

Paterson Great Falls

National Historical Park
New Jersey
National Park Service
U.S. Department of the Interior



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Hi! We are members of the Great Falls Youth Corps and we want to congratulate you on earning your official Jr. Ranger Badge. Thank you for helping us, the Park Rangers, the City of Paterson, the Municipal Utilities Authority, museum officials and volunteers take care of Paterson Great Falls National Historical Park. Since this special place is part of our neighborhood, we are glad that you came to learn more about it. We bet there are special places in your neighborhood that you can learn more about and take care of. We hope you find them and spread the word, just like we do here...in Paterson.

For Additional Information or to mail in your completed Jr. Ranger booklet contact:

Paterson Great Falls National Historic Park

**72 McBride Avenue
Paterson, NJ 07501
Office: (973) 523-5295
Fax: (973) 523-2045**

Find us at:

www.nps.gov/pagr

www.facebook.com/PatersonGreatFalls

Twitter: [@GreatFallsNPS](https://twitter.com/GreatFallsNPS)



Name: _____



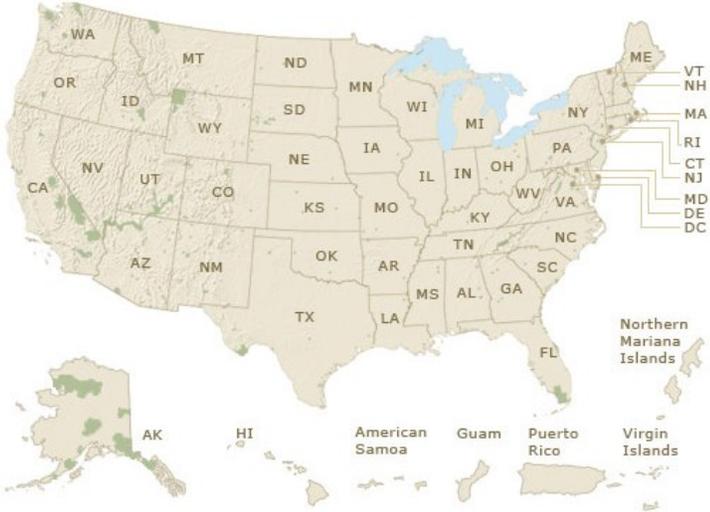
**A Junior Ranger Book
For All Ages**

Welcome to One of Your National Parks



We are excited that you have decided to become a Junior Ranger at Paterson Great Falls National Historical Park (NHP), one of over 400 national park sites around the country and part of the National Park Service (NPS). The NPS is an agency of the United States (U.S.) Government which means that all national parks belong to you.

Learn More:



The NPS preserves and protects important natural, historic and cultural areas. National parks are preserved for the enjoyment and education of present and future generations.

Circle the state where you live or where you recently visited.
Underline the state where Paterson Great Falls NHP is located.
Have you visited any other national parks? If so, how many?
List a few of your favorite parks:

Junior Ranger Certificate

This is to certify that _____ has completed the necessary requirements in the Paterson Great Falls National Historical Park Jr. Ranger Booklet.

Junior Ranger Challenge:

As a Junior Ranger, I will protect the natural and cultural heritage of Paterson Great Falls National Historical Park and share what I have learned with others. I will continue to explore, protect, and learn about other sites within the National Park Service and in my hometown.



Passport Stamp

(Junior Ranger Signature) _____ (Park Ranger / Museum or Volunteer Signature)

Congratulations! You are now a Junior Ranger at Paterson Great Falls National Historical Park.

Continuing the Journey

If you enjoyed this booklet, you may want to become a Junior Ranger at another national park.

Many National Park sites offer Junior Ranger programs and some of these are available online.

For a list of some of the national park sites with Junior Ranger programs, including those online, visit:



<http://www.nps.gov/learn/juniorranger.htm>

Additional information about all the national park sites can be found at: www.nps.gov

Another Opportunity - Web Rangers

If you love your National Parks, Monuments, Historic Sites, etc. then the Web Ranger program may be for you. Play more than 50 games and learn about your National Parks. Online activities can be found at

www.nps.gov/webrangers or www.webrangers.us.

