



# NINETEENTH-CENTURY DAY AT HAGLEY MUSEUM

A Teaching Guide For Grades Four Through Six



*"Handcar Used for Transporting Charges from Incorporating Mills to Press House," ca. 1880-1920, Pierre Gentieu Collection, 70.1.124*





**“Labor Gang, Hagley Yard,”  
ca. 1890-1900, Matthewson  
Collection, 71.332.72**

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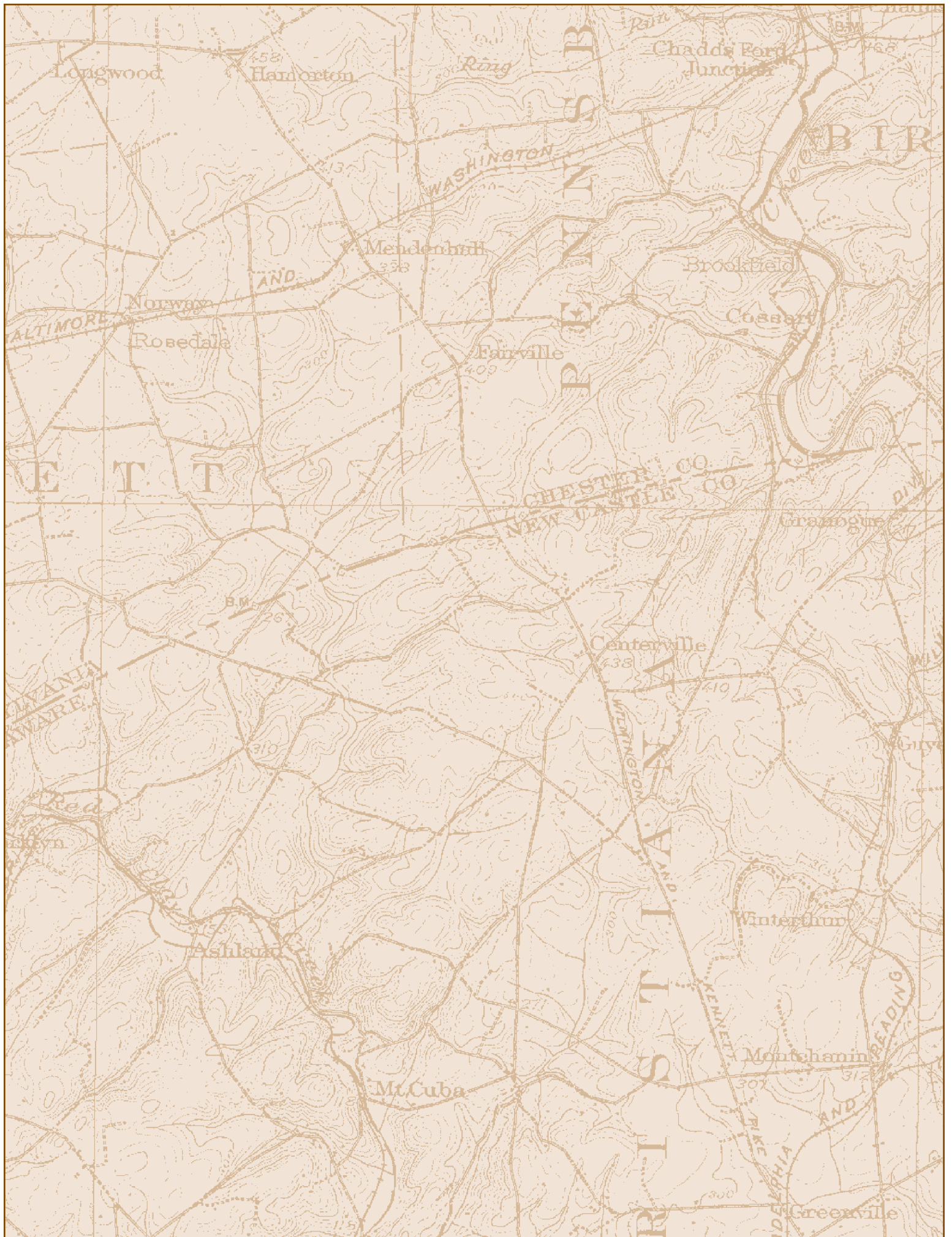
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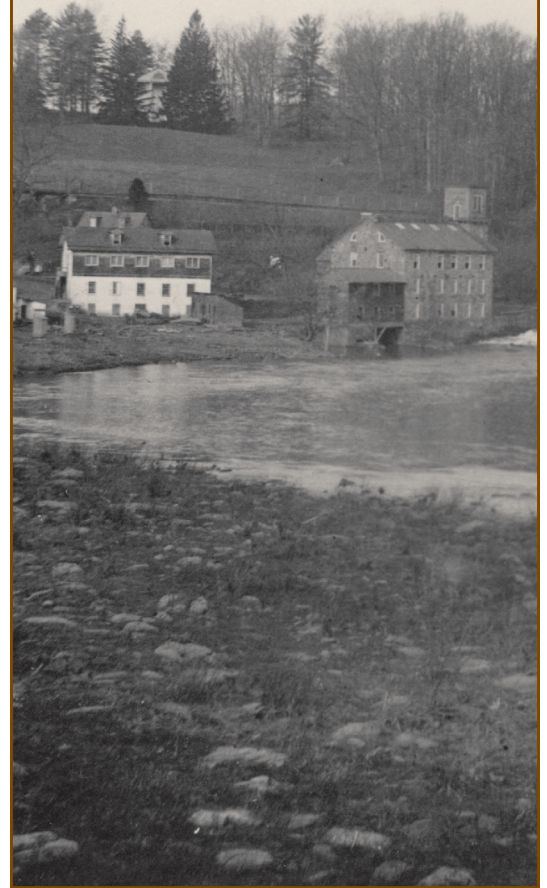
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***“View of the Brandywine,  
Breck’s Mill Dam,”  
ca. 1880-1920, Pierre Gentieu  
Collection, 70.1.67***



# INTRODUCTION

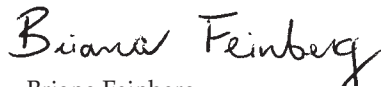
Dear Teacher,

We are pleased to welcome you and your students to the Hagley Museum for a trip back in time to discover what life was like for families in a nineteenth-century mill community. During your visit, students will participate in activities related to the work, home, and school lives of adults and children in the 1870s, a time of enormous change in American industry and society. Hagley was a microcosm of the American Industrial Revolution, not only because of its manufacturing techniques and on-site workers' community, but also because the gunpowder and explosives produced here were vital in determining the course of American development.

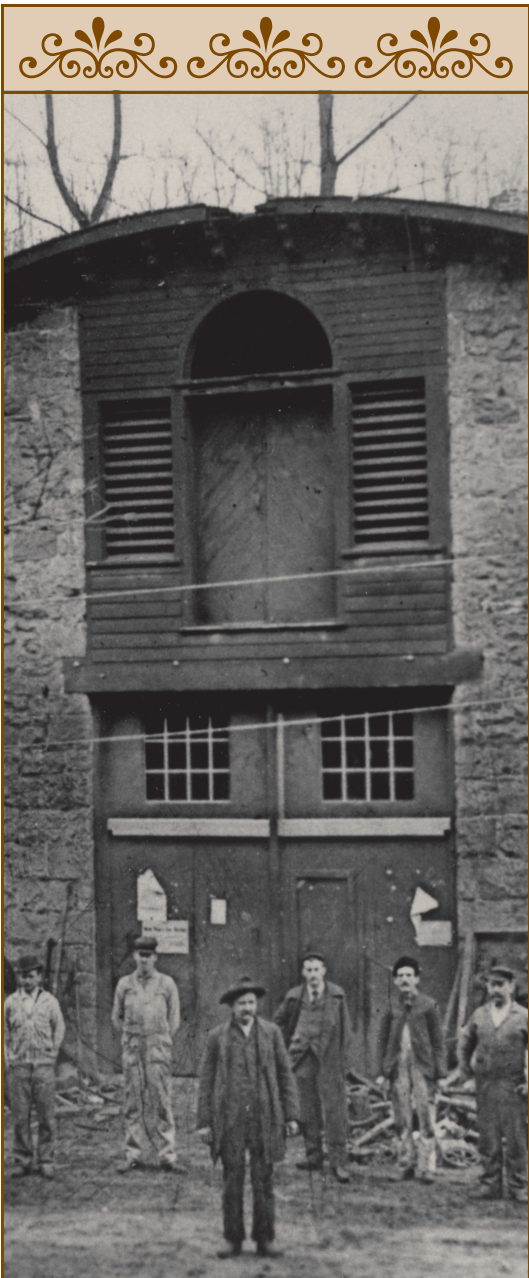
Today, the historic powder mills, foreman's home, and school for workers' children provide a window into history for visitors, but there is much more to Hagley and its place in American history than can be learned in a single day. We have developed this guide as a supplement to your field trip that will foster a deeper exploration of themes your students will encounter on their visit to Hagley. We believe students will have a more meaningful experience when their trip is combined with related activities in the classroom.

The guide has been organized into pre-visit and post-visit lessons, but you will find that many of the lessons could be used at either time. All of the lessons focus on primary source materials from Hagley's library and archival collections and have been aligned with Delaware and national curriculum standards. Please note that all transcriptions of documents include the same errors in spelling and grammar as the original documents, as these are an authentic part of the primary sources. Please feel free to photocopy and adapt the lessons in any way that would make them more useful to you. We would be happy to get your feedback on the guide and to see examples of your students' work. Enjoy your visit to Hagley!

Sincerely,



Briana Feinberg  
Coordinator of Education



**"Machine Shop,"  
ca. 1880-1910,  
Pierre Gentieu Collection,  
70.1.141**

# PROGRAM OVERVIEW

In Hagley's Nineteenth-Century Day program, students will participate in various hands-on activities, and a mini-school day at the Brandywine Manufacturers' Sunday School. Depending on the size of your group, there may be between three and six activities; however, each student will participate in only three activities.

## Gibbons House

- Students will learn about a nineteenth-century kitchen, including baking biscuits in a wood stove and doing dishes in a dry sink. (September-May 14)
- In late spring, instead of making biscuits, students will either make lemonade and chip ice or churn ice cream in an old-fashioned ice cream maker. (May 15-June)
- Students will learn about nineteenth-century family life, including some of the leisure activities families enjoyed together in their parlors.

## Wheelwright Shop

- Students will make their own gee haws, a common nineteenth-century wooden toy.
- Students will learn about punch paper, a favorite nineteenth-century needlecraft, and make their own bookmarks.

## Millwright Shop

- Students will learn about the gunpowder-making process and see a demonstration of a working nineteenth-century roll mill powered by a water turbine.

## Brandywine Manufacturers' Sunday School

- Students will experience what it was like to attend the school for workers' children on Sundays, the only day children were free from work. Lessons include ciphering, manuscript writing, reading, spelling, and recess.



**“Employees at  
Henry Clay Factory,”  
April 13, 1905,  
Pierre Gentieu Collection,  
70.1.29**

## HAGLEY: A PLACE IN TIME

In 1800—more than 200 years ago—a family arrived in America after a three-month trip across the ocean from France. They had left France to escape a violent revolution and to start a new life here. The father of the family, Pierre Samuel du Pont de Nemours, had been an important man in the French government, and he had met some famous Americans in Paris, like Benjamin Franklin and Thomas Jefferson. Pierre Samuel wanted to start an agricultural community in America, but Jefferson had warned him that real estate was a risky business in the United States at that time. After arriving here, the family decided that land would not be a good investment, so they came up with a list of other possible business ventures.

One day, not long after their arrival, the youngest son, Eleuthère Irénée (E. I.), went on a hunting trip with a friend. He noticed that the gunpowder they were using was not very good, and E. I. knew something about gunpowder because he had studied how to make it with a famous French chemist, Antoine Lavoisier. He knew that he could make much better gunpowder than the kind available in the United States, so he suggested this business to his father. Because of Pierre Samuel's friendship with President Jefferson, the family was sure to get business from the United States government if they could offer a superior product.

After planning a gunpowder works and searching for land, E. I. du Pont de Nemours & Co. began construction along the Brandywine River in 1802. E. I. chose this location because of three great natural resources: water for power, granite for buildings, and willow trees for charcoal, one of the ingredients of gunpowder—he would have to import the other two ingredients, sulfur and saltpeter. The site was also convenient because many other French families had settled in this area, but it was a safe distance from the city of Wilmington in case of explosions. Unfortunately, nobody else in the area knew how to make gunpowder, so E. I. recruited skilled workers from the gunpowder mills in France.

It turned out that DuPont gunpowder really was better than other powder available in the United States, and it cost less to make. Black powder, as gunpowder was called then, was used for much more than just hunting. Mining and railroad companies used it for blasting away rock, and farmers used it to clear land. The company made its first government sale in 1804, when the U.S. Marines attacked the Barbary pirates to rescue American hostages. When the War of 1812 began, the military demand for powder was so great that E. I. had to expand his company. He bought a piece of land next to his original powder mills named Hagley and opened a second powder yard. In 1829, he added a third powder yard. Yet even though the company was selling a lot of powder and continuing to expand, E. I. was constantly in debt and unsure about the company's future. The day he died in 1834, he had just finished a meeting with some businessmen to whom he owed money. It was not until after the Civil War (1861-1865) that the company became financially successful. By the 1890s, the DuPont Company was able to buy out its competitors' powder yards in eight other states.



