Pretty BIG THINGS

Stories of New Jersey History

Exhibition created by the New Jersey State Museum

Curriculum Materials

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Pretty Big Things: Stories of New Jersey History

Curriculum Materials

Pre and Post Visit Planning

Use this guide to assist students in preparing for a visit to the exhibit. The guide is also beneficial for follow-up after the visit to ensure students understand the key concepts of New Jersey Industry, Innovation, Immigration and Government.

It is always helpful to visit the exhibit on your own to understand what your students will see and be able to add your own learning objectives. The museum offers free admission for teachers with ID so you can stop by anytime to prepare for your field trip. The museum has 4 levels of exhibits in the main building and they can all work together to build knowledge for your students. For strong connections to the lessons learned in ***Pretty Big Things*** your students can visit ***New Jersey's Original People*** to learn about the state's first inhabitants and ***Cultures in Competition*** to continue the story of New Jersey history through first contact with European explorers and settlers. To add a fine art element to your history studies your students can visit ***American Perspectives***, our Fine Art exhibit showcased in a timeline format to connect art, artists and the time periods they worked in.

A great way to organize learning is to guide your students in a **KWL**: *What I Know, What I Want to Know* and *What I Learned*. You can do this easily through classroom discussion or turn it into an assignment for students to record their answers to these questions.

Included in this packet are several sample lesson plans to be used in the classroom use and on-site in the exhibit. Please use any or all of these to support your classroom learning and tie the exhibit into the lessons you are teaching. You may also prefer to adapt these lessons to you specific learning objectives or style.

Objects-Based Learning:
Museums use objects such as historic and cultural artifacts and fine art pieces to teach a variety of topics. Object based learning is a technique that uses a student's interaction with an object to connect to and expand upon simple ideas, and to encourage discussion. By focusing a lesson on a specific object you can teach your students observation skills, visual literacy and creative thinking at the same time that you are teaching specific subjects. The goal is to see how much information can be found by investigating the object: to learn about it and to explore relationships between it and other objects, ideas, and the students themselves.

Objects Classroom Lesson

Object based learning offers several more benefits as a *discussion* based teaching tool. Through peer discussion, students can build their vocabularies and learn proper sentence structure. They learn how to better describe their object and express their ideas. Students can begin to learn active listening, and to cooperate with their peers. Positive reinforcement during discussion can also help build the students' confidence when speaking in front of a group.

Levels of Enquiry

- *Description* questions are objective observations based on the five senses. "What shape/color/size/texture/materials? Etc." Taking a visual inventory with definite answers is a good way to begin, partially because the simple questions get the students comfortable with the discussion.
- *Deduction* questions are open ended questions that use observations from the *Description* questions to go deeper and make more abstract connections. These usually have no "right" answer unless it is an object you know the students have prior knowledge of. For example, you might ask them, "How do you think this was used?" or "Who do you think made it?" Some of these questions may draw on the student's prior knowledge, but most of their answers would be opinion based or require them to use their imaginations.
- *Interpretation* questions ask students to make comparisons based on past experiences and express their personal reactions to the object. Have them make their comparisons with similar objects or memories of seeing or using something similar. You can begin this stage by asking, "Have you seen this before or something like it?" and end with, "What does it make you think?" Their answers can be purely opinion and imagination based. Again, it's not about giving the "right" answer.
- Finally, you can add a few more questions or an activity to solidify the connection between your object and your curriculum. Your *Deduction* and *Interpretation* questions should begin to give the object context, but at the end you will need subject-specific questions to lead the students to the point of the lesson. Or, if you are using object based learning as an exercise in observation with multiple objects, at this point you can ask the students to begin classifying the objects based on their comparisons.

Pretty Big Things:
Stories of New Jersey History

Exhibit Overview

A 1,400-pound anvil made by Trenton's Fisher & Norris Eagle Anvil Works…An iron pot used to render whale blubber on the Jersey Shore…A hand-carved statue of the tallest American president…A "grandfather" clock made by the first African-American clockmaker…A grandiose Dutch immigrant wardrobe crafted in the 18th century…What do these five historical artifacts have in common? They are all *pretty big things*.

Do you know which American presidents have historical ties to our state? Can you name the symbols found on the Great Seal of the State of New Jersey? Did you ever wonder why New Jersey is called the Garden State? These questions and many more can be answered within this exhibit.

Pretty Big Things: Stories of New Jersey History seeks to connect visitors to the vast, and often unknown, history of New Jersey. The objects and stories in the exhibit touch on a wide variety of topics, from presidential history, to the diversity of New Jersey industries, to how people lived in the 18th through 20th Centuries. Different stories will enrich different parts of your social studies curriculum. With that in mind, we have created four lessons to accompany the exhibition. Each connects a specific theme to the objects within the exhibit.

After visiting Pretty Big Things, students will know:

· New Jersey Industry has a long history from Iron works and whaling to pottery and more. The geographic regions of the state provided the natural resources necessary for many of the state's industries.

· New Jersey has a rich history of innovation from Edison to Craftsman Farms.

· New Jersey's long history includes stories of colonial settlers, enslaved African Americans and many immigrant groups.

A Sampling of Objects in the Exhibition

Use this section to help you plan what your students will see in the exhibit and choose objects to illustrate your lessons in the classroom.

List of Objects:

Object #1: A Soaring Symbol

The agricultural heritage of the Garden State energized the Grange Movement

From its perch atop the Ewing Grange building in Trenton Junction, this gilded copper weathervane served as a majestic symbol of the Patrons of Husbandry. Also known as the Grange, the organization was founded in 1867 by seven charter members – including New Jersey native John Trimble. The Grange espoused the importance of agriculture and support for American farmers. As a fraternal organization, Grange halls became important social centers while a political arm of the movement advocated for women's suffrage and other issues. In 1875, national Grange membership reached nearly one million. New Jersey had more than one hundred Grange halls.

