, YouTube videos, (optional) posterboard, Catocin Furnace website, name randomizer, runaway advertisements

ACTIVITIES:

Opening Activity

[Quickwrite](#) your opinion:

What effect did the jobs of the enslaved have on their bodies? Would there be differences between the effects of working in tobacco or rice fields, or working at an iron furnace? Explain your thinking. (Use for reviewing Lesson 3.)

Discuss opening responses briefly, using a randomizer (for whole group) or Think-Pair-Share (for pairs/small groups -

<https://www.readingrockets.org/strategies/think-pair-share>).

On TV and in movies, we usually see slaves working in a cotton field, growing a crop. But not every enslaved person lived that sort of life.

We are going to look at what industrial slavery was like at an iron furnace.

Catoctin's African American Legacy: The Iron Furnace | National Park Service

<https://www.nps.gov/cato/learn/photosmultimedia/iron-furnace-video.htm>

As you watch the video, journal your answers to the following question:

Based on the video, what was industrial slavery like at an iron furnace?

Discuss journal answers.

In your opinion, what would be benefits for owning slaves at an ironworks? What would any drawbacks be?

Distribute a copy of the Runaway Slave Advertisement, or display on a Smartboard.

Column 4 - Runaway Slave Advertisement
<https://catoctinfurnace.org/freedom-seeker-ads/>

What do you notice about this advertisement? (Think-Pair-Share or whole class discuss)

Why do you think the slaveholder(s) placed this advertisement?

Read the article. Then answer the worksheet questions.

<https://masarcheology.org/news/historical-society-unveils-facial-reconstructions-of-african-americans-once-enslaved-in-thurmont/>

How was the African-American cemetery rediscovered?

What were the bones and skeletons able to tell us about the experiences of the enslaved workers?

Why do you think the Catoctin Furnace makes a point that it's important to say the names of the Catoctin workers?

Closing – Discuss journal responses.

CATOCTIN FURNACE MIDDLE SCHOOL SOCIAL STUDIES LESSON

FIVE

LEARNING OBJECTIVES:

Students will be able to:

- **Characterize the impact of historic preservation saving 19th century items, sites, and stories for future generations**
- **Evaluate elements of their community and lived experiences that are worth preserving**

REQUIRED MATERIALS: Projector and Smartboard/whiteboard, YouTube videos, (optional) posterboard, Catocin Furnace website, name randomizer

ACTIVITIES:

Opening Activity

What is a historic site or a museum that you have been visited? What was memorable about that visit?

Discuss opening responses briefly, using a randomizer (for whole group) and/or Think-Pair-Share (for pairs/small groups)

Discussion Question: What made that historic site important enough to save (preserve)? Select 1-2 case studies from student responses, if desired.

Catoctin Furnace was a working iron furnace in the late 18th and the 19th centuries. It fell into disuse as the ironmaking industry evolved. But now, even though it is no longer used for making iron, it is a historic site with many visitors each year. How do you think this might have been able to happen?

Watch timestamps 17:00-21:07 of the "Catoctin Furnace African American Cemetery Interpretive Trail" audio tour: https://www.youtube.com/watch?v=shainfn_lIM

Follow up with slideshow pictures from <https://www.achp.gov/success-stories/catoctin-furnace>

Alternatively, print (color) copies of this brochure, distribute to students. <https://www.achp.gov/sites/default/files/2017-01/catoctin.pdf>

Discussion Questions:

Why would someone be interested in saving (preserving) Catoctin Furnace? (Desired answers include that it is an example of 19th century industry, culture, technology, etc. It is a snapshot of 19th century ironworking. The associated village shows culture and how people lived back then.)

How did Catoctin Furnace end up getting preserved?

Preservation is all about saving the things we find most important. Museums and historic sites are places where people can see/hear/feel/touch the past.

Read the advertisement for Pig Iron in Column 2. It lists the following pig iron furnaces: Laurel, Cecilia, Catoctin, Cornwall, Pioneer, Henry Clay, Keystone, Liberty, (Cold Blast,) Cleveland and Gengarnock.