**Pierre Samuel du Pont  
de Nemours (1739-1817),  
pastel drawing by Joseph  
Ducreaux; Paris, France;  
ca. 1795,  
Hagley Museum Collection -  
#77.22**

Making gunpowder was a very dangerous business. There were 288 explosions at the DuPont mills on the Brandywine, resulting in thousands of dollars of damage and 228 deaths. Often, local people were afraid to work in the mills, so the company brought many workers from Ireland and Italy. The DuPont Company offered good wages, affordable housing, savings plans, and insurance for the workers' families. The company also helped its employees bring family members here from Europe by paying for their passage in advance and allowing workers to pay off the debt over time. In 1817, E. I. built a school where his daughter, Victorine, taught the children of workers from the DuPont Company and other local mills on Sundays. Even though powder workers lived with the constant danger of explosions, they were very loyal to the du Pont family and often worked for the company for many generations.

In 1866, Alfred Nobel introduced a more powerful explosive, dynamite, which quickly began taking the place of blasting powder. The DuPont Company opened its first research and development laboratory in 1902 to experiment with nitrocellulose, one of dynamite's main ingredients. The company soon moved away from the explosives industry as it found many new uses for chemicals, but continued to make explosives until 1981. The DuPont powder mills closed in 1921, but the company's success continued. Today the DuPont Company is known for inventing many products we use every day, like nylon and Teflon®.

When you visit Hagley with your class, you will see what is left of the powder yard that E. I. began building in 1802, including some of the mill buildings, one of the houses where workers lived, and the children's school. The Gibbons House looks much like it did in the 1870s, but the rest of Hagley has changed quite a lot. Remember that the DuPont mills and the workers' communities that surrounded them were once much larger. You will see that today, Hagley is a very beautiful place, full of trees, flowers, and birds; in the 1870s, it looked much more like a factory, with railroad tracks, metal line shafts, smoke stacks, and dirt.

On your walk to Workers' Hill, try to imagine what it might have been like back then. Have a great time on your trip back to the nineteenth century!



**Eleuthère Irénée du Pont**  
**(1771-1834)**  
**oil portrait by Rembrandt Peale,**  
**Philadelphia, PA;**  
**1831,**  
**Private collection**







## Objectives

- Students will identify primary and secondary sources.
- Students will draw conclusions based on analysis of primary sources.
- Students will use primary sources to tell a story about themselves.
- Students will be able to explain how historians use primary and secondary sources.

## Delaware Standards

History Standard 2: Gather, examine and analyze historical data; identify artifacts and documents as either primary or secondary sources of historical data from which historical accounts are constructed.

English Language Arts Standard 1: Use oral English appropriate for various purposes and audiences; demonstrate oral language proficiency.

## National Standards

Historical Thinking Standard 2: Historical Comprehension; English Standard 3: Evaluation Strategies; English Standard 4: Communication Skills; English Standard 6: Applying Knowledge; English Standard 7: Evaluating Data

# LESSON 1: LEARNING ABOUT THE PAST

*The past is really almost as much a work of the imagination as the future.*

—Jessamyn West

## Background for Teachers

This lesson serves as an introduction to the work of historians and encourages students to contemplate how and why people learn about the past. Seldom is the history of everyday people recorded during their lifetimes. Even when an account such as a diary exists, it offers a limited perspective. Historians must examine and analyze a variety of primary and secondary sources, such as images, letters, records, and artifacts, in order to draw conclusions about the past. Historians are both detectives and storytellers. This lesson will help students to develop the critical thinking and communication skills used by historians. They will apply these skills throughout the lessons in this guide and during their visit to Hagley.

## Time

One to two class periods

## Materials

Copies of the primary source analysis forms  
Primary source items brought in by students

## Procedure

1. Begin a discussion with your class about what historians, like those in museums, do. Some discussion starters could be (1) How do students usually learn about the past?; (2) How can museums and historic sites help students learn about the past?; (3) How do experts, like museum curators and historians, learn about the past?; (4) What other ways can people learn about the past?; (5) How will people in the future learn about what life was like for us?
2. Ask students to brainstorm all the different ways that people might learn about the past. This can be done as a class or in small groups. Explain to students the difference between primary and secondary sources. Ask them to discuss the different ways in which various types of sources are valuable. Make a list on the board of all the primary sources and all the secondary sources they come up with. For example:



R O

Monticello Apr. 24. 11.

Dear Sir

We are, four of us, sportsmen, in my family, amusing ourselves much with our guns. but the powder sold here is wretched, carrying the index of the French spruvelle (such as you furnished Gen<sup>l</sup> Dearborne) to 9. 10. or 11. only. While the consigner of your powder, received from you 2. or 3. years ago, carried it to considerably upwards of 20. I have persuaded a merchant in this neighborhood to get his supply from you which he has promised to do, and I am in hopes the difference which will be found between that & what has been usually bought will induce our other merchants to do the same. I promised Mr Letch, the merchant alluded to, a letter to you when he should go on. This will serve instead of it. but he does not go on till autumn. in the mean time I am engaged in works which require a good deal of rock to be removed with gunpowder, in doing which with the miserable stuff we have here, we make little way. will you be so good as to send me a quarter of a hundred of yours, addressed to Messrs<sup>rs</sup> Gilson & Jefferson of Richmond, who will forward it to me. the cost shall be remitted you as soon as made known. were I pass from Philadelphia to Richmond almost daily, & the sooner I receive it, the sooner I shall make effectual progress in my works. Accept the assurances of my great esteem & respect.

W. Jefferson

Mrs. E. Dupont de Nemours



**Some examples of primary source materials:**

**(upper left) Jefferson, Thomas to E. Du Pont de Nemours, April 24, 1811, Acc. 501**

**(left) Inkwell, quill pen, and ledger books in Hagley's First Office of the DuPont Company**

**(above) "Mr. Albert Buchanan and Family," ca. 1905-1920, Pierre Gentieu Collection, 70.1.219**





**“Lutton’s Covered Wagon Team  
in Lower Yard, Lutton Mounted,”  
ca. 1880-1920,  
Pierre Gentieu Collection,  
70.1.7**



**Primary sources** offer a first-hand account of events/topics without historical interpretation.

- photos and scrapbooks
- letters, journals, diaries
- interviews and oral histories
- speeches
- records and official documents
- census or other survey data
- works of art or literature
- artifacts and objects

**Secondary sources** offer commentary or interpretation of events/topics from a historical perspective.

- biographies
- history books
- newspaper/magazine articles (may be primary sources)
- encyclopedias
- web sites
- movies
- museums

3. Have students bring in one item that could be considered a primary source related to their lives. This may be a photo, a post card, a favorite toy, or anything that they’d like to share with the class. Ask one student to come to the front and share his or her source, or share an item you’ve brought in yourself. The student should not give any information about the item, simply show it to the class. Ask the students to look at the item closely and try to determine as much as they can about it.

- Who... made it? bought it? used it? took the picture? is pictured? wrote it? received it?
- What... is it? is it made of?
- Where... was it made? was it bought? was the picture taken? was it written?
- When... was it created? was it used?
- How... was it made? was it used? was it preserved?
- Why is it important to the person who brought it in?

4. After everyone has made their guesses, ask the student to tell the class about the item. Compare the guesses to the real story. How close were they?

5. Split students into small groups and have them repeat this exercise with the items they brought in. You may wish to copy the primary source analysis forms at the back of this book as guides for your students.

6. Wrap up with a discussion about the activity. Was it difficult or easy? Were they able to learn more from some items than others? Did the accuracy of their guesses depend on how well they knew their classmates? Explain that this is the type of work historians do: they use clues from objects, images, and documents to learn how people lived in the past. At Hagley, we have used DuPont Company records, oral history interviews, journals, sketches, photographs, and artifacts to determine what life was like for the people who lived and worked here.

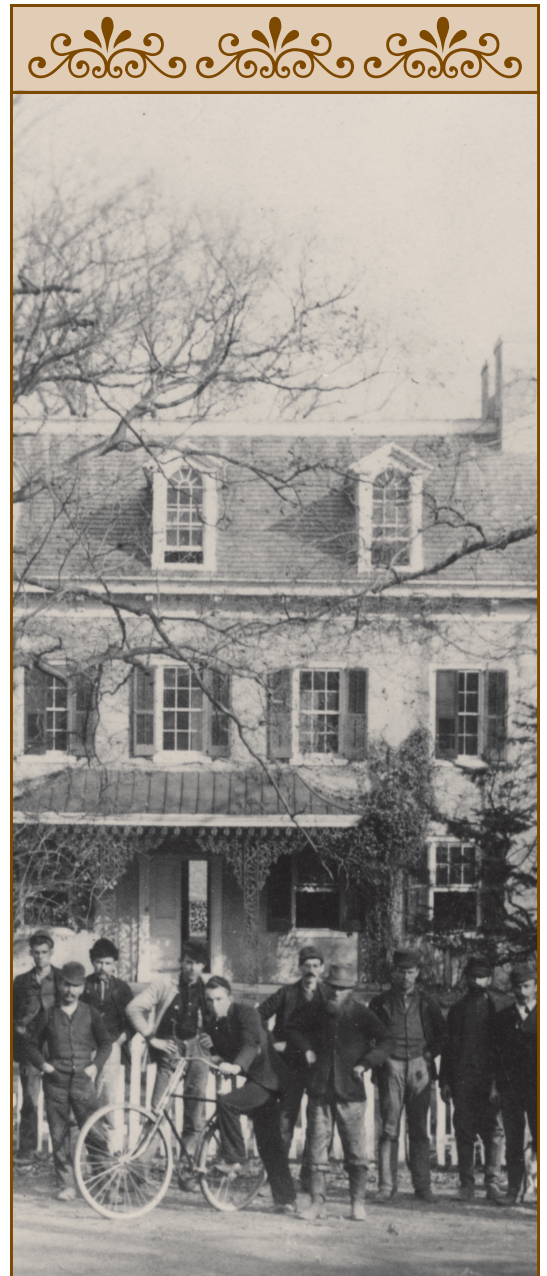
### **During Your Visit to Hagley**

Encourage students to think about the above questions as they encounter unfamiliar artifacts during their visit. After your visit, you may wish to discuss the following:

- (1) What do the furnishings of the Gibbons House tell us about its former residents?
- (2) What can we learn about the work of powdermen from the roll mill?
- (3) What do punch paper and gee haws show us about the leisure activities of the 1800s?
- (4) What can we tell about education from the Sunday School?
- (5) How does seeing all of these buildings and artifacts together give a picture of nineteenth-century life?
- (6) Is it a complete picture? What is missing?
- (7) Apart from the artifacts, how could we learn more?

### **Ideas for Extending the Lesson**

- Have students interview an older person and record his or her oral history. Students could interview their grandparents, visit a nursing home and interview residents, get in touch with alumni from their school, or contact the local American Legion or VFW to interview veterans.
- Discuss how students can preserve their own life experiences for future generations. They might consider keeping a journal, making a scrapbook or photo album, saving letters and other papers like school projects, or creating a time capsule. What other ideas can they come up with?
- Have your class plan an exhibit about a child's life in the twenty-first century. What artifacts, documents, and photos would students choose to represent their lives today? Why?



**"Brandywine Club,"  
Pierre Gentieu Collection,  
70.1.188A**



## Objectives

- Students will be able to explain why E. I. du Pont located his gunpowder mill on the Brandywine River.
- Students will recognize the importance of natural resources in establishing American businesses.
- Students will understand how entrepreneurs make choices when starting a new business.

## Delaware Standards

Geography Standard 2: Students will develop a knowledge of the ways humans modify and respond to the natural environment, applying a knowledge of topography, climate, soils, and vegetation of Delaware and the United States to understand how human society alters and is affected by, the physical environment.

Economics Standard 3: Students will understand different types of economic systems and how they change; students will identify different means of production, distribution, and exchange used within economic systems in different times and places.

## National Standards

Economics Standard 14: Profit and the Entrepreneur; Geography Standard 5: Environment and Society; Geography Standard 6: The Uses of Geography.

# PRE-VISIT LESSON 2: AN AMERICAN ENTERPRISE BEGINS

*I have bought property situated on Brandywine Creek near Wilmington, State of Delaware. The situation is very agreeable and I am busy setting up my gunpowder mill there.*

—E. I. du Pont, in a letter to a friend in 1802

## Background for Teachers

On September 24, 1801, E. I. du Pont visited Delaware to investigate a possible site on the Brandywine River for the operations of his new company. He had decided to manufacture gunpowder because the newly created United States did not have a native source of quality gunpowder and consequently had to import powder from foreign countries. President Thomas Jefferson, elected in 1800, encouraged E. I. in his decision to manufacture powder so that the United States would not have to rely on foreign sources for this critical product.

Mr. du Pont was introduced to the Brandywine Valley by a French friend who had settled near Wilmington. There was a thriving community of French immigrants in the area, and one in particular, Peter Bauduy, offered to buy the remaining shares of the fledgling company. What's more, the location offered many advantages. The Brandywine River falls 120 feet between the Pennsylvania line and Wilmington, making it an ideal source of power for early mills. Indeed, in 1800, the Brandywine already powered numerous mills in its lower five miles, and E. I. determined that the flow of the river was strong enough to survive summer drought and winter freeze, enabling year-round production. The site on the Brandywine was close to the wharves and to essential markets, such as Philadelphia, but far enough from the city of Wilmington to minimize damage should an explosion occur. Furthermore, E. I. wanted to keep a distance from the city to ensure that he would not lose workers to other employment, or worse, to Wilmington's taverns. The property provided plentiful and necessary building materials, such as wood and stone, as well as an abundance of land upon which to develop and expand. The willow trees along the riverbanks would supply charcoal, a key ingredient in gunpowder. A major resource the Brandywine site did not provide was skilled labor, and E. I. du Pont immediately began writing to his acquaintances at the Essonnes powder works in France to recruit skilled powdermen for his new mill.