Evolved from devices on ancient Greek buildings that were used to predict wind direction and weather patterns, decorative weathervanes reached their height of popularity in the Victorian era. By the early twentieth century, artist Pablo Picasso recognized them as a noteworthy American art form. The maker of this eagle weathervane gilded the copper body with gold leaf. The ring in the eagle's beak symbolizes fidelity, one of the four tenets of the Grange movement.

Object #2: Colonial Craftsmen

Dutch and English immigrants brought distinctive furniture forms to New Jersey

Teaneck, Dreahook, Bradevelt, Tenafly, Paulins Kill… What do these unique place names have in common? They all owe their origin to the

Dutch, the first European residents of New Jersey. From their initial permanent settlement at Bergen in the 1600s, Dutch immigrants migrated up the Hackensack, Passaic, and Raritan River valleys. With them came a unique furniture form known as the kast. Designed to hold linens, the kast echoes the shape of a double doorway flanked by two columns supporting a massive cornice. Due to their imposing size, kasten often stayed in the same family home for generations. Kasten were also a symbol of Dutch ancestral pride.

Born to an English father and a Dutch mother, Matthew Egerton, Jr. of New Brunswick made a number of kasten throughout his prolific career as a New Jersey cabinetmaker. He also built furniture forms that suited the tastes of English residents living throughout the state. Designed for the same purpose as the kast, this linen press bearing Matthew Egerton's typical label exhibits an English influence in contrast to its Dutch-styled cousin.

Object #3: Portrayed in Porcelain

Washington's crossing of the Delaware turned the tide of the Revolutionary War

December 25, 1776… A bitter wind swept across a river filled with winter ice floes. But frigid temperatures and an impending storm were not enough to convince George Washington to cancel his daring plan to surprise the Hessian troops in New Jersey. Things had gone poorly in 1776 and he desperately needed a victory. The military password of the day was resolute – "Victory… or Death." For Continental soldiers, the crossing of the Delaware facilitated their decisive victory at the Battle of Trenton. It also created an American icon.

In 1904, the Trenton Potteries Company chose Washington's crossing as the subject for the "Trenton Vase," a monumental porcelain urn displayed at the Louisiana Purchase Exposition in Saint Louis. Lucien Boullemier, the urn's artist, used Emanuel Leutze's famous painting of the crossing as his inspiration. A composite work of five skilled craftsmen, the urn required seven kiln firings in order to bring out the brilliant colors. It was one of four grandiose urns on display at the Exposition.

Object #4: The Garden State

New Jersey was the breadbasket of the fledgling United States

Before the towering buildings, buzzing highways, and churning factories, New Jersey was a rural land of fertile soil and family farms. Benjamin Franklin called New Jersey "a barrel tapped at both ends," perhaps because of the cornucopia of locally-grown grains, fruits, and vegetables that spilled from the bountiful Inner Coastal Plain into neighboring New York and Philadelphia. In 1803, two New Jerseyans patented the first American reaper for harvesting crops. By the mid-nineteenth century, farms covered more than two thirds of the state's total acreage of land.

Recovered from a New Jersey farm, this fanning mill is a fitting symbol of the state's agricultural past. Also known as winnowing machines, fanning mills used a system of fans and screens to generate enough air to remove the chaff from grains of wheat – a necessary step after reaping and threshing the crop. Farmers also used winnowing machines to clean seeds prior to planting. The sifting mechanism separated the heaviest, more-robust seeds from smaller, cracked, and damaged ones, hopefully ensuring a bountiful harvest the next year.

Object #5: The Mark of the Eagle

Harriet Fisher operated one of the first American anvil manufacturers

The newspapers called her "Iron Woman." After the unexpected passing of her husband in 1902, Harriet Fisher promised that she would take over his family's anvil business. But first she wanted to learn all of its intricacies. For one full year, Fisher worked alongside the men of Fisher & Norris Eagle Anvil Works, learning how to pour molten iron into molds made of wet sand. Having bonded with her workforce, she went on to successfully manage the company for more than twenty-five years.

Weighing 1,400 pounds, this monstrous Fisher & Norris anvil is one of the world's largest. The company created it in 1876 for a display of its products at the Centennial International Exposition in Philadelphia. Originally founded in Maine by Mark Fisher, the company moved to Trenton in 1849 because of its proximity to generous supplies of sand needed in the casting process. Known for their eagle markings and durable steel-faced construction, Fisher & Norris anvils were essential tools in farrier, blacksmith, and machine shops throughout the world.

Object #6: A President in New Jersey

In 1861, President Abraham Lincoln's inaugural train visited New Jersey en route to Washington

"With my own ability, I cannot succeed without the sustenance of Divine Providence, and of this great free, happy, intelligent people. Without these I cannot hope to succeed; with them, I cannot fail." – Lincoln in Newark, February 21, 1861

Literally and figuratively, he was our biggest president. During the election of 1860, Lincoln carried every northern state except New Jersey which split its electoral vote. Although a conservative mentality and Democratic Party leanings made Lincoln unpopular in parts of the state, the newly-elected president earned fifty-eight thousand New Jersey votes. He therefore made a

point to visit the Garden State. In speeches at Jersey City, Trenton, and other cities, New Jerseyans experienced the masterful oratory of the man who changed history.

