Students will reflect on what they learned about the Brooklyn Bridge and discuss how the waterfront has changed over times, especially before and after the construction of the bridge.

**TOPIC BACKGROUND**

During your class’ park visit, students learned about the history of the Brooklyn Bridge, including how the waterfront has changed before and after the construction of the bridge.

The Dutch first settled in Brooklyn during the 1600’s. They established the first ferry service between Brooklyn and New Netherlands (Manhattan) in 1642. Soon, small industries and businesses developed around the landing and it became known as “het verr,” Dutch for “ferry.”

In the mid 19th century, Kings County (Brooklyn) was the largest agricultural producer of any county in the United States. Produce would be carted by horses to Fulton Ferry Landing, loaded on to boats, and sold in Manhattan. The winter of 1867 and freezing over the East River made ferry service impossible. This led to the decision to build the Brooklyn Bridge. The bridge construction began in 1869 and was completed in 1883. As newer forms of transportation (horse and buggy, trains, cars) became more popular, it became easier to travel into Brooklyn and people relied less on the waterways for transportation. The area became heavily industrialized. As the population of Brooklyn expanded, it evolved into a thriving suburb.

Today the Brooklyn Heights and Dumbo waterfront is the location of Brooklyn Bridge Park. Boats still travel in the East River, however they mainly transport people instead of goods. Small motorboats and ferries occupy the waters instead of tall ships. The Brooklyn Bridge deck has also evolved over time. It once included train tracks, but now features 2 roadways for cars and tricks with a pedestrian walkway in the middle. Since the construction of the Brooklyn Bridge, several other suspension bridges have been built around New York City, including the Williamsburg Bridge and Manhattan Bridge.
GETTING READY

1. Print out copies of past and present photos of the Brooklyn Waterfront or project on screen/smartboard for students to see.

2. Make copies of venn diagram worksheet for each child.

3. Gather lined or blank paper for student short essay activity.

4. Optional: select videos/websites to share with students or gather related books from local library or bookstore. (Recommended books, videos and websites listed on page3)

PROCEDURE

INTRODUCTION

1. Remind students about their field trip to Brooklyn Bridge Park and the conversations they had with the Conservancy Educator about the waterfront and transportation before and after the construction of the bridge. Show students photo examples of the Brooklyn Bridge and surrounding waterfront in the past and present day.

2. Ask students to make observations about these photos. Which photos or paintings are the oldest? How can we tell? Have these landscapes and landmarks changed over time and why?

3. Have students create a venn diagram to compare and contrast how the area is different and similar. Students can either do this individually, in pairs or as a class.

ACTIVITY: COMPARING PAST AND PRESENT

1. Using their venn diagrams as a guide, ask students to write a paragraph or short essay about how Brooklyn has changed over time.

2. Suggest the following topics and talking points if students need more directive before writing:
   - How did people travel to/from Brooklyn before the Brooklyn Bridge was built? How do people travel to/from Brooklyn today?
   - What types of boats were common in the waterways back in the 1800's? Are there still boats seen in the East River today? Are there any different types of boats used today?
   - How does Brooklyn and Manhattan look different than it did 100 years ago? 300 years ago?
   - Are there any similarities between the past and the present day Brooklyn waterfront?
   - Does the Brooklyn Bridge still exist today? If so, has it changed at all over time?
**RECOMMENDED BOOKS**

- *Brooklyn: Then and Now* by Marcia Reiss
- *When Brooklyn Was the World: 1920-1957* by Elliot Willensky
- *Twenty-One Elephants* by April J. Prince (Gr. 1 +)
- *Brooklyn Bridge* by Lynn Curlee (Gr. 3 +)
- *The Brooklyn Bridge: The story of the world’s most famous bridge* by Elizabeth Mann (Gr. 4 +)
- *Where Is the Brooklyn Bridge?* by Megan Stine (Chapter book; Gr. 4-8)
- *Historic Photos of the Brooklyn Bridge* by John B. Manbeck

**RECOMMENDED VIDEOS**

- Historic Brooklyn Heights (14 minutes)
  https://www.youtube.com/watch?v=4huQRvHmQPw
- East River Waterfront in 1903 (3 minutes)
  https://www.youtube.com/watch?v=b2Nh3YEo04A
- Deconstructing History: Brooklyn Bridge (2 minutes)
  https://www.youtube.com/watch?v=5RSCCrHz1PU
- Brooklyn Bridge Documentary (45 minutes)
  https://www.youtube.com/watch?v=iHuQjR1UOcl4
- Tour of DUMBO (2 minutes)
  https://www.youtube.com/watch?v=W7LGWWpAu38