In April of 1802, E. I. du Pont de Nemours & Co. purchased the sixty-five-acre site along the Brandywine for the powder manufactory he christened Eleutherian Mills. In the summer of 1802, the foundations were laid for the first powder mill, and in 1804 the manufacturing of powder commenced. In this first year, the company produced 38,525 pounds of gunpowder. By 1811, due in large part to government contracts with the U.S. Army and Navy, the company was the largest gunpowder manufacturer in the country. In 1812, E. I. expanded his powder works when he purchased an adjoining thirty acres of land known as Hagley.



**Time**

Two to three class periods

**Materials**

Worksheet: Natural Resources at Hagley

Hagley: A Place In Time

Worksheet: E. I. Starts a Business

Worksheet: Start Your Own Business

**Procedure**

1. Begin by asking students if they have heard of the DuPont Company and if they know what it does. Explain that DuPont is one of the country's largest chemical companies and made many products that we use every day, such as nylon and Teflon®. The DuPont Company was founded by the French immigrant E. I. du Pont as a gunpowder manufacturer. Hagley Museum is the historic site along the Brandywine River where E. I. opened his first mills.
2. Ask the students to imagine what considerations E. I. might have had in choosing a location for his gunpowder mills. They may think of safety, workers, distribution methods, and natural resources.
3. Give students the worksheet "Natural Resources at Hagley." Ask them to study the picture of the Hagley powder yard carefully and then list all of the natural resources they can identify in the picture. Next, have them determine whether the resource is renewable or not. Finally, they should guess how those resources may have been used.

Resource	Renewable?	Use
Land	no	Room to build many buildings
Water	yes	Power for the machinery
Stone	no	Many buildings were constructed of the blue granite quarried on-site.
Trees	yes (limited)	Buildings and fences were also made from lumber cut on-site.  Willow trees were used to make charcoal, a key ingredient in gunpowder.
Animals	yes	Horses provided labor. Workers also fished on the Brandywine and raised chickens.
People	yes	People built the mills and made the gunpowder.

4. Ask them if they can think of any other reasons this site may have been chosen. (It was close to shipping ports and major cities. It was at a safe distance from Wilmington in case of explosions. It was in an area where other French immigrants had settled.)

5. Apart from choosing a location, E. I. had to consider many other issues in starting his business. Have students read "Hagley: A Place in Time" and find the answers to the questions on the "E. I. Starts a Business" worksheet.





**“Hagley Yard and Dam  
on the Brandywine Creek,”  
ca. 1880-1920,  
Pierre Gentieu Collection,  
70.1.73**

**The Brandywine River  
was an important source  
of power at Hagley.**



6. Divide the students into small groups to create a business plan for their own company using the DuPont Company as a model. Have each group complete a Start Your Own Business worksheet. At the end of the activity, have each group give a brief presentation of their ideas.

### **During Your Visit to Hagley**

Students will see how many of the natural resources at Hagley were used. Ask them to notice which buildings were made of wood and which were made of stone. Can they explain why? Have them look for stone that is still in the ground, and stop to see the stone quarry across from the Millwright Shop. Have the students who participate in the Powderman activity explain to the other students how water was used for power. Ask the students to identify some of the safety precautions that were used in the powder mill community.

### **Ideas for Extending the Lesson**

- Have students research what natural resources are available in their state or local communities and how they have affected what businesses developed there. For example, students from the mid-Atlantic region might learn more about agriculture, aquaculture and fisheries, timber production, saw mills, paper mills, mining, iron and steel manufacturing, or tourism.
- If your school is near Wilmington, find out what other types of mills operated along the Brandywine.
- Discuss natural resource conservation. What does it mean and why is it important?

# WORKSHEET: NATURAL RESOURCES AT HAGLEY



**Lower DuPont powder yards, crayon sketch by Pierre Gentieu;  
March, 1878, Hagley Museum Collection - #55G4/P23-7**

Can you find the natural resources that E. I. du Pont used in his gunpowder mill?

Resource	Renewable?	Use
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____

Can you think of any other reasons E. I. might have chosen this area to build his company?

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# WORKSHEET: E. I. STARTS A BUSINESS

When E. I. du Pont decided to start a gunpowder business, he had to do a lot of thinking and planning. Read "Hagley: A Place in Time" and answer the questions below.

1. What did E. I. discover was needed in America?

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2. What kind of business did E. I. start?

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3. What did E. I. name his business?

---

4. What made E. I.'s product unique?

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5. What three ingredients did E. I. need to make his product?

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6. Why did E. I. choose the Brandywine River as the location for his business?

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7. Why did E. I. have to recruit workers from other countries?

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8. What risks did E. I.'s company face?

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# WORKSHEET: START YOUR OWN BUSINESS

Imagine that you would like to start your own business just like E. I. du Pont did.  
Plan your business by answering the questions below.

1. E. I. discovered that America needed high-quality gunpowder. What is a need in your community?

---

2. E. I. decided to start a gunpowder-manufacturing business. What kind of business would you start?

---

3. E. I. named his company E. I. du Pont de Nemours & Co., and he named his first gunpowder mills Eleutherian Mills (after his first name).  
What would you name your business?

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4. E. I.'s gunpowder was a much higher quality than any other gunpowder available in the United States, and it was produced by  
machinery at a lower cost. What will make your product unique?

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5. E. I. needed saltpeter, charcoal, and sulfur to make gunpowder. What materials will you need to make your product?

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6. E. I. needed a location for his mills that was a safe distance from the city, provided water power and other natural resources, and  
had access to ports for shipping. What characteristics would you look for in the location for your business?

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7. E. I. hired general laborers from the Wilmington area, but he also brought skilled powdermen from France to work for him.  
What kinds of skills will your workers need?

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8. E. I. faced a great risk of explosions resulting in loss of equipment and lives, so he enforced many safety rules. What risks will your  
business face, and how will you minimize those risks?

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# PRE-VISIT LESSON 3: GUNPOWDER IN AMERICA

*I don't believe we would ever have had this country if it hadn't been for DuPont. I believe they saved this country, myself. I really do.*

*—Philip Dougherty, a worker who grew up in the powder mill community*

## Background for Teachers

This lesson introduces students to the various ways gunpowder was used in American history. Gunpowder was an important resource in all of America's nineteenth-century wars: the War of 1812, the Civil War, and the Spanish-American War. With the production of its first powder in 1804, the DuPont Company began to fill extensive military demand for gunpowder. This demand increased over the century, but gunpowder met serious competition with the introduction of other explosive technologies, such as dynamite in 1867, and smokeless powder, which the DuPont Company began producing in 1894.

Gunpowder was not just a tool for war, however. Gunpowder was an essential commodity in opening the frontier and in American expansion and development. In the nineteenth century, gunpowder was used for hunting, protection, and clearing land as people moved west to settle. Gunpowder was also necessary for mining, quarrying, and canal construction. Gunpowder cleared the way for the building of the Erie Canal, which was completed in 1825. In the middle of the nineteenth century, gunpowder was used in railroad construction. Between 1851 and 1860, railroad companies built more than 20,000 miles of new track, opening the West to new development.

DuPont gunpowder was of a superior quality to any other gunpowder produced in the United States. The Company's first gunpowder was sold as Brandywine Powder, but when competitors began using similar names to confuse the public, E. I. changed the name to DuPont Powder and issued a warning to the public. Later, the Company had to redesign its powder flasks to prevent tampering because competitors were selling their own powder in DuPont packaging. The Company advised the public to avoid this deception by buying only from designated DuPont powder agents. Competitors included the California Powder Works, King's Great Western Powder Company, the Sycamore Powder Mills, and the Hazard Powder Company. By the 1890s, the DuPont Company had achieved enough success to buy out more than one hundred of its competitors.

## Time

One to two class periods

## Materials

DuPont gunpowder advertisement from Georgetown  
DuPont gunpowder labels

## Objectives

- Students will be able to identify various uses for gunpowder.
- Students will understand the role of gunpowder in the development of America.
- Students will understand how economic competition affects advertising.
- Students will create their own advertisements and commercials for a product.

## Delaware Standards

History Standard 2: Students will gather, examine, and analyze historical data; examine historical materials relating to a particular region, society, or theme; chronologically arrange them and analyze change over time.

History Standard 4: Students will develop historical knowledge of major events and phenomena in world, United States, and Delaware history; develop an understanding of Delaware history and its connections with United States history (1802-1921); and develop an understanding of selected themes in United States history (how advances in technology changed our lives).

English Language Arts Standard 1: Students will use written and oral English appropriate for various purposes and audiences, demonstrating oral language proficiency

English Language Arts Standard 2: Students will construct, examine, and extend the meaning of literary, informative, and technical text; critically analyze and evaluate information and messages presented through print, speech, and mass media.

## National Standards

Economics Standard 9: Role of Competition;  
History Era 4: Expansion and Reform

## Procedure

1. Explain to students that gunpowder had many uses in the nineteenth century. Have students study the gunpowder advertisement from Georgetown, Washington, D.C., and try to figure out the different uses of powder that are represented: hunting, warfare, mining, blasting for tunnels, fireworks.
2. Ask your students why gunpowder would have been important in America in the nineteenth century. How was it used in the country's development? How did it help frontier pioneers, farmers, industrialists? What contribution did it make to the development of transportation?
3. Share with your students some of the background information provided above. Because of competition, companies must find ways to market their product to consumers. The DuPont Company used advertisements and beautiful powder keg labels to market their various types of powder. Many of the labels were hand drawn by du Pont family members. Divide your class into small groups. Assign each group a different use for powder based on the determinations above. Have each group design a powder label for the use it has been assigned and create a commercial to go along with it. Then have the groups present their labels and commercials to the class.

Alternate Activity: Have your students design a label and a commercial for the businesses they imagined in Lesson 2. Have them present their designs to the class.

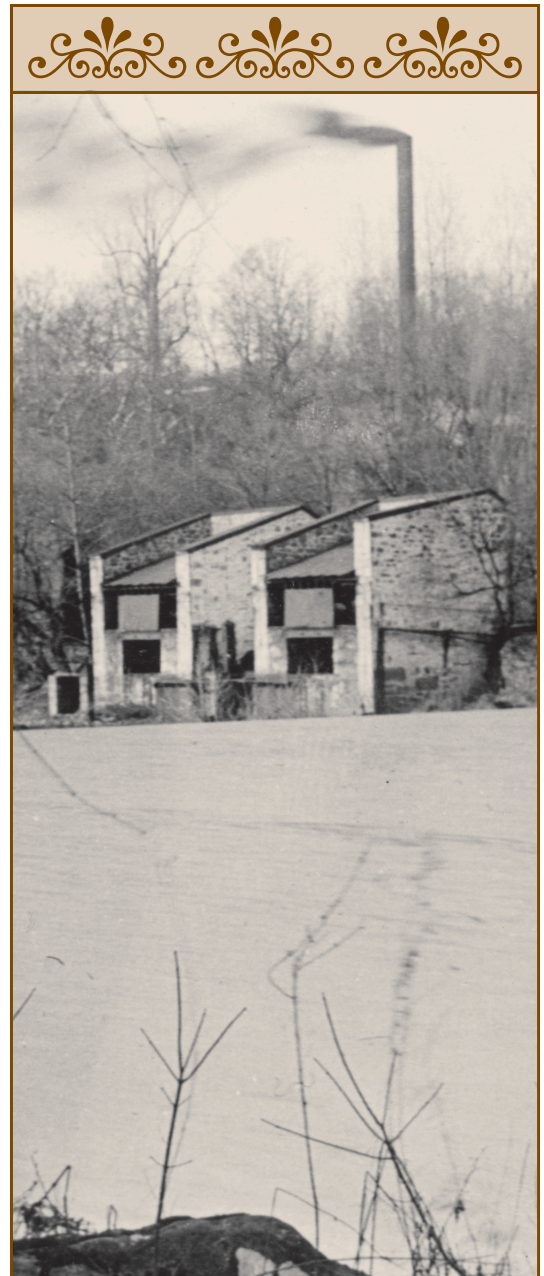
4. After they have completed their own advertisements, show your students some examples of real nineteenth-century powder labels. Ask which ones they like best and why. What messages do the labels convey? Which labels would be most effective for selling the product?

## During Your Visit to Hagley

Ask the students participating in the Powderman activity to explain how the DuPont Company also used epreuves to help sell their powder.

## Ideas for Extending the Lesson

- Have students research the construction of the Erie Canal, the development of the transcontinental railroad, or the California Gold Rush, all of which depended on DuPont explosives.