Which furnaces from this list (or otherwise not listed) can still be visited today?

With a partner, students will research the list of furnaces from Column 2, and mark down which ones are currently historic preservation sites and which are not.

<https://chroniclingamerica.loc.gov/lccn/sn83009573/1858-04-12/ed-1/seq-4/>

Closing:

Imagine a highway is going to be built right in the middle of your neighborhood.

Create a poster (on an 11 ½ x 8 sheet of paper), persuading the developers that a particular location (building, park, landmark, etc.) is worth saving in your neighborhood.

CATOCTIN FURNACE MIDDLE SCHOOL SOCIAL STUDIES LESSON

ONE WORKSHEET

Part A): Visit the Catoctin Furnace Historical Society webpage to find answers to the following questions. -- <https://catoctinfurnace.org/history/>

1. Where is Catoctin Furnace? What is the nearest town?

2. How did Catoctin Furnace contribute to the Revolutionary War?

Part B): In pairs, use Google Maps/Google Earth to answer the following questions:

1. How far (in miles) is Catoctin Furnace from Baltimore?

2. Select 3 sites from this list:

<https://www.americanrevolutioninstitute.org/visit-a-battlefield/ten-great/>

Then, use Google Maps to find the distance in miles between Catoctin Furnace and the three sites you chose.

3. Which battle location do you think would be the most likely to purchase products from Catoctin Furnace? Explain your reasoning.

CATOCTIN FURNACE MIDDLE SCHOOL SOCIAL STUDIES LESSON TWO WORKSHEET

Directions: Complete the Mini-Webquest.

Mini-Webquest: Find all the answers on the Catoctin Furnace Historical Society website --

<https://catoctinfurnace.org/history/>

Who... was involved in the ironworking process at Catoctin Furnace?

What... was the work like for the people creating the iron, in your opinion?

Where... was the closest town to Catoctin Furnace?

When... was this type of ironworking taking place? (What year(s)?)

Why... were people of African descent used as ironwork laborers, in your opinion?

**CATOCTIN FURNACE MIDDLE SCHOOL SOCIAL STUDIES LESSON
THREE WORKSHEET**

Directions: Complete the KWL Chart. Brainstorm what you Know, what you Want to know. At the end of the lesson, complete the chart with what you Learned.

What I <u>K</u>now	What I <u>W</u>ant to Know	What I <u>L</u>earned
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**CATOCTIN FURNACE MIDDLE SCHOOL SOCIAL STUDIES LESSON
FOUR WORKSHEET**

Read the article. Then answer the worksheet questions.

<https://masarcheology.org/news/historical-society-unveils-facial-reconstructions-of-african-americans-once-enslaved-in-thurmont/>

How was the African-American cemetery rediscovered?

What were the bones and skeletons able to tell us about the experiences of the enslaved workers?

Why do you think the Catoctin Furnace Historical Society makes a point that it's important to say the names of the Catoctin enslaved workers?

CATOCTIN FURNACE MIDDLE SCHOOL SOCIAL STUDIES LESSON

FIVE RUBRIC

CATEGORY	4	3	2	1
Graphics - Relevance	All graphics are related to the topic and make it easier to understand.	All graphics are related to the topic and most make it easier to understand.	All graphics relate to the topic. Most borrowed graphics have a source citation.	Graphics do not relate to the topic.
Knowledge Gained	Student can accurately answer all questions related to facts in the poster and processes used to create the poster.	Student can accurately answer most questions related to facts in the poster and processes used to create the poster.	Student can accurately answer about 75% of questions related to facts in the poster and processes	Student appears to have insufficient knowledge about the facts or processes used in the poster.

			used to create the poster.	
Labels	All items of importance on the poster are clearly labeled.	Almost all items of importance on the poster are clearly labeled.	Several items of importance on the poster are clearly labeled	No important items were labeled.
Reasoning	Displays 4 or more reasons why the landmark should be saved.	Displays 2-3 reasons why the landmark should be saved.	Displays 1 reason why the landmark should be saved.	Displays 0 reasons why the landmark should be saved.

Maybe reword this question:

What type of work did enslaved persons do in America?