There are three different levels of activities that you can try at Web Rangers.



How I Can Help - Becoming a Jr. Ranger

Each national park is a collection of the special places, wild spaces and stories of those who helped to create the U.S. experience. We protect these places in part because we want you to come back in the future and experience our shared heritage with your children.



By becoming a Junior Ranger, you can help us protect these important places for the benefit and enjoyment of future generations. Here's how.....



To become a Junior Ranger, and receive your official Junior Ranger badge and certificate:

- 1) Read and complete activities on pages 4-11 and choose at least one of the "closer look" activities. For ages 9 and up, choose at least two "closer looks." |
- 2) Show the completed activities to a ranger, museum official or volunteer and share what you learned.
- 3) Respect people, things, and nature as you safely explore the area.
- 4) Share three things that you learned with your friends or family members back home.

A Symbol for the NPS

A symbol is an object that looks like one thing but can mean something else. For example, the bald eagle is a symbol for the United States.



The picture to the left, is a symbol of the National Park Service and it is called the NPS Arrowhead. Look for this symbol on signs, brochures or on park ranger uniforms. The arrowhead, and the pictures found inside symbolize the work that the National Park Service does to take care of our special places.

By understanding the symbols of the arrowhead, you can figure out how you can help take care of your national parks.

In the space provided, write down what each of the symbols mean to you. The first one has been done for you as an example.

Symbol	Meaning
Mountain	Land formations, scenery, recreation, playing outside, hiking
Tree	
Grass	
Lake	
Bison	
Arrowhead	

Free Space for Thoughts....

Free Space for Thoughts....

The following blank pages are for you to jot down notes, draw a picture, write a letter or anything else that you would like to do to capture the memories from your visit to Paterson Great Falls National Historical Park.

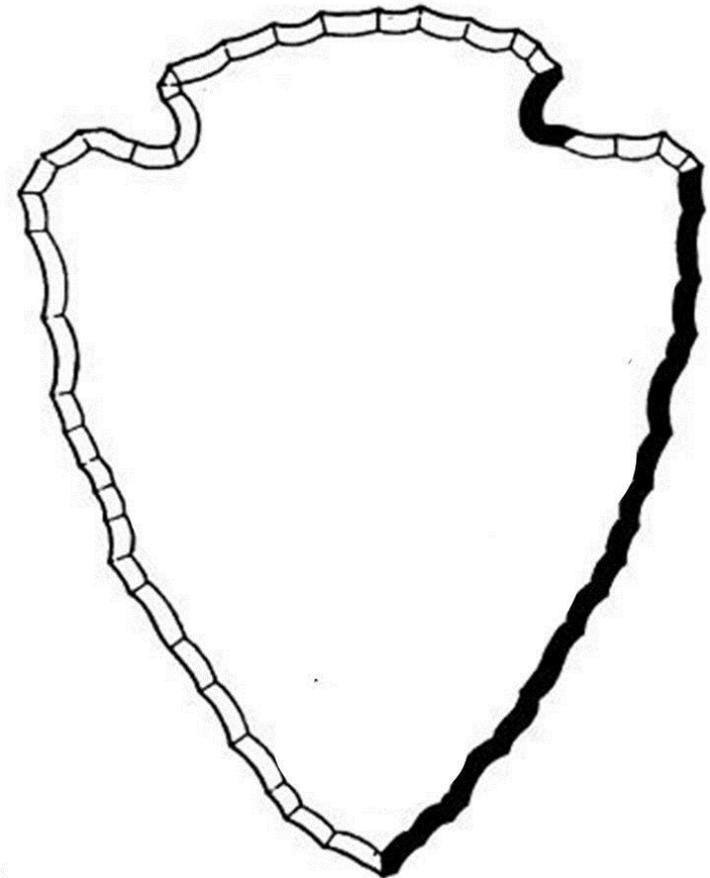
Create Your Own Arrowhead

What are some natural, historic or cultural items or ideas that you would like to protect?

Make a list of three to five items and/or ideas.