In the late 1800s, an itinerant woodworker carved this statue of Lincoln as payment for his stay with a family in Bordentown. A cloaked president with Emancipation Proclamation scroll in hand is reminiscent of Vinnie Ream's 1871 statue of Lincoln in the Capitol Rotunda. The statue stands an imposing six feet, four inches tall – the same height as Lincoln the man.

Object #7: The Weaver of Bergen County

The nineteenth-century weaving trade highlighted New Jersey's role as a textile center

Nathanial Young was constantly on the move. From house to house he went, sharing with the women of northern New Jersey homes a well-worn book containing illustrations of birds, roosters, garlands, and other designs. All of these motifs, Young promised, could be transformed into a beautiful woven bedcover for the affordable price of ten dollars. He had many takers.

Nathanial Young built a career out of one the most time-consuming responsibilities held by New Jersey women. By hiring a professional weaver, the owner of this coverlet succeeded in freeing up part of her workday for other activities. Young made the coverlet with a Jacquard loom. Named for its French inventor, the Jacquard loom enabled weavers to create complex coverlets from patterns that were coded into punched cards and "read" by the loom. Before Jacquard, woven coverlets were decorated with simple geometric shapes. After Jacquard, coverlets became complicated creations incorporating decorative patterns, animal motifs, and even the names of the weaver and client.

Object #8: A Train Vane

One New Jersey contribution to American transportation is remembered in copper

William Thorne loved weathervanes. Appealing to his engineering sensibilities, a unique weathervane perched on Thorne's 1912 Morristown mansion was connected by a system of rods to a statue of Atlas in the home's great hall. When the weathervane turned, so did the statue, allowing one to know the wind direction even when inside. A second weathervane, seen here, capped the carriage house on Thorne's estate. Thorne had this piece made as a tribute to the company that made him a millionaire – the Union Pacific Railroad. Eastern investors like Thorne played a key role in the expansion of railroad networks across the western United States.

An unknown artisan made this weathervane by hammering sheets of copper into a wooden mold, then soldering the two sheets together to form the body. Exposure to the elements resulted in the beautiful turquoise patina, known as *verdigris*. The intricate details, including an engineer figure, a cowcatcher, and a long swath of engine smoke – which gives the aura of movement – mark the vane as a fine piece of metalwork.

Object #9: The Camden & Amboy

Milestones in railroad innovation happened here in New Jersey

All great innovators have their moment of inspiration. Hoboken native Robert Stevens' epiphany came in 1830 when he casually whittled a piece of wood into a flat-footed, flanged shape roughly resembling the letter "T." The practical design allowed for improved wheel traction and easier attachment to ties. It also became the basis for railroads worldwide. Stevens used his revolutionary "T rail" design on the New Jersey railroad that he operated – the Camden & Amboy (C&A). As the first railroad to connect two American cities, the C&A shuttled people between New York and Philadelphia in nine hours. By overland stagecoach, the journey had taken three days.

This grand exhibit case contains cross sections of rails from New Jersey railroad lines, most of which utilize the Stevens design. Samuel Roberts of Bordentown spent thirty years collecting the samples. For many years, the collection was exhibited at the Stevens Institute of Technology, a Hoboken technical school named for the family that forever changed transportation. Donated in 1907, it is among the New Jersey State Museum's early industrial artifacts.

Object #10: Wonders in wood

Cabinetmakers contributed to the artistic and cultural life of early New Jersey

Their canvases were planks of cherry, walnut, poplar and pine; their brushes tools with odd names like jack plane, bow saw, twist gimlet, and old woman's tooth. As evidenced by these two statuesque examples of woodworking, New Jersey cabinetmakers distinguished themselves as artists in every sense of the word. Introduced to the colonies by the English or Dutch, the chest-on-chest proved a stately and handsome, but somewhat impractical, piece of bedroom furniture. Its immense size meant that the top drawers often went unused.

Mahlon Thomas and Richardson Gray had to endure a long and arduous training process to learn the skills needed to become cabinetmakers. After seven-year-long apprenticeships with established artisans, they underwent trial periods as journeyman carpenters. It typically took as many as ten years to finally open up a business of one's own. Many New Jersey cabinetmakers, however, built furniture only on the side, augmenting their income as farmers, home builders, and even coffin makers.

Object #11: A Thirst for Oil

Coastal New Jersey supplied whale oil used to illuminate cities around the world

Producing a smokeless flame and a clear, bright light, whale oil was considered to be one of best illuminants of the seventeenth, eighteenth, and early nineteenth centuries. To meet demand, early whaling enclaves prospered in Cape May and Ocean counties. When whales became scarce on the coast, Newark and Perth Amboy sent ships to the far reaches of the globe in search of more oil. In 1838, the whaling ship *John Wells* returned to Newark after 421 days at sea. The bounty – two thousand barrels of whale oil and eighteen thousand pounds of whale bone.

It took big tools to capture and process the biggest animals on the planet. Invented by Lewis Temple, an African-American blacksmith, the Temple-toggle harpoon provided an effective weapon that would not dislodge from the whale's body. A blubber hook was needed to lift massive pieces of whale blubber up to the decks of whaling ships. Whalers also needed big cast iron pots in order to render whale blubber into oil. This well-worn example was used in Surf City.