**“Modern Incorporating Mills,  
20,000 lbs. Blasting Powder,”  
Pierre Gentieu Collection,  
70.1.132**

**The ingredients for gunpowder  
were mixed in these roll mills.**



Pacific Rifle Powder Label,  
Jno. D. Griswold & Co.,  
Lammot du Pont Collection,  
Box 35A, Acc. 384





King's Great Western Powder Company Label, Lammot du Pont Collection, Box 35A, Acc. 384





**CHALLENGE SPORTING POWDER**



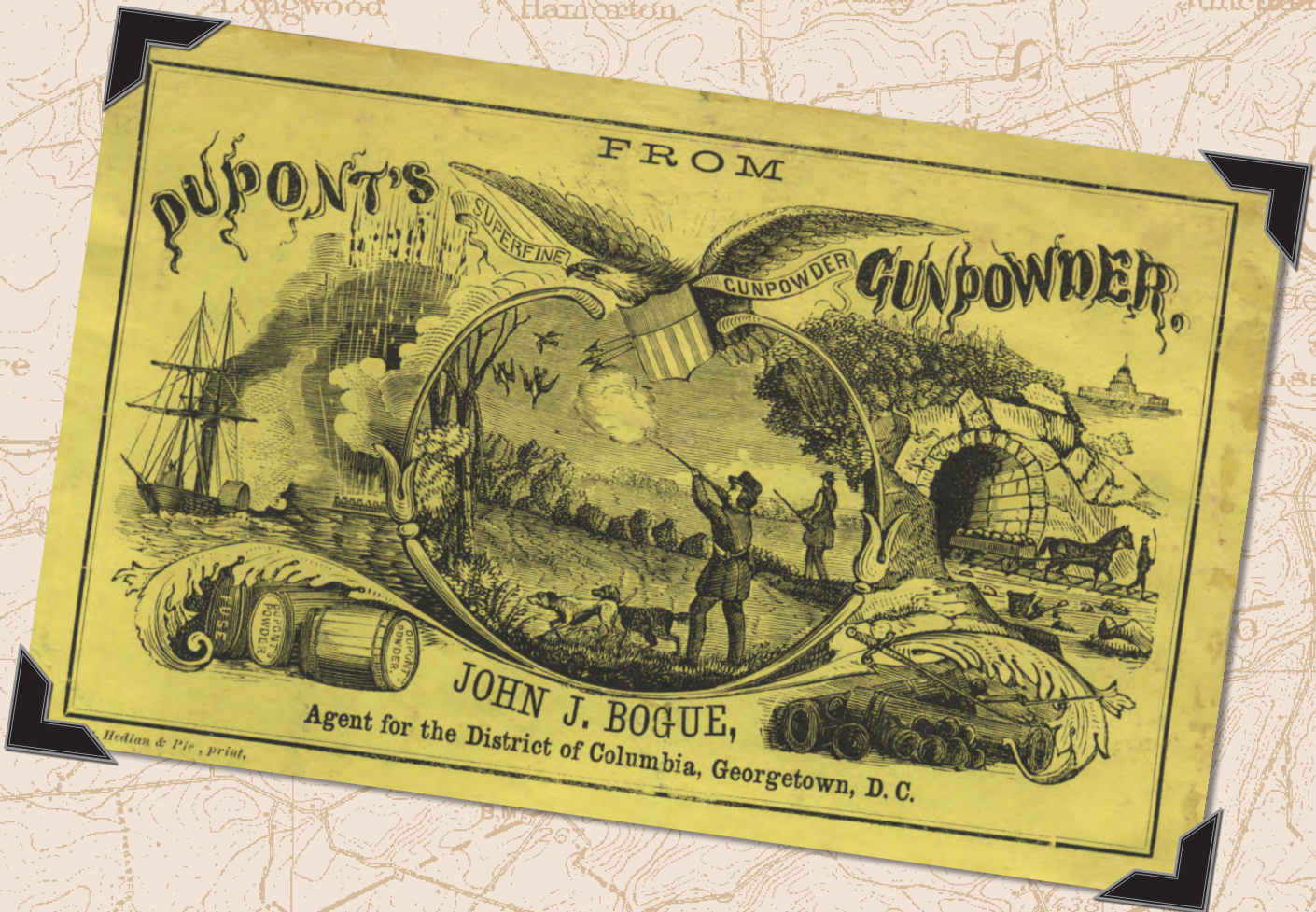
**“SILVER TIP”**

MANUFACTURED FOR  
**WELLS & NELLEGAR CO.**  
 BY THE PHOENIX POWDER MFG. CO. NEW YORK.

PHOENIX POWDER MFG. CO. CHICAGO.

Challenge Sporting Powder  
 Label, Wells & Nellegar Co.,  
 Lamot du Pont Collection,  
 Box 35A, Acc. 384





**John J. Bogue,  
Agent Trade Card for  
DuPont Gunpowder,  
Lamot du Pont  
Collection,  
Box 35, Acc. 384**







## Objectives

- Students will understand how immigrants contributed to the workforce of the United States.
- Students will identify some of the push-and-pull factors that brought immigrants to the United States.
- Students will write a story from the point of view of an immigrant to a new country.

## Delaware Standards

History Standard 4: Students will develop historical knowledge of major events and phenomena in world, United States, and Delaware history; develop an understanding of Delaware history and its connections with United States history (1802-1921); develop an understanding of selected themes in United States history (immigration).

English Language Arts Standard 1: Students will use written and oral English appropriate for various purposes and audiences and for writing expressive texts.

## National Standards

History Era 4: Expansion and Reform;  
Language Arts English Standard 12:  
Applying Language Skills

# PRE-VISIT LESSON 4: WORKERS COME FROM OTHER LANDS

*First came the French, and then came the Irish, and then came the Italians.*

—Former powder yard worker

*The work of building is proceeding rapidly. I am urged on by the arrival of three boats of Irishmen, which have furnished all the workmen we needed.*

—E. I. du Pont in a letter to his brother in 1803

*Many people thought working here was worth the money, but they were scared to work in the powder—outside of the Italians and Irish.*

—Former powder yard worker

## Background for Teachers

This lesson introduces students to the people who worked in the DuPont powder mills, and the three activities encourage your students to think about the role and nature of immigration in American history. Like all early industries, the DuPont Company powder works required the efforts and skills of many workers. Those men who directly worked with the manufacturing of explosives were called “powdermen.” Powdermen worked in the roll mills, dry houses, press rooms, composition and graining mills, dust mills, glazing mills and packing houses. In the first year, 1802-1803, the company employed forty people, and this number increased over the century with some fluctuation, though never surpassing five hundred people. When your students visit Hagley, they can expect to see the very places these powdermen worked, as well as some of the places the workers lived.

E. I. du Pont chose to recruit his labor from Europe, anticipating that American-born labor would be difficult to find and keep with the new nation’s abundance of land and opportunity. From the time the powder works opened until they closed in 1921, the majority of the workers were immigrants. At first, E. I. recruited skilled powdermen from the gunpowder works in Essonnes, France. He discovered, though, that the men did not adapt as easily as he had hoped to life in America; they soon became homesick and returned to France. The next wave came from Ireland, and these men proved to be more motivated by the promise of economic advancement. The du Pont family recognized the opportunity to build a loyal workforce by helping to bring their workers’ families to America; company records show that many families worked for the company for several generations. Later in the century, Italian immigrants began to arrive. The company employed many Italians as stonemasons in addition to other jobs in the powder yards.

As the workforce grew, so did the communities surrounding the mills, like Henry Clay Village, Free Park, Squirrel Run, Duck Street, and Chicken Alley. Workers generally married, had children, and acquired a company house within three to five years of working for the DuPont Company. Rent for a company house ranged from \$3 to \$12



every three months, and many powdermen received free housing. The foremen of the yards lived in a community called “Hagley Gate” (known today as Workers’ Hill) in a house that is named for one of the foremen, John Gibbons. The Gibbons House is the only remaining example of a worker’s home from this period.

**Time**

Two to three class periods

**Materials**

Photos of workers at Hagley  
Books about immigration or access to the internet

**Procedure**

1. Introduce students to the concepts of immigration and emigration. Ask students if they or their ancestors immigrated to America. If so, where did they come from and why? Discuss the reasons for migration throughout American history.
2. Explain that Hagley attracted many immigrants from France, Ireland, and Italy. Although work in the powder yards was dangerous, people had many reasons for coming to America and to Hagley. Have students complete the worksheet “Immigration Push-and-Pull Factors.” You may decide to complete the chart as a class or have students work in small groups to brainstorm.
3. Students may need additional resources to complete the chart, such as books or encyclopedia articles about immigration. The Digital History Ethnic America website is an excellent source: [http://www.digitalhistory.uh.edu/historyonline/ethnic\\_am.cfm](http://www.digitalhistory.uh.edu/historyonline/ethnic_am.cfm).
4. Many companies placed ads in foreign newspapers or hung posters in train stations to attract new employees. Have students work individually or in groups to create a poster enticing immigrants to come to Hagley. Ask students to imagine how the DuPont Company might have persuaded people to leave their homelands to work in the powder yards.

**During Your Visit to Hagley**

When students are visiting Workers’ Hill, ask them to think about how this environment might have been different from the homes that workers left in France, Ireland, and Italy. Which traditions did these immigrants bring with them? How did their lives change when they got here?

**Ideas for Extending the Lesson**

- Ask your students to imagine leaving home to come and work at Hagley. Have them write a story about why they are leaving, what they will bring from their homes, and what they hope will happen when they arrive in their new chosen land.
- Have students research immigration in their local community. Which groups came and when? What were the factors that drew them?
- Arrange for recent immigrants or first-generation Americans to speak to your students about coming to America. Have students design interview questions to ask during the visit.



**“W. F. Lynch and  
pipefitter group,”  
1905,  
Pierre Gentieu Collection,  
70.1.93A**

# WORKSHEET: IMMIGRATION PUSH AND PULL FACTORS

For immigrants, some factors pushed them to leave their countries (to emigrate) while others pulled them toward America (to immigrate). Complete the chart below with the reasons that may have influenced each group's migration.

## Push

Class structure  
Crop failure  
Lack of land  
Natural disaster  
Overpopulation  
Political or religious persecution  
Poverty or poor standard of living  
Unemployment  
War or revolution

## Pull

Education  
Employment  
Improvements in transportation  
Join family members already in the U.S.  
Opportunities for children  
Political or religious freedom  
Social advancement

	Reasons to leave the country (push)	Reasons to go to the United States (pull)
French		
Irish		
Italian		

Why do you think immigrants came to work at Hagley?

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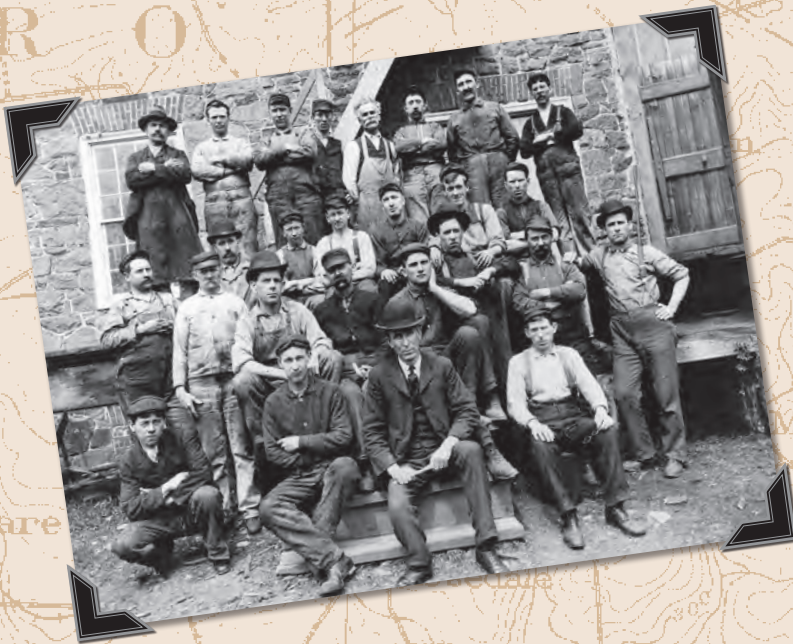
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R O



Chadds Ford Junction

Mens 333

List of Passengers to Brig Minerva capt. Mc  
 Delaware engaged by orders from Mess: E. L. Dupont

71	James Moore	24	William Moore	28
21	Richard	24	Henry Moore	321
22	May's Bone	24		
32	William Poplin	24	James Poplin	20
135	Mary McAlar	24	Patrick McAlar	
136	Charles	24		118
137	Simon	24		
138	Bridget	24		
139	Patrick	24		
140	Cath.	24	Wm. McAlar	
141	Peter	16		111
142	Edie	16		
161	Mary	16		
145	Susan Daily	24	Patrick Daily	118
146	Anne	24		
217	Cath. McFadden	24	James McFadden	118
218	Sarah	24	John McFadden	118
219	Mary	24		
232	Keyl Trummy	24	James McFadden	118
233	Mary	24		
234	Chas. M. Conroy	24	James McFadden	118
235	Mary	24		
280	Patrick Holton	24		
281	Mick?	24		
282	John Early	24		
283	Wm.	24		
				\$600=

Upper left: "Employees at Henry Clay Factory," April 13, 1905, Pierre Gentieu Collection, 70.1.29

Individual pictures - details from "W. F. Lynch and pipefitter group," 1905, Pierre Gentieu Collection, 70.1.93A

Left: List of Passengers from Brig Minerva, Du Pont Company, Box 386, Acc. 500, Series 1

This is a list of passengers from the Brig Minerva, 1846, from Derry, Ireland, whose passage was paid by employees of the DuPont Company.

Below: Travel trunk used on a voyage from Liverpool to Philadelphia by Irish immigrant Edward Beacom who came to work in the powder yards in 1870, Hagley Museum Collection - #67.38.2



Winter  
 KENNEDY  
 Mount



## Objectives

- Students will examine historical documents to draw conclusions about safety practices at Hagley.
- Students will consider the costs and benefits of working in a dangerous industry in the nineteenth century.
- Students will write a speech about the importance of safety practices in the manufacture of gunpowder.

## Delaware Standards

Economics Standard 1: Students will analyze the potential costs and benefits of personal economic choices in a market economy.

History Standard 2: Students will gather, examine, and analyze historical data; identify artifacts and documents as either primary or secondary sources of historical data from which historical accounts are constructed; examine historical materials relating to a particular region, society, or theme.