Decide what kind of symbol you would like to represent each of the items on your list.

Draw these symbols inside the Arrowhead below and be ready to explain your symbols to someone else.



Paterson Great Falls

We can see the Great Falls as a symbol of the industrial might which helps to make America the most powerful nation in the world.
 - President Gerald R. Ford, 1976.



Plunging 77 feet into a chasm 300 feet wide, the Great Falls of the Passaic River has long been a source of inspiration and power. Alexander Hamilton, America's first Secretary of the Treasury, chose this place to begin implementing his ambitious plan to make the United States economically independent of foreign powers. Hamilton founded the City of Paterson in 1792 to create the world's first planned city of innovation built around a hydropower system to encourage manufacturing.

Hamilton's vision led to building a "raceway" system of tiered water channels that harnessed the might of the river

to power nearby factories. The industrial center attracted entrepreneurs, laborers and immigrants with diverse talents. They came here to work in the bustling mills that produced everything from textiles and Colt firearms to locomotives and aircraft engines. Today the Passaic River drives turbines in the hydroelectric plant at the base of the falls to provide clean, renewable energy to thousands of homes.

Visit www.nps.gov/pagr to learn more about one of America's newest national parks.



A "winder" machines silk reelin winders in the early 1900s.

C A E S N A I L A T I S M M I W
 A R S T N A R G I M M I I E A O
 E P A N E L I N N E L L T N S O
 N D Y E L P A N E L K K M I A M
 L S R E G O R L W U G C A R P I
 A R A Z A S N O I N U I N A A L
 I A P A P E R O Z A N T U M T L
 R W A I R K A M B U S Y F B E W
 P Y S R E E P B O T T O A U R O
 L R S R A Y H C N E R F C S A R
 A A A S L M J N O N O T T O C M
 N N I N L I S L L A F H U L E S
 E O C E I L H T O T E E R O W U
 E I R W E L A R L I Z W I C A M
 N T I J D O M F S O G O N O Y I
 G U V E T W I L T N C R G M E L
 I L E R E N L A R A V L G O S S
 N O R S X E T M I L E D U T C H
 E V O E T R O B K P W R N I A U
 S E S Y I S N E E A N U G V S T
 S R E T A P A T E R S O N E H T
 W G S R E V A E W K L I S S E L

Word Search “just for fun”

Locate the words below. They may be forward or backwards, horizontal, vertical, or diagonal.

Ages up to 8: Find at least 6 words

Ages 8-12: Find at least 10 words

Ages 13 and above: Find all the words

- | | |
|-----------------|-------------------------------|
| RACEWAY | AIRPLANE ENGINES |
| MILL | LENNI LENAPE |
| PAPER | PASSAIC RIVER |
| LOOM | MANUFACTURING |
| COTTON | NATIONAL PARK |
| DUTCH | LOCOMOTIVES |
| GUNS | GREAT FALLS |
| S.U.M. | SUBMARINE |
| STRIKE | MILL OWNERS |
| SILK | SILK CITY OF THE WORLD |
| UNIONS | IMMIGRANTS |
| PATERSON | MILL WORKER |

BONUS: Write any additional words you found in the space below.

Scavenger Hunt Bingo

The pictures below are symbols of the nationally important natural and cultural stories of the Great Falls and the City of Paterson. Locate the items below as you walk around the park. Try to get three in a row or find them all!

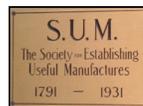
<p>Find this sign</p> 	<p>Find this raceway, (hint: search the park across the street)</p> 	<p>Find this mill building</p> 
<p>Find this symbol</p> 	<p>Free Space</p>  <p>Ring the bell</p>	<p>Find this statue</p> 
<p>Find this rock</p> 	<p>Find this view</p> 	<p>Find this building</p> 

Alexander Hamilton: Visionary

Alexander Hamilton had lofty dreams for the nation and helped shape the future of Paterson. Read the information about Hamilton and then answer the questions.