Object #12: Phonographs and Talking Machines

Two New Jersey companies built devices that brought music into American homes

At the end of his life, the New Jersey inventor responsible for pioneering sound technology could no longer hear his own inventions. Nearly deaf, Thomas Edison would sometimes bite on phonograph cases so that the sound vibrations would travel though his teeth and into his inner ear, thus allowing him to continue his life's work. Edison's original 1877 phonograph – the world's first – played sounds recorded on a cylinder. In later years, Edison went on to experiment with phonographs that instead used circular disks. A rival company, the Victor Talking Machine Company based in Camden, also used disk technology in their popular "Victrola" line. However, Edison and Victor disks were not designed to be compatible – a decision

that precipitated one of many American market wars over proprietary hardware.

Early phonographs and victrolas combined a new, cutting-edge technology with simple functions. The hand-cranked, spring-operated motors required no electricity. Further, the large-sized floor cabinets allowed the sound-delivering horns to be encased below the turntable. To control the volume, one simply opened or closed the doors.

Object #13: The Great Seal

Symbols of the state's cultural history are found in the Great Seal of New Jersey

How well do you know the official seal of our state? The horse, representing speed and strength, is New Jersey's state animal. Liberty, standing at the left, symbolizes the fight for independence from England. The other figure, Ceres, is the Roman goddess of grain. Coupled with the three plows on the center shield, Ceres represents the agricultural might of the Garden State. All of these symbols appear in the unknown artist's version of the Great Seal displayed here. Until 1923, this ceremonial shield hung in the New Jersey State House and was used as a backdrop at the inauguration ceremonies of incoming governors.

New Jersey's first legislature resolved to create the state's original seal in 1776. Designed by a French immigrant and cast in silver, the coin-shaped seal measured two and a half inches in diameter. In 1928, a joint resolution of the legislature standardized the appearance and authorized the casting of another seal. As a symbol of authority and the sovereignty of the state, the Great Seal is used to authenticate official documents.

Object #14: American Staffordshire

Geography made central New Jersey the pottery capital of the United States

In a state known for big industries, ceramics was one of the biggest. Situated on railroad and river networks and in close proximity to clay deposits and anthracite coalfields, the Trenton area earned the nickname "Staffordshire of America" for its tremendous output of ceramics. Founded in nearby Flemington as a producer of utilitarian stoneware, Fulper Pottery evolved into a highly-respected art pottery. Displayed at the Panama Pacific International Exposition in 1915, this jardinière illustrates the decorative element that distinguished the company – their unique glazes.

New Jersey also had a connection to one of the foremost American art potters, George Ohr of Biloxi, Mississippi. Inspired by a sixteen-state journey through the major ceramics-producing cities, likely including Trenton, Ohr produced a body of ceramic art that earned him a posthumous reputation as the most original potter of his day. In the 1960s, the work of Ohr was rediscovered by a New Jersey antiques dealer. This large earthenware water cooler is an example of Ohr's early work.

Object #15: Craftsman Farms

Gustav Stickley planned a craft utopia in the wooded highlands of northern New Jersey

He marked all of his furniture with the Flemish words "Als Ik Kan" The translation – "As best as I can." With a commitment to quality and a minimalist philosophy of craftsmanship, Gustav Stickley came to symbolize a growing movement in furniture. Known as Arts and Crafts style, Stickley's work emphasized solid, simple, straight-lined forms that were free from extensive decoration and finished by hand. He also developed a technique that used ammonia fumes to give his Adirondack wood an attractive, nut brown hue. Beauty in furniture, Stickley believed, came largely from the color.
In 1911, Gustav Stickley built Craftsman Farms in Morris Plains, New

Jersey, with the intent of creating a self-sustaining school where young boys could learn the value of hard work, academic study, and craft. Although the school never materialized, Stickley and his family resided at Craftsman Farms until 1915. There, they made good use of this one-of-a-kind oak armoire built especially for Craftsman Farms. It is made from quarter sawn oak logs, another Stickley hallmark.

Object #16: The Rotolactor

Plainsboro's Walker-Gordon Laboratory revolutionized the dairy industry

This tiled sign hung outside of a massive milking machine fittingly dubbed the rotolactor. Designed by Walker-Gordon, the rotolactor relied on a cutting-edge, merry-go-round structure to milk cows in record time. From an original plot of forty acres in rural Plainsboro, the company grew rapidly into a 2,300-acre complex with thirty-three barns housing over two thousand head of cattle – all connected to the rotolactor. In 1929, the Borden Company acquired the laboratory and it became the home of their real-life bovine mascot, Elsie the Cow.

Walker-Gordon was more than an experimental laboratory. It was also a tourist destination. From a built-in observation area, visitors could marvel at the rotolactor machinery below and fifteen tiled murals created by the Mueller Mosaic Tile Company that decorated the room's interior. Depicting the international history of the dairy industry in brilliantly-colored tiles, these murals – like the smaller sign exhibited here – were among many magnificent architectural decorations produced by one of New Jersey's preeminent tile companies.

Object #17: Up from Slavery

A former slave from South Jersey became the first African-American clockmaker

Peter Hill was one of 11,423 African-American slaves residing in New Jersey in 1790. At a young age, Hill learned the craft of making clocks from his master, Joseph Hollinshead, who had learned from his father-in-law, Isaac Pearson. Requiring metalworking skills, a mechanical mind, and precision handiwork, clock making was a highly-prized skill in early New Jersey and Hill soon demonstrated an ability that equaled that of his mentors. Benefitting from the anti-slavery mentality of the many Quakers who settled in Burlington County, Hill obtained his freedom at the age of twenty-seven and entered into the clock business for himself. Able to read and write, Hill balanced his time between crafting clocks and managing the successful business accounts that soon allowed him to purchase a house of his own.

Tall clocks were the biggest, most expensive items in colonial American homes. The comparatively high price of forty dollars made them a commodity only for the wealthy. These examples representing three generations of New Jersey clockmakers are of the eight-day type – using a key inserted into the face of the clock, the owner only needed to wind it once each week.