English Language Arts Standard 1: Students will use written and oral English appropriate for various purposes and audiences; write informative (subject-oriented) texts.

English Language Arts Standard 2: Students will construct, examine, and extend the meaning of literary, informative and technical text.

## National Standards

Language Arts English Standard 3: Evaluation Strategies; Language Arts English Standard 6: Applying Knowledge.

# POST-VISIT LESSON 5: LIVING WITH DANGER

*I considered anything dangerous where powder was.*

—Former powder yard worker

*When we heard the explosion we were let out of school, and we ran to the Upper Yard to see it. The houses were all demolished. I saw a lady out on the roof of a house . . . She was dying . . . Her husband had been killed in the powder years before.*

—Former powder yard worker

*I'll never forget the scenes I witnessed from our house right after an explosion . . . It was just terrible! You would hear these Irish women calling out, "Worra, worra, where's my John?" Just ring in your ears for weeks afterward. And they would come up and you could tell by the way that woman was supported by another woman that that woman's husband was gone.*

—Former powder yard worker

## Background for Teachers

American industries, such as railroads, textiles and mining, required diverse skills and frequently relied on immigrant labor in the nineteenth century. Manufacturing explosives came with a particular set of circumstances, as it was uniquely dangerous work. This danger was a constant feature of living and working in the Hagley communities. Through two activities focusing on work safety and discussion, this lesson introduces students to the dangerous work powdermen did every day and asks students to consider the costs of living with danger.

DuPont gunpowder was created from a mixture of saltpeter (potassium nitrate), charcoal, and sulfur. The mixing of these components was essential to the product, but potentially volatile and sometimes deadly. From the time E. I. du Pont started the business in 1802 until the powder mills closed in 1921, the company suffered 288 explosions, costing the lives of 228 people. The most deadly explosion occurred in the Upper Yard in 1818 and killed thirty-four people. The second most deadly explosion occurred nearly a century later in 1915, taking thirty lives. Some of these explosions happened in the process of making the powder at the mills, while others happened elsewhere: the explosion of 1863 occurred in the packing room as powdermen filled kegs with powder, and in 1854, three wagon loads of powder exploded in the streets of Wilmington, Delaware.

Because making gunpowder was potentially so dangerous, the du Ponts and members of the Hagley community took safety measures quite seriously. Explosions affected all who lived near the powder yards since the workers and their families lived within walking distance of the industrial site. All powdermen were required to wear shoes with wooden pegs and not nails, as metal was not allowed in the powder yards. Women and children could not enter the



yards, so children would bring their fathers' lunches only as far as the entrance gate where a gatekeeper ensured they went no farther. Matches or fire of any kind in the powder yards were strictly forbidden. As William Frederick Lynch recalled in an oral history recorded by the Hagley library in 1954: "First thing—and most important thing of all concerning safety—if you were caught striking a match or a fire you'd never get back again." This lesson provides primary materials relating to each of the safety precautions mentioned above.

Despite these dangers, powdermen earned competitive wages at the DuPont powder mills and worked under good conditions. The company provided benefits to their employees such as savings plans and a sort of insurance for families long before such employment benefits were common. These circumstances provided incentives to keep workers employed despite the inherent dangers of the work.

### **Time**

One to two class periods

### **Materials**

Letter from shoemaker

Photo of Hagley gatekeeper

Powder Yard Rules from 1811

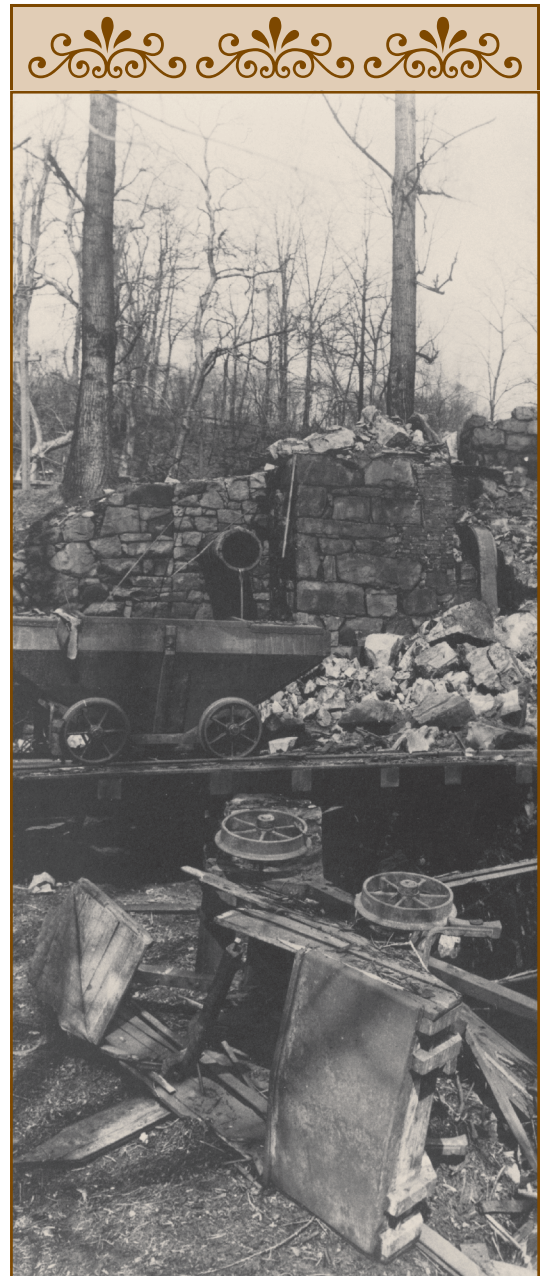
Primary Source Analysis Forms

### **Procedure**

1. Ask the students who participated in the "Powderman" activity during their visit to tell the other students a little about the process of making black powder. Ask them to describe some of the safety precautions taken at the roll mills.
2. Have your students read and examine the attached primary sources relating to work safety: a letter from a shoemaker in 1890; a picture of one of the Hagley gatekeepers; and the powder yard rules. Students can work independently or in small groups to complete a primary source analysis form for each item.
3. Ask students to draw some conclusions about the role of safety in the DuPont powder mills. Why was safety so important in the powder yards?
4. Have each student imagine that he or she is the foreman of the powder yards. Ask your students to write a speech to the workers about safety. What would they say and why?
5. As a class, discuss why powdermen and their families would be willing to live with this danger. How did the work at Hagley compare to other jobs available to these men at the time?

### **Ideas for Extending the Lesson**

- Have students do some research about the dangers of other nineteenth-century industries, such as mining, construction, rail roads, and factory work. Was working in gunpowder considerably more dangerous than other industries?
- The DuPont Company was one of the leaders in workplace safety in the United States. Introduce students to the Occupational Safety & Health Administration and have them find out why this organization began. More information is available at [www.osha.gov](http://www.osha.gov).



**"Wheel Mill Explosion, 1921,"  
Pierre Gentieu Collection,  
70.282.1**

## Rules.

As the greatest order and regularity is indispensable in this manufactory as well for the regularity and the security of the works, than for the Savety of the workmen themselves, the following Rules shall be strictly observed by every one of the men employed in the factory.

- 1° they will always keep the greatest regularity and order in the works and Subordination to the orders of M. duP M. Mess. Dalmas & du Pont.
- 2° all kind of play or disorderly fun is prohibited
- 3° no kind of spirituous liquors is allowed to be fetch and drinke in the factory. All any of the men that would appear to the his work in a state of entoxication shall be dismissed.
- 4° any of the men that will wish to absent himself will ask the leave of M. Dalmas or M. du Pont. and any one that will absent himself without leave will be charged double for his time of absence.
- 5° no Strangers of any description are allowed admittance in the Works or in the yard of the powder mills, and the men are potil expected obliged to direct out any stranger that would intrude on the above rule.
- 6° no Strangers will be allowed for any pretext what so ever to be boated over the creek, for their conveniency.
- 7° the boats shall be locked at 7 o'clock in winter and 9 in winter summer and none will be allowed to cross the creek after said hours.

E. Mills January 1st 1811

Right: Rules, Eleuthera Bradford du Pont Collection, File 100, Acc. 146

"Holcomb Baby Cradle After an Explosion at Hagley," 1889, Pierre Gentieu Collection, 70.1.41

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As the greatest order and regularity is indispensable in this manufactory as well for the regularity and the security of the works, than for the Savety of the workmen themselves, the following Rules shall be strictly observed by every one of the men employed in the factory.

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7° the boats shall be locked at 7 o'clock in winter and 9 in winter summer and none will be allowed to cross the creek after the said hours.

E. Mills January 1st 1811.





BODE & LARSON  
Main Street, bet. Sixth and Seventh  
Shoe Dealers.



*Franklin, Iowa.*

Dear Sir,

We desire to call your attention to the Shoes we have had made especially for the Men of the Powder Works.

These shoes are made without nails in the soles or heels, having ordered the heels & soles pegged on by Hand with wooden Peggs, they are a strictly first class shoe and we have spared no pains to have them put up right & they are pronounced by Supt. Thomas all right having purchased a pair for his own use!

We kindly ask your patronage & will quote you low prices on first class goods!

Yours Truly

Bode & Larson

P.S.

All the Shoe Stores having agreed to close at 6 o'clock P.M. Except Saturdays & Mondays We would kindly ask you to call on either of these two evenings!

*Shoes OK 2/17*

July 1890

Dear Sir,

We desire to call your attention to the Shoes we have made especially for the Men of the Powder Works.

These shoes are made without nails in the soles or heels, having ordered the heels and Soles pegged on by Hand with wooden Peggs, they are a strictly first class shoe and we have spared no pains to have them put up right and they are pronounced by Supt. Thomas all right having purchased a pair for his own use!

We kindly ask your patronage and will quote you low prices on first class goods.

Yours Truly,

Bode and Larson

P.S. All the Shoe Stores having agreed to close at 6 o'clock P.M. Except Saturdays and Mondays we would kindly ask you to call on either of these two evenings.

Note added later by unknown writer: "Shoes OK F.Y.I."

Left Above: Bode and Larson to E.I. du Pont de Nemours, July 1880, Francis G. du Pont Papers, Box 11, Acc. 504

Left: "Blacksmith shop gate," ca. 1880-1920, Pierre Gentieu Collection, 70.1.112







## Objectives

- Students will compare and contrast homes in the nineteenth century with those of today.
- Students will examine historical documents and draw conclusions based on their experiences at Hagley.
- Students will write a story that reflects their knowledge of daily life in the nineteenth century.

## Delaware Standards

History Standard 4: Students will develop historical knowledge of major events and phenomena in world, United States, and Delaware history; develop an understanding of Delaware history and its connections with United States history (1802-1921); develop an understanding of selected themes in United States history (how advances in technology changed our lives).

English Language Arts 1: Students will use written and oral English appropriate for various purposes and audiences; write informative (subject-oriented) texts.

## National Standards

Language Arts English Standard 3: Evaluation Strategies; Language Arts English Standard 6: Applying Knowledge

# POST-VISIT LESSON 6: HOME LIFE THEN AND NOW

*Everybody in our house had a chore. Usually mine was cleaning. Then you had the dishes and beds to make. That's what amazes me today, just amazes me, to think of the children not having anything to do. My mother found things for you to do.*

—Former resident of the powder mill community

## Background for Teachers

This lesson introduces students to social life in the nineteenth century and asks them to interpret a number of interesting primary source materials, including scenes of everyday life drawn by Sophie du Pont. Students are encouraged to contemplate differences between the past and the present. Your students have now visited the Gibbons House at the Hagley Museum, which shows how some people lived more than one hundred years ago. This house was built in 1846 for the foreman of the powder yards and named for John Gibbons, who lived there with his family during his tenure as foreman from 1859 to 1885. The now-isolated, three-story stone house was once connected to a row of workers' homes. The first floor holds the kitchen—the center of family activity. The cook stove was used all year for cooking and heating, and it was fueled by both wood and coal. Nineteenth-century homes were generally lit by candlelight.

Powdermen typically worked twelve-hour days in the summer and nine-hour days in the winter with one hour for lunch, Sundays off, and company holidays on Christmas and the Fourth of July. Occasionally, boys would join their fathers in the powder mills, but for the most part, children would help their mothers tend to the home. Most of the women in the Hagley community, including widows, were housekeepers. Homes typically consisted of a kitchen and two bedrooms with an attending small plot of land for growing a vegetable garden or perhaps some chickens. The foreman's home was a bit larger, with a parlor for entertaining and pursuing leisure activities. Making and caring for clothes was very time consuming; most clothing was made in the home, and to do the laundry, one had to collect water, boil it, hand stir and wash all the clothes, then hang them out to dry. Baking, canning and making three meals a day also took up a large part of a woman's day. To supplement income, some women peeled willow branches and sewed bags for black powder.

Hagley was a very isolated and close community, and most social life centered on religious activities. By the 1870s, however, political and military fraternal organizations began to flourish, and in 1890, Francis Gurney du Pont created a workman's club on the site. Despite attempts to limit drinking, several taverns, such as Buck's Tavern, sprang up in the area. Children enjoyed swimming in the Brandywine River, gathering nuts and berries, boating, riding horses, taking trips to town, attending Sunday School, and playing in the woods.



**Time**

One to two class periods

**Materials**

Sophie du Pont's drawings  
Primary Source Analysis Form  
Matching the Past Worksheet

**Procedure**

1. Discuss with the class what observations students made at the Gibbons House. What stood out in their minds about the home?
2. Ask students to write a comparison of a room they saw at the Gibbons House with a room in their own house. How are the rooms similar? How are they different?
3. Show students the attached drawings by Sophie du Pont depicting typical scenes from her life. Using the primary source analysis form, ask students to draw some conclusions from the pictures.
4. Ask students to select one of the pictures and write a story to accompany it based on what they have learned at Hagley about nineteenth-century life.
5. Pass out the attached worksheet and ask students to match the modern day item with its nineteenth-century counterpart.