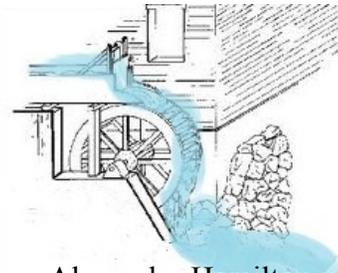
- An ambitious young man, with a talent for business, who believed in hard work and the importance of learning.
- Left college to fight in the Revolutionary War.
- Became a valuable aide to General George Washington.
- Picnicked in the area of the Great Falls in 1778 and was impressed by the power and energy produced by the falls and river.
- Envisioned the use of waterpower for manufacturing and industry.
- He became the new nation's first Secretary of the Treasury (1789).
- Hamilton believed that the new nation must not be dependent on other nations. It must have a strong and secure economy that included manufacturing as well as farming.
- Helped to create a new investment corporation (1791), the Society for Establishing Useful Manufactures (S.U.M.).
- Hamilton's vision becomes a reality when S.U.M. develops Paterson, the first planned industrial city in America, using waterpower from the Great Falls of the Passaic River (1792).
- An early opponent of slavery and a strong supporter for immigration.



Extra, Extra - Read more about it— Hydroelectric Power in Paterson

Hydropower is power derived from the energy of falling or flowing water. It is one of nature's most powerful forces. Humans have been using hydropower for thousands of years.

Waterwheels have been used for centuries. In the early years, waterwheels primarily provided energy for grinding grain and sawing lumber. Later, like in Paterson, waterwheels were used to run mills and factories.



Alexander Hamilton understood the great energy potential of the Passaic River just before it cascades over the Great Falls and the power it could generate for manufacturing.

The potential energy of the Passaic River can be calculated and its strength depends upon the height of the river, and the mass of the water. Therefore, the steeper the drop and the more water flowing the more water energy is available. The volume of water can vary, however, at one time the average daily flow rate was 2 billion gallons. The raceways delivered some of this water to the mills to provide power for the machines.

In 1910, the S.U.M. developed plans to build a hydroelectric station at the Great Falls to replace the waterpower from the raceway.

The station, designed by the Thomas Edison Electric Company, had a maximum capacity of 6500 horsepower and four turbines



generated 21 million kilowatts per year. It operated from 1914 to 1969. The plant was restored in 1986, and today provides can provide enough electricity for 11,000 homes.

Faces of Paterson “a closer look”

Match the face with their description on the right.

A



B



C



D



E



F



G



_____ My name is Alexander Hamilton. I was instrumental in the founding of S.U.M. and the city of Paterson.

_____ I worked as a bobbin boy when I was only 10 years old in England. Eventually, I owned 5 silk mills in Paterson and an elegant mansion on a hill. I am Catholina Lambert.

_____ We work in the dyehouse. It can be a dangerous hot and humid job. Before coming to this country we worked outside in the fresh air.

_____ I am an immigrant from Ireland. I came to Paterson in 1878 to launch my submarine, Holland I, in the Passaic River. I named it after myself, John Phillip Holland.

_____ Women, like myself, played an active role in the 1913 Silk Strike. We walked the picket line as well as led mass meetings.

_____ Children, like myself, work hard to help support our families. 10 hours a day, 6 days a week, we work inside. I would like to play outside and go to school.

_____ Women were considered cheaper labor and usually received lower wages than men. We worked just as hard to support our families and then had our jobs at home.



Why do you think Alexander Hamilton felt such a great need for this new country to be economically independent?



What do you think is meant by this quote: “In Paterson, Hamilton launched what we have come to call the American Dream.”



Do you have a vision for the United States? If so, describe your vision.

Word Scramble: History of Paterson

Learn the history of the area by unscrambling the words and writing them in the space above the clues.

NINLE PEENAL

The area was once settled by these native people.

TCHUD

These immigrants colonized the Great Falls area in the 17th century.

CWRAYAES

To really harness the power of the Passaic River it was necessary to construct _____ to carry water to various waterwheels to provide power to the mills.

ORGEGE HTONAISNGW

A famous general and his troops had a picnic at the Great Falls in 1778 during the American Revolution.



