

## Natural Resources in Revolutionary Philadelphia

### Lesson Plan Design

Cliveden and Breakthrough of Greater Philadelphia partnered in 2018 as a result of a grant from the Haley Foundation and the African American Cultural Heritage Action Fund of the National Trust for Historic Preservation with support from the Doris Duke Charitable Foundation to apply Breakthrough's unique students-teaching-students model to developing cross-curricular lesson plans.

These lesson plans were designed by college-aged teaching fellows and field tested by 7<sup>th</sup> and 8<sup>th</sup> grade student participants in a lesson-study model. The final lesson plans were adapted and formalized by professional educators for use in traditional educational environments. The lesson plan format used by Breakthrough of Greater Philadelphia includes individualized student packets that are aligned to the order of the lesson steps.

### Goals

Students will learn about the natural resources and energy sources by investigating historic Germantown in order to recognize natural resources in their own community.

### Timing

This lesson is a science and geography investigation that lasts approximately 30-45 minutes, depending on execution. This lesson is best supported by having 1-2 knowledgeable individuals who can ask probing questions to groups of students if they get stuck.

### Standard Addressed

- NGSS.MS.ESS3-4: Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

GETTING YOURSELF READY			
<b>Materials:</b> <ul style="list-style-type: none"> <li>• Student Handouts</li> <li>• Historic Germantown Map</li> <li>• Knowledgeable sources</li> </ul>	<b>Your Preparation:</b> <ul style="list-style-type: none"> <li>• Review the scavenger hunt area to ensure that students can find/analyze examples of each question.</li> </ul>	<b>Objective(s) and Proving Behavior:</b> Students will learn about the natural resources and energy sources by investigating historic Germantown in order to recognize natural resources in their own community.	<b>Agenda (w/times):</b> Do Now/Introduction (7 min) Building the Skill (10 minutes) Practicing the Skill (20 min) Closure (5 min)
GETTING YOUR STUDENTS READY			
<b>Do Now:</b> Review the map below, which was taken from a time lapse re-enactment of the Battle of Germantown. Using what you know about the Revolutionary War and the given map, what are five reasons that the British and the Patriots might be interested in fighting for control for this land? Answer in complete sentences.			
<b>Purpose:</b> The Germantown region holds historical importance for the United States of America. This assignment will require students to think about the resources of a region and apply them to history and society.			
BUILDING THE SKILL (SAY, SEE, DO)			
<b>Step 1:</b> <b>Background/Active Engagement</b>	<b>SAY:</b> Today, we are going to be exploring the Germantown area to identify what sorts of resources might have caused people to settle in this area and fight battles on this land.  <b>SEE:</b> Historic Germantown Map  <b>DO:</b> Whip share: Ask each student to share a reason that they thought the battle might have been fought in Germantown.		
<b>Step 2:</b> <b>Definitions -Resource</b>	<b>SAY:</b> In order to complete today's activity, we need to define some key terminology. Some of these terms may be familiar, and some may not. A <b>resource</b> is anything that we, as humans, consume or use. For example, the dry erase marker that I write with is a resource. It eventually will run out of ink, and I will replace it.  <b>SEE:</b> Dry erase marker  <b>DO:</b> Write down three examples of resources (30 seconds). Pair and share with another student to compare your list of resources. Do you agree with each other's answers? If not, ask the teacher.		

<p><b>Step 3:</b> Definitions -Natural and Man-Made</p>	<p><b>SAY:</b> Resources can be either Natural or Man-made. <b>Natural resources</b> are materials or substances such as minerals, forests, water, and fertile land that occur in nature and can be used for economic gain. It's a resource that comes from nature. <b>Man-made resources</b> are materials or substances that do not occur naturally and are produced by humans.</p> <p><b>SEE:</b> Present images of two examples and explain their classification. Diamonds are a natural resource. They are made naturally in the earth by compressing carbon under lots of pressure. Paper is a man-made resource. It is made from processed wood pulp.</p> <p><b>DO:</b> Classify the resources on your worksheet as natural or man-made. Add another natural and man-made resource to the table.</p>
<p><b>Step 4:</b> Definitions -Renewable vs. Non-Renewable</p>	<p><b>SAY:</b> Resources are classified as either renewable or non-renewable. <b>Renewable</b> resources are materials which can be used repeatedly and are replaced naturally. <b>Non-renewable</b> resources are materials of economic value that cannot be readily replaced by natural means on a level that matches its consumption.</p> <p><b>SEE:</b> Present images of two examples and explain their classification. Plastics are a man-made, non-renewable resource because the petroleum involved in creating them is non-renewable. Oxygen is a natural renewable resource.</p> <p><b>DO:</b> Classify the resources on your worksheet as renewable or non-renewable.</p>
<p><b>PRACTICING THE SKILL</b></p>	
<p><i>Group students into pairs or groups of three. Each group should have a scavenger hunt page. Provide the students the safety rules and boundaries of the site that are relevant for your group.</i></p>	
<p>Students answer the ten questions on the scavenger hunt. There may be many correct answers to different types of questions, and the key in the activity is to collect and review answers.</p>	
<p>A good “back in the classroom” or next day debrief is to place posters around the room with each of questions 1, 2, 3, 4, 5, 6 on them. Have students put their answers on post it notes. As a class, review the answers on the different posters to understand the strengths and weaknesses of different perspectives.</p>	
<p><b>Closure</b> Questions 7 - 10 provide for excellent follow up discussion topics.</p>	