**Ideas for Extending the Lesson**

- Explain that as technology evolves, our daily lives and activities change. Ask students to imagine how a typical home will change 150 years from now and draw a picture or write a story about it.
- Ask students to choose one modern household item (such as a washing machine or a blender) and trace its evolution. How did people accomplish the same tasks before such modern conveniences?



**“John Stewart Family in  
Front of Foreman’s Home,”  
Pierre Genticu Collection,  
70.1.212**

### Background Information on Sophie's Carics

Sophie du Pont, a daughter of E. I. who grew up at Hagley, made many sketches documenting scenes from her life between the years 1823 and 1833, when she was between the ages of 13 and 23. Sophie referred to them as her "carics," short for caricatures, indicating their often comic nature, and many of them include humorous captions similar to comic strips

"Pernicious effects of reeding tails" depicts the unfortunate overturning of a chamber pot by the long accordion-pleated, or "reeded", skirt of a young lady.

A letter from Sophie to her brother Henry describes the events depicted in the sketch of a bedroom fire in her brother, Alfred's, room. The fire was first discovered by Alfred's wife, Margaretta (Meta):

*This morning at about five o'clock Meta was awakened by a slight smell of smoke, she woke Alfred . . . Alfred went to his sanctum, & the moment he opened the door, called out "tis my room" & closing it up tight, for twas suffocating with smoke, & air would but increase the fire, he all the servants & Meta brought up water, which he kept flinging into the room & then rushing back to put his head out of the window to breathe, so dense was the smoke—The origin of the fire is traceable to Alfred's carelessness, & ought to be a good warning to all gentlemen, who are very apt to snuff candles with the first thing they reach— He snuffed his last night with one of his pincers & the snuff dropped in a box of saw dust & shavings near his lathe— His mind misgave him it might do some harm, so he went back & tramped on it, till he felt secure it was all out— Yet it is evident the fire originated in that very box!*

"A Scene in peach season – The pleasure of eating clingstones" illustrates the messiness of eating fresh peaches indoors. It is accompanied by the following dialogue among the three du Pont sisters:

Elenora: "Oh I can't get far enough out of the window! What shall I do!"

Vic and Soph: both mute, their mouths being full of peaches—

"Transvasing the currant wine" depicts sisters Sophie and Victorine bottling a large batch of currant wine. Sophie describes the scene in a letter to her sister:

*I have laughed so much today that I am almost sick—You must know sister Vic has been transvasing her currant wine today and I was called in to assist in the operation. I supported the DemiJohn in my arms while Vic, squatted on the floor, filled the bottles. "O Jeremiah! cries she If I had but a funnel!" "Sister, observed I, If I incline this the least bit, I could pour the whole down your neck." "You little wretch! Hush! hush! I'm spilling! I'll never have bottles enough" at the same time with a "switch of her tail" overthrowing one and breaking it to atoms! In this style she went on until to my great relief all the bottles were filled.*

She goes on to describe how, a few hours later, when Victorine attempted to cork the jug of wine the jug burst. As wine poured out all over Victorine and the floor, she called for help from her sisters and household servants, and they rushed in with plates and pitchers to try to contain the wine.

Another sketch shows Sophie and her sisters trying to get their pet cats, Abra and Griffon, to kill a rat. The scene is described in a letter from Sophie to her brother:

*I was retiring to my apartment (the passage room) by way of Vics, when I beheld a huge rat walking up the three steps into my room, very deliberately. As I knew there were no holes in my room, I stepped up & closed the door behind him, ran down, seized Abra, & alarming Vic & Tat, we all three hastened to my room, where we soon discovered the foe, on the steps between the two rooms, we instantly shut the other door, first throwing Abra in, & left ces deux fiers animaux as Le Vaillant would say, shut up together—In vain we expected to hear the combat, Abra would not approach the rat—Down to the cellar we flew for Griffon, who kicked and scratched most furiously when in our paws, but no sooner was the pusillanimous wretch placed in vue of the foe, than she shrunk in the corner by Abra's side & would not touch him, tho' the rat enraged and terrified, ran screaming over & over the two cats! Vic attempted to fight him with the tongs, I with a stick of wood, but being both (shall I confess it?) rather daunted, Tat was ordered to dismount the window where she had taken refuge, & go for Papa—He made his appearance with the broom stick, & a tremendous engagement ensued, between the infuriated animal & Pa & Vic, with tongs and broom, while Tat & I, on beds & windows, holding candles, at once illuminated & encouraged the combatants. At last Pa laid the monster low, with a successful thrust of the broomstick!*

A sketch showing a young woman stepping into a flatboat is captioned “Crossing at the Ferry.” Flatboats on either side of the creek ferried passengers back and forth as needed along a rope strung across the Brandywine. Though primarily used for transportation between E. I.’s home Eleutherian Mills and his brother’s home Louviers, or to Fountain’s store, the boats were sometimes taken out for an evening pleasure cruise. A letter from Eleuthera to her sister describes such an outing:

*The large boat had been prepared for the occasion. 6 chairs were arranged opposite to each other and we carried with us provisions. Our party was extremely pleasant and we returned about 9 o'clock . . . afterwards we sat an hour in the Bower. Papa made us all sing for him notwithstanding Julia's repeated declaration that there was nothing worse for the voice than to sing at night in the open air.*



**Eleuthera du Pont  
(1806-1876)  
carte de visite  
J. E. Torbert, photographer  
Evelina Du Pont  
photograph album**



**Sophie M. du Pont's drawings,  
Acc. 1818**

**Left: "Pernicious effects of  
reeding tails"**

**Below: Fire in Alfred's  
bedroom**



R O

Sophie M. du Pont's drawing,  
Acc. 1818

"A Scene in Peach Season"



*A Scene in peach season  
The pleasure of eating cling stones -*

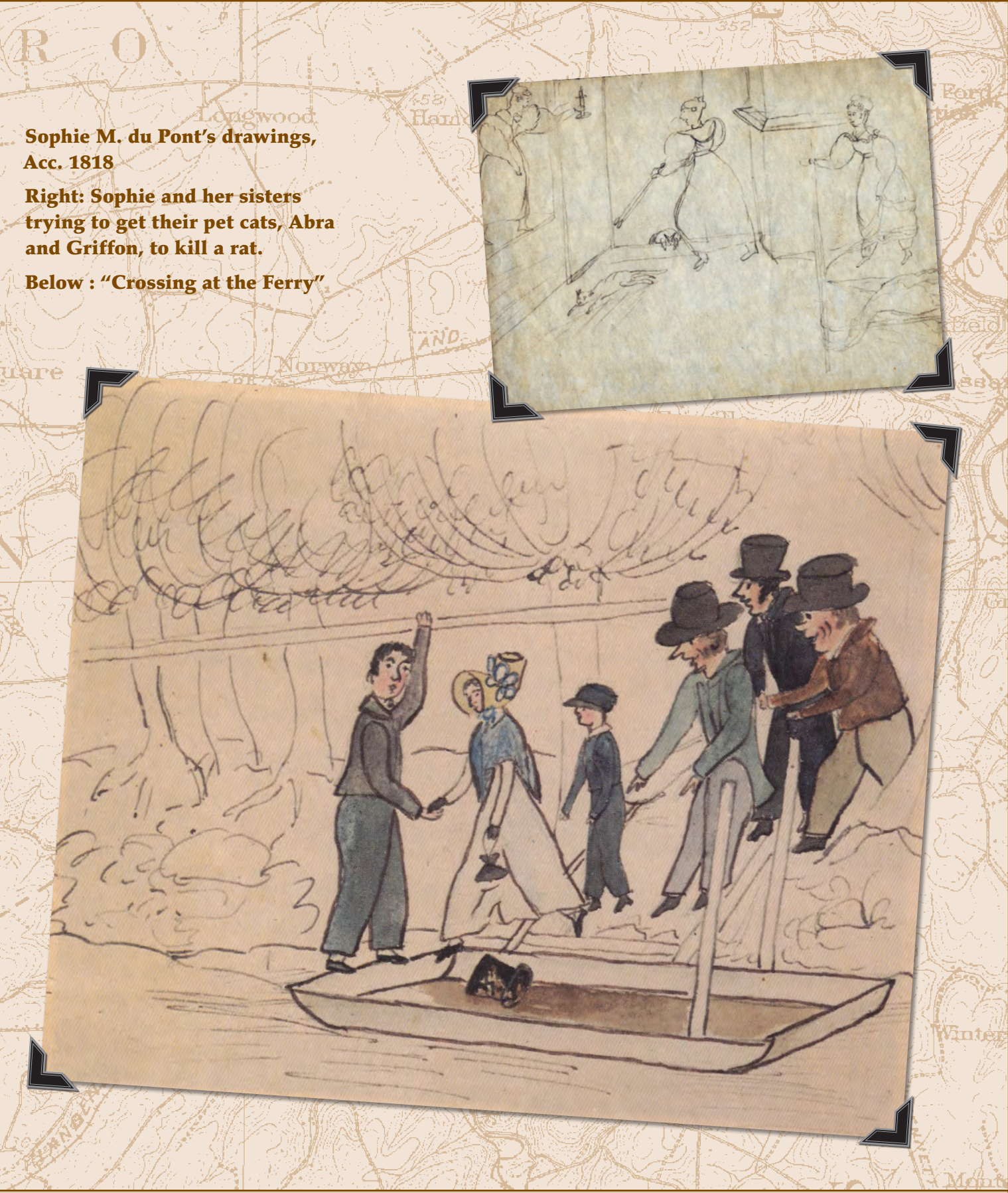




Sophie M. du Pont's drawing,  
Acc. 1818

"Transvasing the currant wine"





R O

Longwood

Hard

Field

Sophie M. du Pont's drawings,  
Acc. 1818

Right: Sophie and her sisters  
trying to get their pet cats, Abra  
and Griffon, to kill a rat.

Below : "Crossing at the Ferry"





# WORKSHEET: MATCHING WITH THE PAST

Put the letter of the matching nineteenth-century object into the box next to the name of the modern object. On the first line to the left of the pictures, write the name of each object. On the second line, explain how the modern object has made life easier or better.

Lamp



A. Icebox

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Ballpoint Pen



B. Phonograph

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---

Electric Oven



C. Candle

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Refrigerator

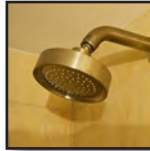


D. Woodburning Stove

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Shower



E. Outhouse

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MP3 player



F. Card Games

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Toilet

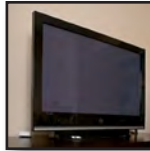


G. Wash Basin

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Television



H. Ink and Quill

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# POST-VISIT LESSON 7: SCHOOL THEN AND NOW

*The attachment of the pupils to the school is remarkable and truly gratifying to their teachers—No weather is sufficiently bad to keep them at home, they attend as punctually on the coldest and most stormy winter days as they do in fine weather and they are so anxious to arrive in time that they have been known to set off without their breakfasts in the dread of being too late.*

—Victorine du Pont in an article for the Sunday School Journal, 1830

## Background for Teachers

This lesson encourages students to think about how education has changed and how it has remained the same over time. Your students have visited the Brandywine Manufacturers' Sunday School where children of Brandywine industrial workers received their educations. This school was built in the fall of 1817 and funded by the local manufactory owners, the workers, and a state subsidy. It provided basic education for its students until the 1850s. The school's creation grew out of the antebellum Sunday school movement, which expressed Enlightenment-influenced social awareness that urged broader access to educational opportunities in America. Along the Brandywine, manufactory owners began to take interest in the education of workers' children.

In 1820, E. I. du Pont wrote to all his workers, informing them that fifty cents would be taken out of married men's wages and twenty-five cents out of single men's wages each year to pay for the school's expenses. The school, he wrote, "has been established here with the view to give to children a taste for Learning" and he hoped this "trifle" would be "adequate to the want of this usefull [sic] institution." E. I. du Pont encouraged his widowed daughter, Mrs. Victorine Bauduy, to become a part of the school, and she acted as its superintendent until her death. Her sisters, Eleuthera and Sophie, were active in the school, as well. Victorine Bauduy held high expectations for her teachers, who frequently visited the homes of their pupils to discuss problems with parents. Various letters written from former Brandywine Manufacturers' Sunday School students to their teachers demonstrate the tremendous impact this educational experience had on students' lives. One such letter is provided in this lesson plan. The student, James Perry, wrote Eleuthera du Pont Smith from the western front of the Civil War upon hearing of Victorine Bauduy's death. Several years later, he was killed in action.

Students at the Brandywine Manufacturers' Sunday School learned to write with quill pens and ink. Young children were taught reading, spelling, and arithmetic. More advanced students studied scripture lessons, hymns, and read the Bible. The school boasted a library of more than one hundred volumes published by the American Sunday School Union. Students who attended the Brandywine Manufacturers' Sunday School could attend only on Sundays because they worked around the home or in an industrial capacity the rest of the week. The school opened at 8 a.m. in the summer and 9 a.m. in the winter and closed at 12:30 in the afternoon. Unlike today, students of all ages attended school in the same room.

## Objectives

- Students will listen to and interpret a letter from the nineteenth century.
- Students will write a letter to their teacher, imagining how their education will affect their future lives.
- Students will compare a nineteenth-century classroom to their own.