“**Lou Costello**”--- a tribute to the famous comedian from Paterson



“**Local History**”--- several exhibits detailing general Paterson history



“**Model Trains**”--- a model railroad display



“**Engine 299**”--- the real engine located outside



Other Exhibits: _____

The Paterson Museum

2 Market Street

Paterson, New Jersey

Paterson Museum: “a closer look”

Visit The Paterson Museum and see exhibits and artifacts that tells the story of Paterson and the Great Falls. Many of the exhibits show why Paterson is often referred to as “...he Cradle of American Industry (A. Hamilton).” Check the exhibits you see.

Exhibits I saw were:



“**Silk City**”--- a display of machinery and looms used in the city’s silk industry



“**Geology**”--- a collection of minerals, including fluorescent ones, from New Jersey and around the world



“**The Paterson Colts**” --- a selection of over thirty rare Paterson-made revolvers by Samuel Colt



“**John Holland’s Submarines**” --- an exhibit that features the first submarines, Holland I and Holland II, as well as the history behind them



“**Locomotive Manufacturing**”--- a display of photos, models, and stories of the most famous locomotives manufactured in Paterson



“**Wright Engines**”--- a display of aircraft engines that made aviation history



“**Land of Noisy Waters**”--- artifacts of the Lenni-Lenape Native American culture

EXALNERDA ILHONAMT

One of the Founding Fathers who helped develop a plan for a manufacturing society.

ETPSARON

The Society for Establishing Useful Manufactures (S.U.M) established this new town. This was its name.

EWN SERYEJ

The town was named after the governor of this state.

SAPCIAS

Engineer Pierre C. L’Enfant designed the first plans to harness the power from this river.

NTOOCT

This was the first product of the Great Falls Historic District’s first mill, constructed by the S.U.M..

YRECINLCG

Mills at the Great Falls were used and reused by different manufacturers during the history of the area. Reuse continues today. This is a form of _____.

Conduct an Interview “a closer look”

Interview a NPS or museum official or volunteer. Write at least one question of your own.

- Name of person being interviewed

- How long have you worked at Paterson Great Falls NHP?

- What is your job?

- How does the work that you do help take care of the natural and cultural stories of Paterson Great Falls?

- How long have you worked with the National Park Service team? _____

- List some of the other National Parks where you worked or visited. Do you have a favorite? If so, explain why it is your favorite.

Take A Walk: Continued

- 6) Continue following the path that runs along the raceway and then curves abruptly at a switchback back to the sidewalk along Spruce Street. Return to the crosswalk and cross McBride Avenue so you can walk down the sidewalk along Spruce Street. Stop when you come to the Middle Raceway.
- ◆ Close your eyes and imagine. What do you think you would you have seen and heard back in the early 1800s?
- 7) Continue walking down Spruce Street until you come to the intersection with Market Street. Use the crosswalk to cross Market Street and proceed down the sidewalk to the Paterson Museum.

The Paterson Museum was organized in 1925. It was relocated in 1982 to the restored Thomas Rogers Locomotive and Machine Shop.

- ◆ Draw a picture of what you see outside the entrance to the museum.

- ◆ Optional: Visit the Paterson Museum or walk back to Overlook Park.

Museum Hours:

Tuesday thru Friday 10:00 AM to 4:00 PM

Saturday and Sunday 12:30 PM to 4:30 PM

Closed on Mondays and Holidays.

Take A Walk: Continued

4) Continue walking across the footbridge to Mary Ellen Kramer Park.

- ◆ Explore the area. Describe what you see.

- ◆ Locate the large rock near the flagpole. Design a plaque to mount on this rock that describes the importance of this area.