Object #18: A Titanic Tragedy

The 1912 sinking of the *Titanic* impacted the first family of Trenton

By most accounts, Washington Roebling II was quite the Renaissance man. He invested in cars, traveled around the world, and had a keen eye for pretty things. Despite immense promise, the thirty-one-year-old grandson of famed bridge builder John Roebling saw his life cut short aboard the ocean liner that everyone thought to be unsinkable. Just prior to his ill-fated voyage, Roebling reportedly purchased this settee, table, and armchair while traveling overseas and had it shipped home. The furniture arrived in Trenton only days after the family received the fateful news.

Roebling's taste for Japanese design mirrored that of many Americans. In 1853, Commodore Matthew Perry opened the previously-isolated Japan to the West. Through the cultural exchange that followed, Americans came to embrace Japanese art, craft, and design. Carved furniture featuring exotic forms such as lions, dragons, and cranes became commonplace in Victorian homes around the country. The Japan craze did not die quickly. In April of 1912, the same year of the Titanic disaster, the American magazine *Suburban Life* still extolled the beauty of Japanese teakwood furniture.

Object #19: Iron from the Pines

Natural resources in the New Jersey Pine Barrens gave rise to the regional iron industry

During the Revolutionary War, the workers of Batsto Furnace in the Pine Barrens received exemptions from military service because their jobs were considered crucial to the American cause.

The reason? They made the iron cannonballs that the American Continental forces desperately needed in order to win a war against their better-equipped enemies. Replete with deposits of bog iron found in the swamps and stream beds, the Pine Barrens offered two additional resources essential to early iron production – water and wood. Dense forests provided the charcoal that fueled the furnaces while stream currents turned bellows and other necessary machinery.

Most New Jersey furnaces produced pieces of iron for non-military, domestic use such as the firebacks seen here. Designed to protect fireplace walls and radiate heat into a room, heavy iron firebacks often incorporated decorative motifs and the name of the manufacturer into their design. Because of the close proximity to the Pine Barrens, many Philadelphia homes dating to the early 1800s were decorated with New Jersey ironwork.

Object #20: Island of Hope

Immigrants shaped the demographic and cultural landscape of New Jersey

The oversized flat-top travel chest, a quintessential symbol of immigration, may have seemed quite small to an emigrant family in the early twentieth century as they struggled to choose what items they would take to the New World and what they would have to leave behind. Fleeing poverty and oppression, immigrants came to the United States by the thousands, the vast majority from the countries of southern and eastern Europe. In 1907, the peak year of immigration, more than one million people entered the United States. Their point of entry – a processing center situated in the Hudson River just off the New Jersey shoreline called Ellis Island.

Immigration changed the United States forever. After enduring the medical examinations at Ellis Island, ferries took immigrants to Hoboken where they boarded trains for all points west. Many, however, chose to stay in New Jersey. In 1900, the state had fewer than two hundred thousand residents. Thirty years later, the population had more than doubled. Torn between the prospects of the New World and ties to their ancestral land, most immigrants made numerous back-and-forth trips before ultimately deciding to stay permanently.

Objects by Category

Pretty Big Things: Stories of New Jersey History has a large selection of objects that represent different aspects of New Jersey history. In order to help you focus on what is most relevant to the topic you are currently studying, we have chosen a few themes that you might find helpful. Many of the objects in the exhibit can be used to illustrate multiple themes.

Immigration:
Objects 2, 17, 20

Government, U.S. History and Politics:
Objects 6, 13, 3

New Jersey Innovation:
Objects 5, 7, 9, 11, 12, 15, 16

New Jersey Industry:
Objects 1, 3, 4, 10, 14, 18, 19

Please remember that these categories are in no way all inclusive. As you read the information above and explore the exhibition, you will likely find many other connections between objects and your curriculum. You may even want to try the following activity with your students to see what additional categories the exhibition covers.

Sorting Activity:

1. Select a topic that you are currently studying, or will soon be studying. If it is a topic unfamiliar to your students, you will need to give them a little bit of background before they begin the activity.

2. Either by exploring the exhibition, or using the information provided above about the objects in the exhibition, have the students find objects that relate to what you are studying. For example, if you are studying agriculture, have the students search for the fanning mill. They could also find the eagle weathervane, which was used by the Grange – an organization that supported agriculture and farmers. They could also find the Great Seal, which uses symbolic imagery to represent the importance of agriculture to New Jersey. Your students may surprise you by finding connections that you had not considered. Encourage them to be creative and come up with reasons for their selections.

UNIT #1
New Jersey Immigration

Key Learning Point:
From early Dutch and English settlers to the millions of new immigrants from all over the world walking through the doors at Ellis Island, New Jersey is a land formed and prospering from immigration.

Materials Needed:

- Map of New Jersey Immigration at http://epid.rutgers.edu/gallery/facts-about-immigrant-nj/
- Oral History worksheet included in this packet
- Recording device for oral history
- Other added technology as needed

Standards Addressed:
New Jersey Standards Addressed: 6.1.C, 6.1.D, 8.1.E

Pre-Visit

- Talk to the students about modern immigrant groups. Show them or have them find on their own a map of immigration in New Jersey. What is expected? What is surprising?
- Asked them about cultural heritage events around the state. Have they participated? What did they learn? Why is it important to keep some cultural traditions from your home country in your new country? Or is it?

On-Site

- Have the students locate objects in the exhibit that relate to immigration.
- They can collect information with pencil and paper or take photos of the objects.
- Ask them to record as many immigrant groups listed in the exhibit as possible.