## Delaware Standards

History Standard 1: Students will employ chronological concepts in analyzing historical phenomena; study historical events and persons within a given time frame in order to create a chronology; identify related cause-and-effect factors.

History Standard 2: Students will gather, examine and analyze historical data; identify artifacts and documents as either primary or secondary sources of historical data from which historical accounts are constructed.

History Standard 4: Students will develop historical knowledge of major events and phenomena in world, United States, and Delaware history; develop an understanding of Delaware history and its connections with United States history (1802-1921); develop an understanding of selected themes in United States history (how advances in technology changed our lives).

English Language Arts Standard 1: Students will use written and oral English appropriate for various purposes and audiences; write informative (subject-oriented) texts.

English Language Arts Standard 2: Students will construct, examine, and extend the meaning of literary, informative and technical text.

## National Standards

Language Arts English Standard 3: Evaluation Strategies; Language Arts English Standard 6: Applying Knowledge



**“Mrs. Albert Buchanan  
and Gordon Family –  
DuPont Employees,”  
ca. 1905-1920,  
Pierre Gentieu Collection,  
70.1.217**



### **Time**

Two class periods

### **Materials**

Letter to Eleuthera du Pont Smith from a former student

List of Children’s Expenses

### **Procedure**

1. Read aloud a letter to Eleuthera du Pont Smith from one of her former students, written during the Civil War. Discuss what he says. What do your students think that education meant to students in the nineteenth century?
2. Have your students write a letter from the future to one of their teachers. How do they imagine education will affect their lives? Why do they think it is important?
3. Victorine du Pont Bauduy wrote a list of “Children’s Expenses” for school in 1818. Have your students analyze this list. What is on it? How does it differ from school supplies they might use in your classroom?
4. Have your students draw two pictures: one of the Brandywine Manufacturers’ Sunday School and one of their current classroom. What is the same? What is different? Have them list these at the bottom of their pictures.

### **Ideas for Extending the Lesson**

- Have students research the American Sunday School Movement. Why did this movement begin? How did it change the lives of children?
- Ask students to imagine that they could not attend school, but instead had to work all week. How would their lives be different, both now and in the future?

## Expense for the Children 1818

	\$	Cts
Januy. Globes	40	
foolscap paper	"	31
Quills	1	"
2 lead pencils		25
April - foolscap paper	"	31
July - a pack of Quills	"	75
Case of bands	"	25
lead pencil	"	12 1/2
Quills	"	75
August foolscap paper	"	31
Sept 3 - Two Quarters of dancing	20	"
" 3 books for Premiums	2	30
Bingley's useful Knowledge	5	

"Expenses for the Children,"  
1818,  
Brandywine Manufacturing  
School Records

		\$	Cts.
January	Globes	40	
	foolscap paper	"	31
	Quills	1	"
	2 lead pencils		25
April	foolscap paper	"	31
July	A pack of Quills	"	75
	Case of bands	"	25
	Lead pencil	"	12 1/2
	Quills	"	75
August	foolscap paper	"	31
Sept 3	Two Quarters of dancing	20	"
	3 books for premiums	2	30
	Bingley's useful knowledge	5	

# LETTER FROM A FORMER STUDENT

A letter written to Eleuthera du Pont Smith from one of her former students, James Perry, during the Civil War:

*Bintoro Barracks  
near St. Louis Nov 20*

*Dear Teacher*

*[Page 1] I would be very ungrateful should I ever forget you and your Sunday School and the many pleasant associations connected with it. No excuse that I would make would justify me in neglecting in not writing to you. the fact I made several attempts but always failed.*

*It was with deep sorrow that I received the news of the death of Mrs Bauduy. I shall ever kindly remember her. I have just returned from a short visit at home. I found all enjoying good health.*

*[Page 2] Father was employed sister Mary and husband are doing well the children attend day and Sunday School I was wounded and went home on furlough. I am in the service of the U.S. Government in the capacity of private soldier, but I regret that we have to sustain our government by the shedding of blood however the evil is upon us, and will have to trust God and war it out. There is a great many hardships connected with the life of a soldier especially in this western country we sometimes have long marches to make, exposed to wet weather and there has been bad accommodation for the sick, a considerable number [Page 3] of our regiment died of sickness at present about half of our is unfit for duty through sickness. I think this western war department was not managed to the best advantage. Gen Fremont did not entirely come up to public expectations, it is very necessary that we must have able commanders we have had enough of politicians. We have just received the news of the brilliant achievement of portion of our fleet at Braufort commanded Com S.F. Du Pont he deserves much honor for he has given an different aspect to the hitherto somewhat-gloomy prospects.*

*I was living at home at the time the war broke out, and I am in the service nearly seven months.*

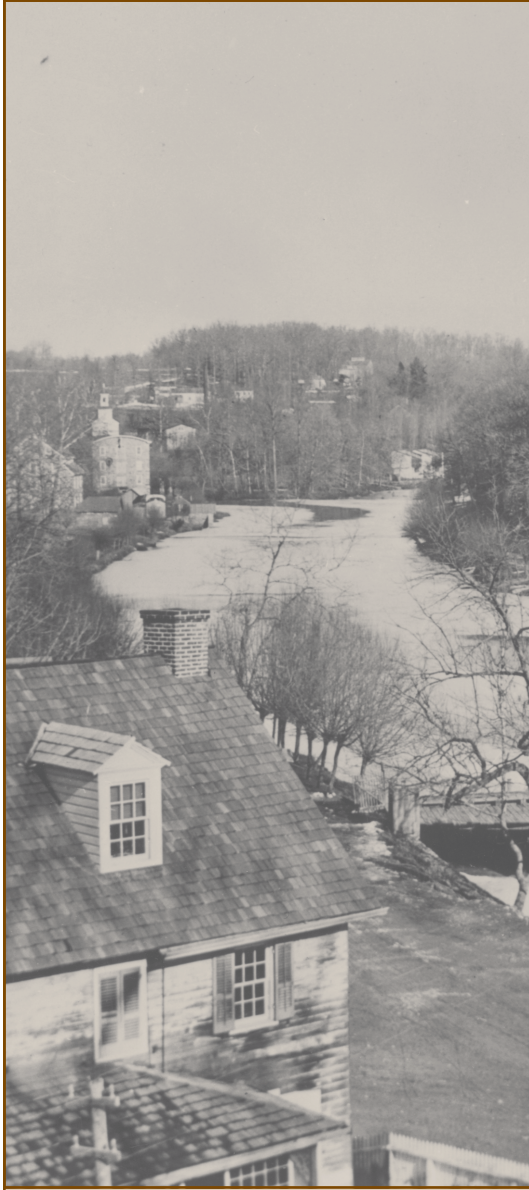
*[Page 4] Father and Mother Mary and I join in sending our best respects to you hoping this will find you in good health.*

*You will please make allowances for this hasty letter from*

*One of your Sunday School Scholars*

*James Perry  
To Mrs. E.D. Smith  
Wilmington Del*

*PS A letter will find me directed to  
James Perry  
6 6 2nd Iowa Reg-  
St. Louis  
MO*



**“View of the Brandywine  
Creek From Railroad Bridge,”  
ca. 1900,  
Pierre Gentieu Collection,  
70.1.66**

# POST-VISIT LESSON 8: HAGLEY THEN AND NOW

*Courting the Muse, thro' HAGLEY-PARK you stray,  
Thy British Tempe! There along the Dale,  
With Woods o'er-hung, and shag'd with mossy Rocks,  
Whence on each hand the gushing Waters play,  
And down the rough Cascade white-dashing fall,  
Or glean in lengthen'd Vista thro' the Trees,  
You silent steal; or sit beneath the Shade  
Of solemn Oaks, that tuft the swelling Mounts  
Thrown graceful round by Nature's careless Hand*

—from James Thomson's "Spring"

*Hagley is believed to have been named for Hagley Park, England.*

## Background for Teachers

This lesson asks students to compare the present Hagley Museum site with a sketch of the industrial site done in 1880. As historians have noted, it is sometimes difficult to communicate the reality of nineteenth-century Hagley experiences and communities because of the vast changes that have taken place over the last one hundred years. What are now bucolic hillsides were once covered in workers' houses, outbuildings, and the structures of a productive powder manufactory. Now almost all the vestiges of workers' homes are gone, and the roll mills sit quietly by a gently flowing river. This lesson seeks to emphasize the changes in the site and encourages students to explain the causes for such change.

## Time

One class period

## Materials

Asher & Adams print, ca. 1880

## Procedure

1. Ask students to draw a picture of the Hagley Museum site as they remember it from their visit. When they have finished, ask them to share their drawings and describe what they noticed about the site's landscape.
2. Ask students to recall why E. I. du Pont selected this site for his gunpowder manufactory. What features of the geography were especially useful to the growth of the company?
3. Ask students to consider how the site might have looked different in the nineteenth century. Do they think there are some features today that would not have existed then? What elements may have disappeared over the last two hundred years?

## Objectives

- Students will compare what Hagley looks like today with how it looked in the past.
- Students will consider why Hagley's landscape has changed over 200 years.

## Delaware Standards

Geography Standard 2: Students will develop a knowledge of the ways humans modify and respond to the natural environment; apply a knowledge of topography, climate, soils, and vegetation of Delaware and the United States to understand how human society alters, and is affected by, the physical environment.

History Standard 1: Students will employ chronological concepts in analyzing historical phenomena; study historical events and persons within a given time-frame in order to create a chronology and identify related cause-and-effect factors.

## National Standards

Geography Standard 5: Environment and Society; Geography Standard 6: The Uses of Geography



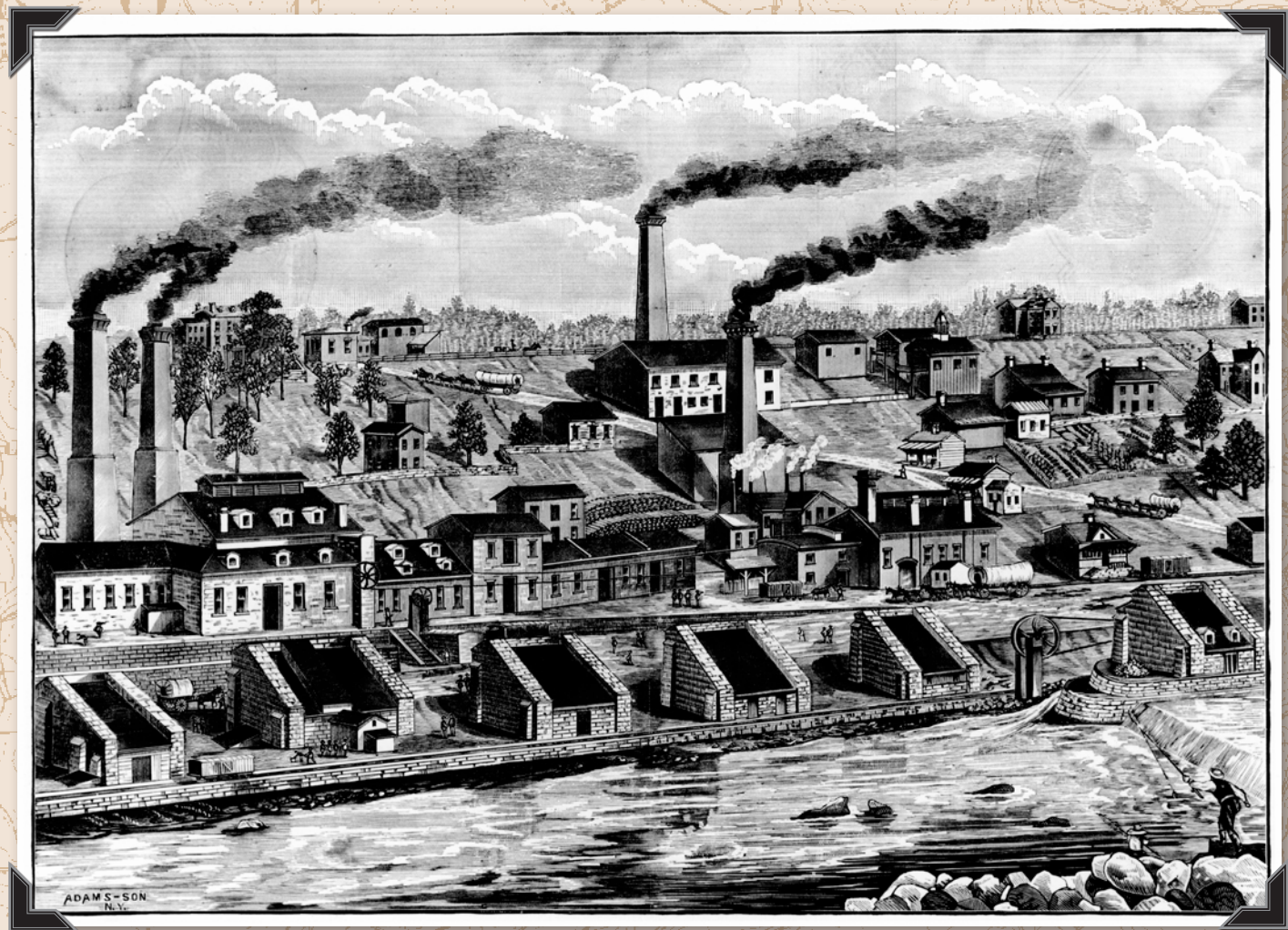
**Henry Clay Mill, now  
Hagley's Visitor Center**

4. Show students the 1880 drawing of Hagley at its industrial peak. Have them compare their drawings of present-day Hagley to the drawing from 1880. What do they recognize? What is different? What accounts for the differences?