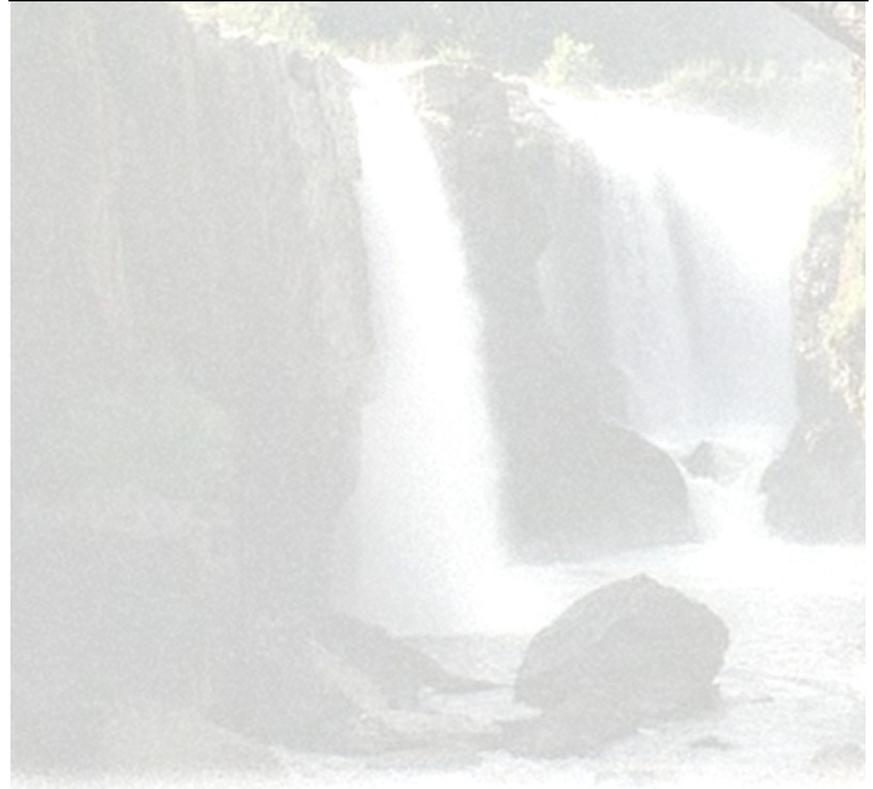
5) Walk back across the footbridge toward McBride Avenue. Continue to the intersection of McBride Avenue and Spruce Street and cross McBride Avenue. Be sure to use the crosswalk! Enter Upper Raceway Park.

The Upper Raceway is part of a system that diverted water, from the falls, into narrow canals. The rushing water carried power to the waterwheels which operated the mills.

- ◆ Walk along the path. Imagine the raceway filled with water and the buildings behind you operating with water-wheels. What do you think they are manufacturing?

What do you like most about your work? _____

Draw Yourself as a Park Ranger



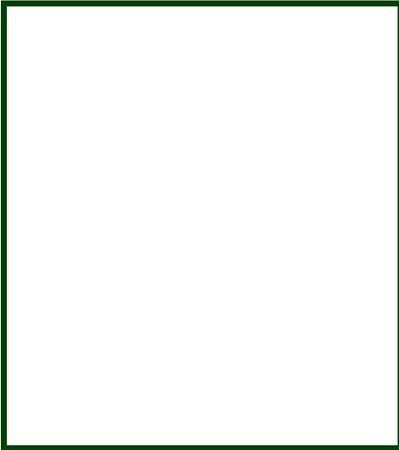
What Do You See? “a closer look”

As you visit the Great Falls Overlook, S.U.M. Hydroelectric Plant, Great Falls Footbridge, Mary Ellen Kramer Park, or Upper Raceway Park, take notice of what you see around you. Look for items described below and draw pictures of them.

Find and draw something that grows out of the ground.



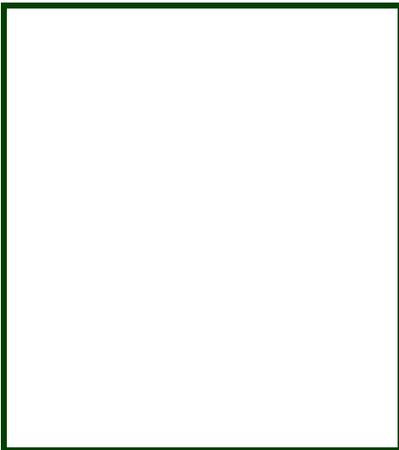
Find and draw something you could travel on.