Post-Visit

- Ask the students to compare historic immigration to present day immigration. Are the immigrants from the same countries? Do they have the same reasons for immigrating? To see information on modern day immigration in New Jersey visit http://epid.rutgers.edu/gallery/facts-about-immigrant-nj/
- You can ask the students to use the information they collected from the exhibit to present to the class. They can be in groups or individuals. They can create reports, historical skits, videos or podcasts.
- Family history. Ask the students to find out how their family came to live in New Jersey. Using the *Oral History Worksheet* and *Tips* in this packet students can interview a family member and record the interview on paper, on video or in audio only.

Unit #1: New Jersey Immigration
Oral History Interview Worksheet

Name:_____ Class:_____Date:_____

Oral History is the collection of a person's memories about his or her own life experiences using a video or audio recorder and preserving those memories in a museum, library, or archive. Sometimes, oral history is used to document genealogy and family history. Other times, it is used to document historical time periods or a specific historical event, such as the Civil Rights Movement or World War II.

Preparation

Read Tips for Conducting the Interview. Decide how you are going to record the information. Do you want a written document or a video or audio recording of the actual interview or both? If you are relying on a written account of the interview make sure you take detailed notes.

Planning the Interview

The interview should begin with a brief introduction. Explain the project, its purpose and introduce yourself and the interviewee.

_____

_____

_____

_____

_____

_____

_____

Gather Background Information

Write three questions to establish basic information about the interviewee that could include their name, birth date, birthplace and occupation.

1._____

2._____

3._____

Recording the Story

Write at least six questions to help you get the story and details from your interviewee.

1. _____

2._____

3._____

4._____

5._____

6._____

Prepare some follow-up questions. These questions should help you to clarify and expand upon the information from your interview.

1._____

2._____

3._____

4._____

Unit #1: Tips for Conducting Oral History Interviews

- Contact the person who you will interview (known as the interviewee). Arrange a time to meet in person and explain that you will be using this information for a class project. This will help you to develop rapport with them, which is important for getting a good interview.
- When you return for the interview, arrive on time and be respectful. Make sure your interviewee has signed a release form. If you plan to donate the oral history to a library or museum include that in the release form.
- It is best to interview your subject in their own home or somewhere they are comfortable with their surroundings.
- Be completely familiar with your recording equipment and how it works prior to your arrival. This will ensure that there will not be any mechanical problems. Bring extra equipment if possible for trouble shooting.
- Remember that the interview is not a conversation. The interviewee will do the vast majority of the talking. You, the interviewer, should resign yourself to being a good listener and simply asking the questions.
- Never use questions that will result in a simple yes or no answer; instead, ask open-ended questions that will result in long, detailed answers.
- Prepare a list of questions in advance BUT do not feel confined by your question set. Ask any other questions that you see fit based on your subject's personal experiences.
- When possible, use "how" and "why" as follow-ups to other questions so that you obtain your interviewee's personal feelings.
- Do not interrupt the interviewee, especially during long pauses. Always allow him or her to think before jumping in with another question. Pauses are a sign of thought and usually precede an interesting or important statement.
- Do not voice your own opinions in the interview.
- Finish the interview by giving your subject the freedom to add anything else that he or she thinks is important that you did not ask.
- Send a thank you note to the interviewee.

Unit #2
New Jersey Innovation

Key Learning Points:

- New Jersey has a long history of innovation.
- Innovators come from a variety of backgrounds and influence a variety of industries

Materials Needed:

- *Innovation Scavenger Hunt* in this packet
- Pencil

Standards Addressed:

New Jersey Standards Addressed: 6.1.C, and 9.1.B

Pre-Visit

- Talk to the students about innovation. What is it? Who does it? Can they think of modern day innovators?
- Asked them to think about what it takes to be an innovator. How do you get that "spark" of an idea that changes everything?

On-Site

- Have the students locate objects in the exhibit that relate to innovation.
- They can use the worksheet in this packet to answer some questions about each of the objects.
- Students can work in teams or individually.

Post-Visit

- Ask the students to choose one innovator from the exhibit and find out more about that person. They can work in teams or individually to create a report about the NJ innovator. Students can make a multi-media presentation, a history skit, a podcast or any other creative way to present the report.
- Create an innovation Expo. Have the students think about their own innovative ideas. They can be something new in science, engineering, art or design. They will present their innovative ideas in an expo or fair setting much like a science fair. You can establish criteria for the projects and even have a contest element.

Unit #3
New Jersey Industry

Key Learning Point:

- From the earliest history of the state, New Jersey industry has taken advantage of the natural resources within the state environment.

Materials:

- Pre-visit Portion: Copies of *Exploring Industries* worksheet
- Exhibition Visit: Copies of *Looking for Industries Scavenger Hunt*
- Post-visit Portion: Option #1: Supplies to make arts and craft projects, including clay, yarn or thread and cardboard or foam core board. Copies of *Ceramic Vocabulary*, *Textile Vocabulary* or *Furniture Vocabulary.* Option #2: Copies of *Industries Then and Now* worksheet

Standards Addressed:

New Jersey Standards Addressed: 6.1.A, 6.1.C, and 6.1.D
Pennsylvania Academic Standards Addressed: 7.3, 8.3, and 8.3

Pre- visit:

- Start by asking a few questions.

    a. What do your parents do for a living?
    b. Do any of them make things?
    c. What types of things are made in New Jersey?
    d. Do you think that these are the same things that have always been made here?