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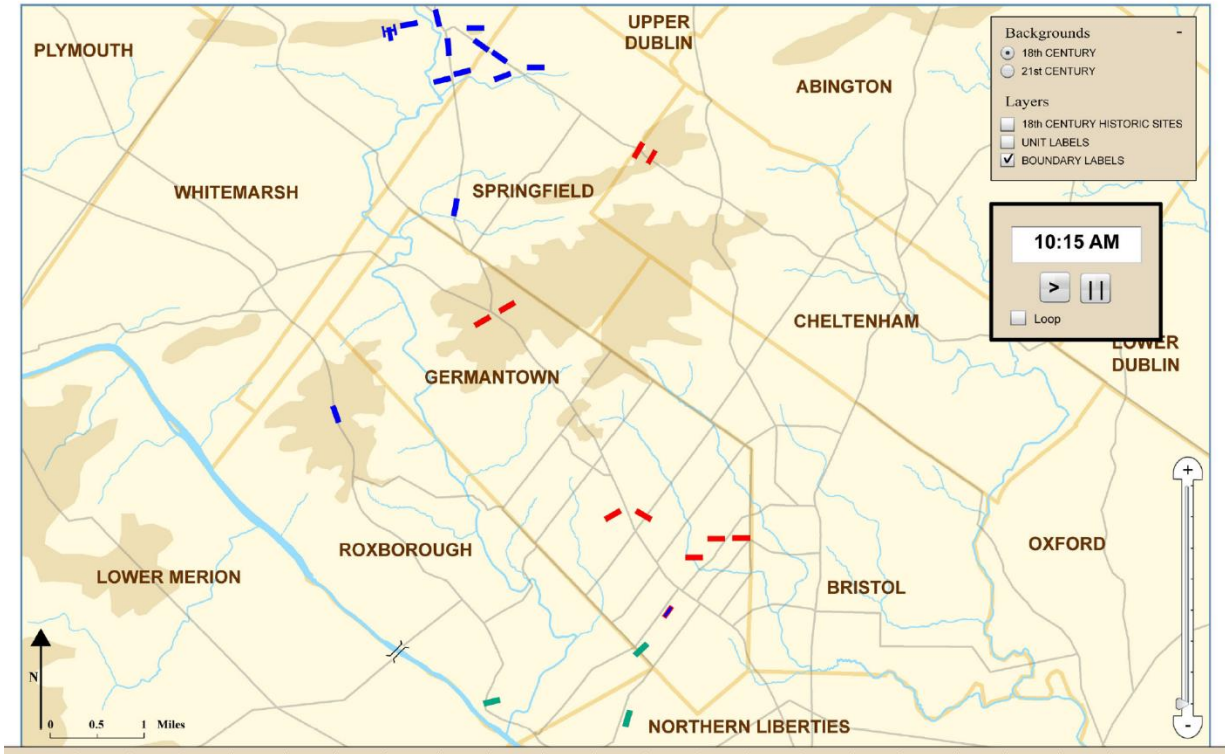
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**Directions:** Review the map below, which was taken from a time lapse re-enactment of the Battle of Germantown. Using what you know about the Revolutionary War and the given map, what are five reasons that the British and the Patriots might be interested in fighting for control for this land? Answer in complete sentences.

18<sup>th</sup> Century Map of Germantown



1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_
4. \_\_\_\_\_  
\_\_\_\_\_
5. \_\_\_\_\_  
\_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_

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Define **Resource**: \_\_\_\_\_

List Three Resources:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Define **Natural Resource**: \_\_\_\_\_

Define **Man-Made Resource**: \_\_\_\_\_

Put a checkmark in the correct column based on the resource type:

<b>Resource</b>	<b>Natural</b>	<b>Man-Made</b>	<b>Why?</b>
Diamonds			
Paper			
Clay			
Concrete			
Plywood			
	X		
		X	

Define **Renewable Resource**: \_\_\_\_\_

Define **Non-Renewable Resource**: \_\_\_\_\_

<b>Resource</b>	<b>Renewable</b>	<b>Non-Renewable</b>	<b>Why?</b>
Salmon			
Coal			

Name: \_\_\_\_\_ Date: \_\_\_\_\_

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### Sunlight

**Directions:** In small groups, you will walk around the grounds of Cliveden and strive to answer the following questions.

1. What are two resources that could be used to generate heat in the winter at Cliveden in the 1700s? Are they natural or manmade?

a. \_\_\_\_\_

b. \_\_\_\_\_

2. How could people living in 1700s Cliveden keep things cool during the summer?

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3. How could people in 1700s Cliveden access water on a regular basis?

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4. Name two sources of light on the property. Are they natural or manmade?

a. \_\_\_\_\_

b. \_\_\_\_\_

5. Which resource in this environment do you think is the oldest? Why? Is it natural or manmade?

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6. What are two things that allow for the spread of disease? What are two things that limit the spread of disease?

a. \_\_\_\_\_

b. \_\_\_\_\_

7. Name at least two ways that the Cliveden house has been preserved into today's time.

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Name: \_\_\_\_\_ Date: \_\_\_\_\_

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8. Your carbon footprint is the amount of greenhouse gases that are emitted in the air because of your activities. Many activities contribute to your carbon footprint such as heating your house, how you get to school, and how much trash you throw away. Did people living in 1700s Cliveden have a larger or smaller carbon footprint than the average person today? Why do you think that?

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9. What about the Cliveden landscape has been altered by humans in the last 200 years? How do you think that has impacted the environment?

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10. How do you think people got from Center City Philadelphia to Cliveden in the 1700s? How long do you think it took? Explain your estimate. What resources would have been used?

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