**RECOMMENDED WEBSITES**

- Brooklyn Waterfront History
  http://www.brooklynwaterfronthistory.org
- Brooklyn Historical Society
  http://www.brooklynhistory.org
- New York Transit Museum
  http://www.nytransitmuseum.org
- Thirteen - The History of Brooklyn
  http://www.thirteen.org/brooklyn/history/history1.html
- The History Channel - Brooklyn Bridge
  http://www.history.com/topics/brooklyn-bridge
**VOCABULARY**

**Anchorage**: Part of the bridge that anchors it to the land. Heavy stone pillars used to anchor the ends of the cables of a suspension bridge.

**Bridge**: A structure built over something (as a river or a railroad) so people can cross.

**Cable**: Entwined wires that hold up the bridge deck.

**Caissons**: Pressure filled wooden boxes used during the construction of the Brooklyn Bridge to dig through the silt to the bedrock below. (A waterproof chamber used by people working underwater.)

**Deck**: Part of the bridge used for cars, bikes and pedestrians to cross.

**Drawbridge or Bascule Bridge**: A bridge that can be opened in the middle by raising a section of the roadway or deck.

**East River**: A body of water known as an estuary which flows between Manhattan and Brooklyn.

**Estuary**: A semi-enclosed body of water containing both fresh and salt water.

**Engineer**: A designer or builder of complex structures such as bridges, highways, etc.

**Ferry**: A passenger boat that carried people and goods from Manhattan to Brooklyn before the Brooklyn Bridge was built.

**Fulton Ferry Landing**: Location of the first ferry service between Brooklyn and Manhattan in 1642. Presently, the terminal for East River Ferry and water taxi service.

**Granite**: A hard, heavy building stone used to build the towers of the Brooklyn Bridge.

**Het Verr**: The Dutch word for “the ferry”

**Import**: To bring goods from another place and sell them

**Industrial**: Having to do with the business of manufacturing products. Industrial zones are generally inhabited by factories and warehouses.

**Motorboat**: A boat that moves by means of propeller or electric motor.

**Roadway or Deck**: The part of a bridge on which traffic runs.

**Suspension Bridge**: A bridge held up with cables, suspended over water or land. A bridge that is supported by strong cables running along its length (suspension cables) and by shorter, vertical cables (suspender cables) that hang down from the suspension cables.

**Swing Bridge**: A bridge that can be opened by swiveling a section in the middle.

**Tall Ship**: A very large sailing ship with at least two masts. Uses the power of wind to move.

**Transportation**: The act or process of moving people or things from one place to another.

**Tower**: A tall structure that holds up the cables and span of a bridge. The towers were the first part of the Bridge that was built.

**Waterfront**: the land or the part of a town next to the water of an ocean, lake, etc.

**STANDARDS**

**COMMON CORE ELA**
- Literacy in Historical/Social Studies
- Speaking and Listening
- Literacy in Technical Subjects
- Literacy in Science

**COMMON CORE MATH**
- Number & Operations in Base Ten
- Geometry
- Ratios & Proportional Relationships

**NYC K-8 SCIENCE & SOCIAL STUDIES SCOPE & SEQUENCE**
- Our Community Geography
- New York City Over Time
- Humans in Their Environments
- Earth Materials

**NEXT GENERATION SCIENCE STANDARDS**
- K-2. Engineering Design
- 3-5. Engineering Design
- MS. Engineering Design
View of Lower Manhattan from the Brooklyn Tower of the Brooklyn Bridge (1890)
View from Brooklyn Tower of the Brooklyn Bridge (1996)
Brooklyn waterfront (location of present day Fulton Ferry Landing (1746)
Scene at the Ferry Landing, Brooklyn, painted by William J. Peirce (1857)
Old shipping piers, now the location of Brooklyn Bridge Park (1970’s)
Rendering of Brooklyn Bridge Park (Expected competition 2018)
Brooklyn Bridge (1883)
Brooklyn Bridge (Present Day)
Brooklyn Waterfront Venn Diagram

Present

Past