- Explain that these things help to define the industries of New Jersey. An industry is a group of people or companies that are all in the same business, often making a particular product. Many of the industries that we will explore in this unit are connected to the arts. We will use the term industries to cover all of these things.

- Students will now break into groups to research some of New Jersey's industries. Some possible industries to explore can include:

    e. Textiles
    f. Ceramics
    g. Iron works
    h. Furniture
    i. Fishing
    j. Agriculture
    k. Tourism
    l. Transportation
    m. Fossil Fuels (oil, natural gas, coal)

- Students can use the *Exploring Industries* worksheet to guide their research.

- After students have completed their research, have them share their findings with the class.

On-Site:

- During their visit to the exhibition, students will complete the *Looking for Industries Scavenger Hunt*.

- Students can participate in the furniture making puzzle or the quilt making activity in the exhibit to understand how quilts and cabinets were crafted.

Post-visit:

Post-Visit Option #1:

1. Several of the arts/industries that were showcased in the exhibition can be explored in a hands-on way by the students. By making one or two simple arts and crafts projects and learning some of the important vocabulary of the arts/industries, students will have a better understanding of time and talents required to succeed in these endeavors. Included here are three potential explorations, one for the ceramics, one for textiles and one for the furniture industry. However, feel free to brainstorm with your students for additional ideas.

    Ceramics:

    1. There are many different kinds of clay on the market and a trip to the craft store will give you several options. Unless you have access to a kiln (perhaps at a local arts center), you will want to purchase air-dry clay or clay that can be dried in an oven.

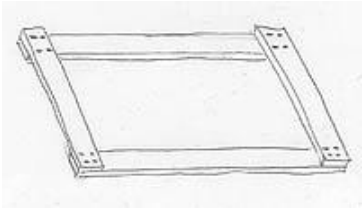
2. Clay can be shaped into many different forms; the easiest is to start with small bowls or pots. The easiest forms for students to create are pinch pots (pots started from a ball of clay that is pinched by hand into a bowl shape) and coil pots (long snake-like coils are wound into the shape of the pot and then pinched together).

3. Once the pots are dry, have the students design a decoration for their pot. Many of the designs in the exhibition include symbols and images that represent different cultures and time periods. Encourage your students to create a design that represents themselves, your class, or even your town.

Textiles:

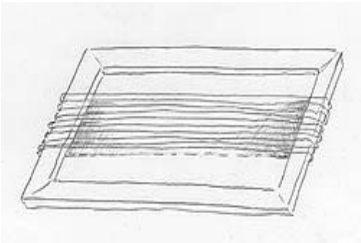
1. Although weaving has been important throughout history, it can often require a lot of equipment. For this project, you will need to make a simple hand loom, then you can begin to weave. You may select any type of thread or yarn. You can even try different kinds and experiment with different patterns.

2. Making a simple hand loom:

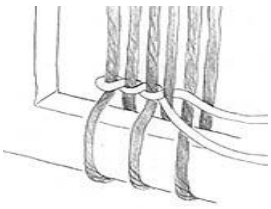


   A. Option #1: Using an old picture frame. Simply remove the glass and you have a hand loom.
   B. Option #2: A simple wooden frame can be made with thin strips of wood nailed or stapled together at the corners.
   C. Option #3: Cardboard can also be used to make a simple loom, simply cut out a square or rectangle then cut out the middle, leaving a 1-2" frame around the outside.

3. Warping Your Loom: Tie your yarn around the bottom end of the frame and then wrap the yarn around and around the frame lengthwise. Remember to keep the tension even. End by tying on to the bottom end of the frame. The yarn should be about 1/4" apart.



4. Now you can start to weave. To make a plain weave, you simply interlace weft yarns by hand, one by one, over and under the warps, then pack them into place with your fingers, and then interlace over and under the opposite warps. See the vocabulary list on page 76 for more information on warps and wefts.



Furniture:

1. While visiting the exhibition, students saw a variety of different furniture styles. Some of the styles were simplistic and utilitarian, while others were highly decorative. For this activity, students will have a chance to design their own pieces of furniture. They can choose to design pieces for the bedroom, such as a bed and bureau, or pieces for the sitting or living room, such as, chairs, end tables, and sofas.

2. First, have the students decide what pieces of furniture they want to design, and if these pieces will be utilitarian, decorative or both. Then they can begin to create designs on paper. Have them consider what the furniture will be made from, how it will be finished, and who will use it. See the vocabulary list of page 77 for more information. Students should also think about how they might decorate their piece Look at the objects in the exhibition for ideas. Once they have a design they like, they can begin to build a model of their design using cardboard, foam core board, and/or other available craft supplies.

Post-Visit Option #2:

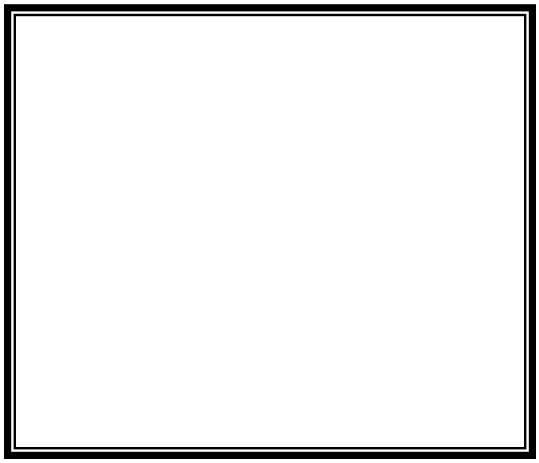
- Industries can change substantially over time. Many of the industries that were common in New Jersey in the 1700s are not present today. For this activity, students will explore how arts/industries have changed over time. Using the *Industries Then and Now* worksheet, students will explore an area of the state and how the industries have changed for that region over time. For example, the coastal regions have changed from a dependence on the fishing industry to a dependence on the tourism industry.
- Students will present their findings to the class.