Draw a human-made object that you see.



Draw what you see when you look down.



Take A Walk: “a closer look”

Experience Paterson Great Falls National Historic Park more closely by taking a walk. See some of the features that make this area so beautiful and historic. Follow the route below and complete the activity for each stop. Make sure you take an adult along with you.

- 1) Begin your walk at the Great Falls Overlook.

The Great Falls is about 300 feet wide and 77 feet high. It is the second most powerful waterfall east of the Mississippi River.

- ◆ Find the sign located near the statue and acquaint yourself with the area.

- 2) Walk to the stairs in the middle the parking lot, go down to the lower level to the S.U.M. Hydroelectric Plant.

This was one of the country’s earliest hydroelectric plants. The plant uses energy from the falling river to produce electricity.

- ◆ Sit at one of the picnic tables and use your senses. Write down what you experience.

- 3) Walk back up the hill to the parking lot. Walk up McBride Avenue and veer to the right to enter the area that leads to the footbridge that crosses the Falls. Walk halfway on the bridge.

The waterfall pours up to two billion gallons of water into the basalt chasm daily, second in volume and width only to Niagara Falls.

- ◆ Look off of both sides of the bridge. How do you feel?

Geology: The Paterson Area “a closer look”

Geology is a science that studies the history of the earth and its life as recorded in rocks. The Paterson area has several geological features that greatly influenced its development into “...the cradle of American industry (A. Hamilton).” Check off the features that you find as you explore the park.

- Basalt:** A dark colored rock that forms when lava cools and hardens. Found in the cliffs over which the Passaic River flows, the steep river banks, and in the river itself.
- Erosion:** wearing away of rocks by natural agents such as wind, water, glaciers, etc. Observe the result of erosion caused by the action of running and falling water at the Great Falls.
- Weathering:** The breaking down of rock into smaller pieces and eventually into soil by mechanical or chemical means. Basalt is typically dark-gray to black in color but will often have a yellowish brown or even a gray to purple color as a result of weathering.
- Fault:** a crack in the bedrock (underlying solid rock) where neither side is held together. Both sides are free to move independently. Tilted rock layers. Observe the Great Falls area.
- Chasm:** a deep, steep-sided opening in the earth’s surface. Possibly developed from a huge crack in the bedrock and then then widened by erosion.

Do you think any of these geological features influenced Alexander Hamilton’s vision for the use of this area? If so, how?

Be a Visual Artist or a Writer “a closer look”