#### **Ideas for Extending the Lesson**

- Have students find old pictures from a familiar site in their own town. Have them compare how it looked in the past with how it looks today and discuss the reasons for the changes.
- Have students learn about the Environmental Protection Agency. Why have organizations such as this one emerged? What impacts can businesses have on their local environment? Are they all negative, or are there some positive outcomes industry can have on the environment as well?





*Centerville*  
**"View of Messrs. Du Pont de Nemours & Co.'s Upper Brandywine  
gun powder mills, near Wilmington, Delaware, U.S.A.",  
Created for Geo. H. Adams & Son's New Columbian Rail Road  
Atlas and Pictorial Album of American Industry, plate 26  
(New York: Geo. H. Adams & Son, 1882.)  
Acc. 76.407**





# PRIMARY SOURCE ANALYSIS FORM: DOCUMENT

Name of the source:

---

Type of source (letter, newspaper, memo, advertisement, other):

---

Date of document (if given):

---

Who wrote this document?

---

For whom was this document written?

---

List three things the author said that you think are important:

1. 

---

2. 

---

3. 

---

Why do you think this document was written?

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What evidence in the document helps you know why it was written? Quote from the document.

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List two things the document tells you about life in the United States at the time it was written:

1. 

---

2. 

---

Write a question to the author that is left unanswered by the document:

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# PRIMARY SOURCE ANALYSIS FORM: IMAGE

Name of the source: \_\_\_\_\_

Type of source (photograph, cartoon, illustration, poster, other): \_\_\_\_\_

Date of document (if given): \_\_\_\_\_

Who created this image? \_\_\_\_\_

For whom was this image created? \_\_\_\_\_

What do you see in the image?

People	Objects	Activities

Are there any symbols used in this image? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

List three conclusions you can draw from this image: \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

List any questions the image raises in your mind: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# GLOSSARY

**Artifact** – an object made by people that gives historians clues about the past

**Charcoal** – one of the three ingredients used to make gunpowder, charcoal is obtained by heating wood. At Hagley, charcoal was made from the branches of willow trees, which were plentiful on the property.

**Cipher** – to calculate or do math

**Debt** – an amount that is owed to a lender

**Dry sink** – a nineteenth-century sink that consists of a wooden cabinet with a basin on top that is not connected to a water supply

**Dynamite** – a high explosive made with nitroglycerin developed in 1867, it soon replaced gunpowder

**Emigrant** – a person who leaves his or her home country to settle in another, like the people who left France, Ireland, and Italy to go to the United States

**Entrepreneur** – a person who is willing to take a risk in starting or managing a business, like E. I. du Pont

**Explosive** – a substance that can cause an explosion, such as gunpowder or dynamite

**Factory** – a building or group of buildings where goods are produced; Hagley was a gunpowder factory

**Gee haw** – a nineteenth-century toy made of two wooden sticks and a propeller; when rubbed one way, the propeller turns to the right (gee) and when rubbed another way, the propeller turns to the left (haw)

**Gunpowder** – an explosive mixture of saltpeter, sulfur, and charcoal, used in firearm shells and cartridges, fireworks, and for blasting

**Immigrant** – a person who comes to a country to settle permanently, like the French, Irish, and Italians who came to Delaware

**Industrial Revolution** – a period that introduced mass production, improved transportation, technological progress, and the factory work system, beginning around 1780 in England and spreading in the United States during the mid- nineteenth century

**Industry** – commercial production and sale of goods

**Manufacture** – to make or produce by hand or by machinery, especially on a large scale

**Mill** – a kind of factory, or a building that houses machinery to grind or crush a substance; Hagley was a gunpowder mill that used roll mills to crush the ingredients for gunpowder

**Natural resource** – a material that occurs in nature and is valuable or useful to humans, such as the wood, water, and stone available at Hagley

**Nineteenth century** – the years from 1801 through 1900



**“Blacksmith shop,”  
ca. 1880-1920,  
Pierre Gentieu Collection,  
70.1.105**

**Wheelwrights work  
on a wagon wheel.**

**Nitrocellulose** – a chemical used in the production of explosives and plastics, such as dynamite and DuPont varnishes

**Oral history** - information about history obtained by interviews with people whose experiences and memories are representative of a certain time. Much of what we know about life at Hagley in the nineteenth century came from oral history interviews with people who once lived and worked here.

**Primary source** – a document, image, interview, or artifact that offers a firsthand account of events or topics without historical interpretation

**Punch paper** – a popular nineteenth-century craft similar to cross stitch or needlepoint done on perforated paper instead of canvas

**Revolution** – a sudden and complete change in government, society, or a way of thinking, such as the American Revolution (a change in government) or the Industrial Revolution (a change in the way of life)

**Roll mill** – a building at Hagley where two giant, cast iron wheels rolled over the ingredients for gunpowder to crush and mix them together. Roll mills were also used in other industries to crush and mix many other substances like wheat for flour or cocoa beans for chocolate.

**Saltpeter** - a white, gray, or colorless mineral (potassium nitrate) used to pickle meat and also to make gunpowder, explosives, matches, and fertilizers; Hagley's supply came mainly from guano (bat dung) imported from caves in India.

**Secondary source** – a text, image, or exhibit that offers commentary or interpretation of events or topics from a historical perspective

**Sulfur** - a pale yellow element used to make gunpowder, insecticides, pharmaceuticals, and fertilizers; Hagley's supply came primarily from Sicily.

**Turbine** – an engine that looks like a fan turned on its side, in which water or steam causes the blades to turn and power machinery. At Hagley, turbines began replacing water wheels as a source of power in the 1840s.

**Wood stove** – a stove that is heated by burning wood, rather than with gas or electricity



**“Mr. William Miller’s House,”  
1899,  
Pierre Gentieu Collection,  
70.1.240**

Pierre Samuel begins working as an economist in the French court of Louis XV

Victor Marie du Pont is born

E. I. du Pont is born

Boston Tea Party

Louis XVI ascends to the French throne

Revolutionary War begins

Pierre Samuel du Pont de Nemours encourages France to back the American colonies

Declaration of Independence

Articles of Confederation

Pierre Samuel du Pont de Nemours helps Benjamin Franklin negotiate the Treaty of Paris, ending the Revolutionary War

The U. S. Constitution is signed

Victor du Pont leaves for the U. S. as secretary to the French minister

E. I. du Pont begins an apprenticeship at the French gunpowder works under the famous chemist Antoine Lavoisier

George Washington becomes president

The French Revolution and Reign of Terror begin

1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789

E. I. du Pont marries Sophie Dalmas

The Bill of Rights is ratified

El Whitney invents the cotton gin  
King Louis XVI and Marie Antoinette are executed

Robespierre is executed and the Reign of Terror comes to an end

John Adams becomes President;  
Thomas Jefferson is Vice President

Pierre Samuel du Pont de Nemours and E. I. du Pont are arrested; E. I. is cleared; Pierre Samuel agrees to give up politics to avoid deportation  
The du Pont family sails for the U. S. the journey takes 93 days.

Thomas Jefferson becomes President

E. I. du Pont begins construction of Eleutherian Mills along the Brandywine River;  
Pierre Samuel du Pont assists Jefferson with the Louisiana Purchase from France

The DuPont Company makes its first gunpowder sale

Lewis and Clark set out on their expedition into the Pacific Northwest

Robert Fulton invents the steamboat

James Madison becomes President

The War of 1812 begins

DuPont expands the Hagley powder yard

The War of 1812 ends

James Monroe becomes president

Pierre Samuel du Pont dies

after helping put out a fire; the Brandywine Manufacturers' Sunday School opens

1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819

**New England textile mills expand**

**E. I. du Pont dies; his son-in-law and advisor, James Bidermann, takes control of the company**

**Alexis de Tocqueville publishes *Democracy in America*  
Texas war for independence begins**

**Battle of the Alamo; Samuel Colt invents the revolver**

**DuPont explosives are used in the construction of the Erie Canal**

**E. I. du Pont's eldest son, Alfred Victor, becomes president of the company. He builds the company's first office outside of the family home**

**Martin Van Buren becomes President**

**Erie Canal opens; John Quincy Adams becomes President**

**Trail of Tears**

**Andrew Jackson becomes President; E. I. du Pont further expands the powder yard**

**William Henry Harrison becomes President and dies; John Tyler becomes President**

**The Oregon Trail comes into use**

**Mexican War begins**

1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849

**Millard Filmore becomes President**

**Alfred du Pont's younger brother Henry becomes president of the company**

**Franklin Pierce becomes President**

**The Brandywine Manufacturers' Sunday School is dissolved; the school building serves as the Christ Church Sunday School until 1899**

**James Buchanan becomes President**

**Lammot du Pont patents explosive "B" blasting powder using sodium nitrate; it is the first notable change to the composition of gunpowder in 600 years**

**The civil war begins and the company cancels all sales to its southern agents; DuPont becomes the primary supplier of gunpowder to the Union**

**The Civil War ends**

**Alfred Nobel invents dynamite**

**America's first transcontinental railroad is completed**

**Henry du Pont convinces nine other firms to join a Gunpowder Trade Association; over the next thirty-five years, DuPont acquires more than 100 more powder companies**

**Alexander Graham Bell invents the telephone**

**Thomas Edison invents the practical light bulb**

1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879

Henry du Pont dies; his nephew Eugene takes the presidency, while his nephew Frank controls the daily operations of the company

An explosion in the upper yard levels the mills and the company decides not to rebuild

DuPont begins producing smokeless powder at the request of the U.S. military

**Spanish American War**

Eugene dies; three great-grandsons of E. I. (Alfred L., Pierre S., and T. Coleman) take over the company

The DuPont company celebrates its centennial

1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909

Henry Ford introduces the assembly line

World War I begins

World War I ends

The DuPont Company powder mills along the Brandywine close

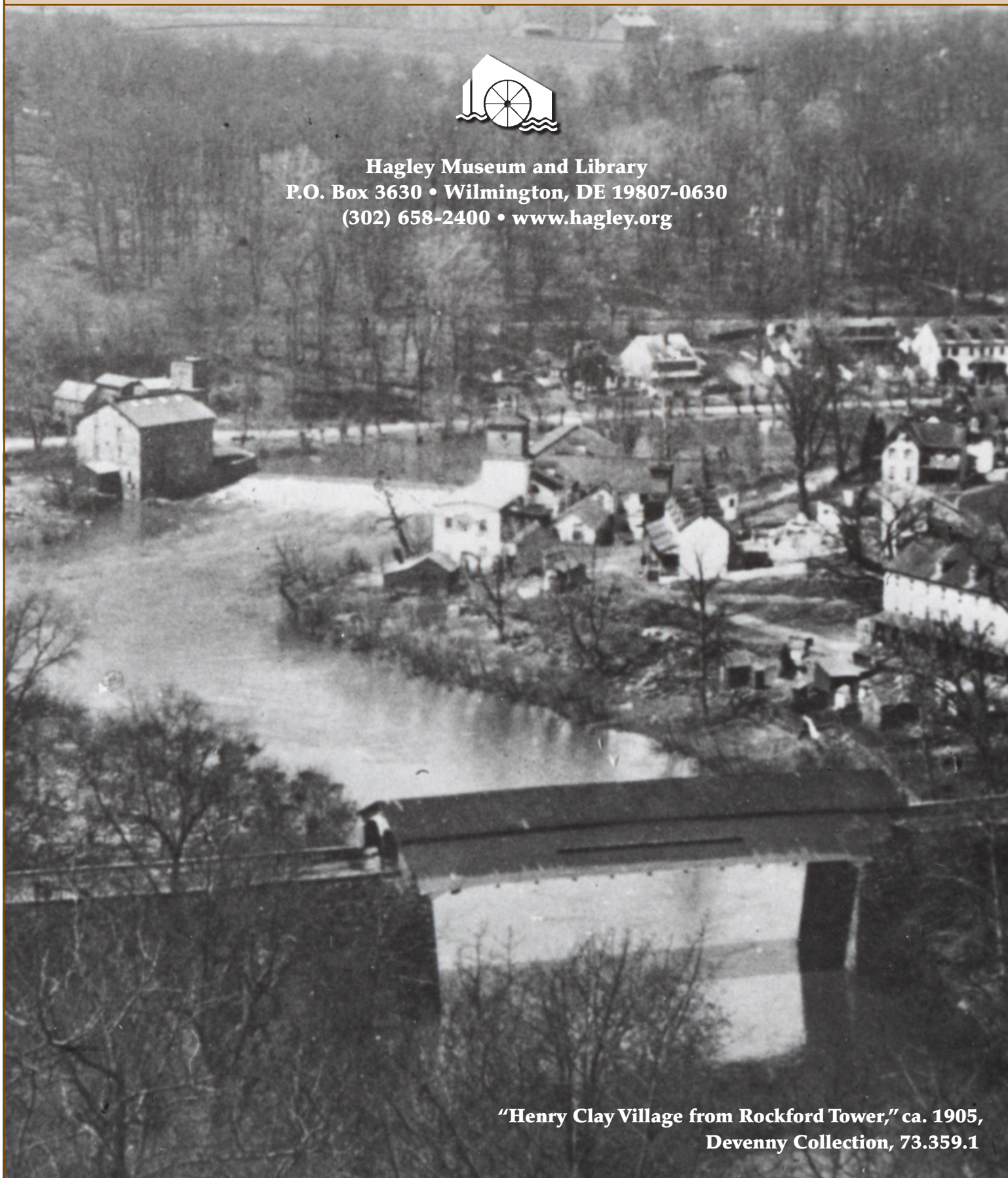
1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929







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*"Henry Clay Village from Rockford Tower," ca. 1905,  
Devenny Collection, 73.359.1*