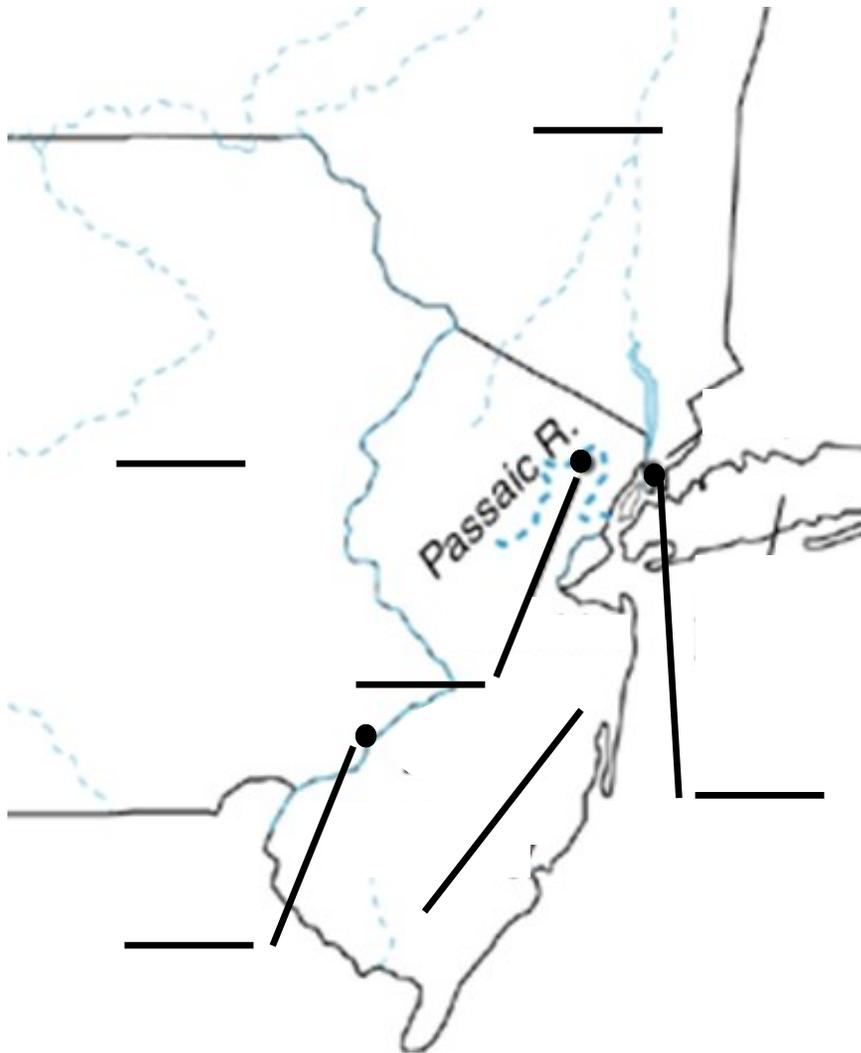


“The river comes pouring in above the city and crashes from the edge of the gorge in a recoil of spray and rainbow mists.”

William Carlos Williams in “Paterson” an Epic Poem

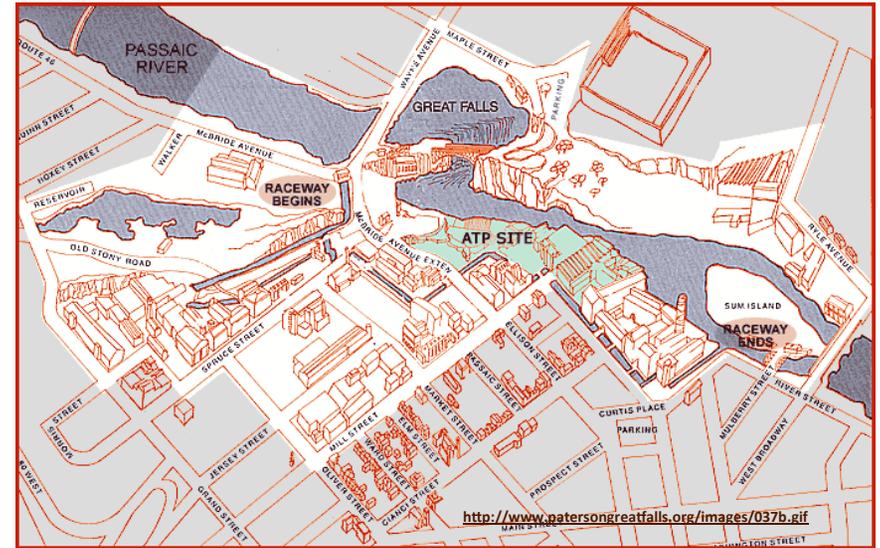
Throughout the years, the spectacular natural beauty of the Great Falls has inspired many artists to depict the landscape and the city that grew up around it and inspired poets, visual artists, writers and industrialists. In the space below, draw a picture or write a story about something you experienced or learned while visiting Paterson Great Falls National Historical Park. Share it with someone else.

Cartography: Why Paterson? “a closer look”



On the map above, label the following:

- A. New York City B. Philadelphia C. Paterson
D. Pennsylvania E. New Jersey F. New York



After searching for an advantageous location, the site chosen for Paterson was the land next to the Great Falls of the Passaic River. It was well suited for an industrial city because of:

1. abundant availability of water-power
2. nearby forests for timber
3. mineral ore in nearby Watchung mountains
4. markets in New York City and Philadelphia were not too far away

Based on the mapping activity, and what you have learned so far, choose one of the above four reasons and explain why you think it was important.