Adaptations for Younger Students:

- Instead of having students research different industries, bring in one or two guest speakers who can talk about different arts/industries in New Jersey. Parents, grandparents and other family members can often be a great resource for guest speakers. You can also try your local historical society.

Unit #3: New Jersey Industry Worksheet

My Industries: _____



What do these industries make?

When were these industries founded?

Are these still industries today?

Draw or paste of picture of something made by the Arts/Industries.

List three businesses in New Jersey that are in these industries:

List three facts about these industries:

Why were these industries successful in New Jersey? What natural resources does New Jersey have that these industries needed?

Unit #3: New Jersey Industry
Scavenger Hunt

Find the objects from the exhibition that best answer the questions below:

1. The furniture industry is very important to New Jersey and there are several examples in the exhibition. Find three different pieces and indicate which style of furniture they represent:

    a.

    b.

    c.

2. Ceramics can be both useful (utilitarian) and decorative. Find five pieces of ceramics and indicate whether they are simply decorative or if they were utilitarian. If they were utilitarian, how were they used?

    a.

    b.

    c.

    d.

    e.

3. The Atlantic Ocean and coastal areas provide the natural resources to support a large maritime industry. Find three objects that are connected to the maritime industry, are they still used today?

    a.

    b.

    c.

4. From corn to cows, agriculture is an important industry in New Jersey. Find two objects that were used by farmers in New Jersey.

    a.

    b.

5. Industries rely on innovation. Find three objects that were invented in New Jersey. What purpose did they serve?

    a.

    b.

    c.

6. Two objects in the exhibition use the eagle to symbolize strength. Find those two objects:

    a.

    b.

7. The iron industry blossomed because of ample resources in New Jersey. Find two objects connected to the iron industry:

    a.

    b.

8. Some objects represent inventions that were designed to make life easier in the 18th to 20th centuries. Find three objects that represent inventions that made the lives of people easier or more enjoyable:

    a.

    b.

    c.

Unit #3: New Jersey Industry Vocabulary

Ceramics:	The art or technology of making objects of clay and similar materials treated by firing.
Clay:	A natural earthy material that is plastic when wet, consisting essentially of hydrated silicates of aluminum: used for making bricks, pottery, etc.
Earthenware:	Pottery of baked or hardened clay, esp. any of the coarse, opaque varieties.
Firing:	The process of heating the pottery to a specific temperature in order to bring about a particular change in the clay or the surface.
Glaze:	A glass-like surface coating for ceramics that is used to decorate and seal the pores of the fired clay.
Kiln:	A furnace or oven for burning, baking, or drying something, esp. one for firing pottery or baking bricks.
Matte:	Having a dull or lusterless surface.
Molding:	Flat slabs of clay are pressed into molds in order to create various shapes or forms.
Porcelain:	A strong, vitreous, translucent ceramic material, biscuit-fired at a low temperature, the glaze then fired at a very high temperature.
Throwing:	Refers to the technique of building pots using a potter's wheel.

Block:	A basic unit of quilt construction, usually in the form of a square, which is typically repeated and combined in rows to form a quilt top.
Loom:	The instrument used to weave on, can come in many varieties.
Patchwork:	Usually refers generally to the process of combining fabrics to make a quilt top. Sometimes the term refers specifically either to appliqué or to piecing, but more often it includes both processes.
Pieced:	A needlework technique in which two pieces of cloth are joined together with a seam.

Quilt:	A textile bedcover typically formed of three layers: a decorated top, a plain backing, and a fluffy filling between them. The layers of a quilt are usually sewn together with stitches through all the layers; alternatively, they may be tied or "tacked" together with yarn knots..
Shuttle:	A piece of wood that is attached to the weft thread so that it can more easily be weaved through the shed.
Warp:	The group of threads that form the base of the weave.
Weft:	The threads that are moved back and forth between the warp thread to lock the warp together and create a solid fabric out of many loose threads
Cornice:	Any prominent, continuous, horizontally projecting feature surmounting a wall or other construction, or dividing it horizontally for compositional purposes.
Dentil Molding:	Rectangular, tooth-like blocks spaced at equal intervals along a cornice molding. Found in 18th century architecture and design.
Dovetail:	A joint where the fingers are shaped like a doves tail, used to join pieces at 90 degrees.
Finial:	A carved or shaped decorative detail used to ornament the top of an upright such as a bedpost, in the opening of a broken pediment or topping a lamp. Motifs include flames, urns, pineapples and other vertical motifs.
Inlay:	Wood ornamentation using exotic woods or ivory, set into the surface of wood furniture.
Joint:	A connection between pieces of wood, metal, or the like, often reinforced with nails, screws, or glue.
Upholstery:	Fabric-covered sofas and chairs, with most wood construction features hidden under layers of padding and fabric.
Veneer:	A thin layer of wood permanently bonded to a thicker core. The most beautiful grain patterns are used for the outermost layer (or face veneer) of furniture pieces.

Unit #3: New Jersey Industry Then and Now Worksheet

1. Select region of the state in which to study.

2. What are the natural resources of that region, including waterways, fossil fuels, soil, etc.?

3. What industries could be supported with these natural resources?

4. Historically, what were the largest industries in the region?

5. Which of these industries are still present today?

6. If any are not still present, can the industries be found in other places today? If yes, why is it not still in this region?

7. What new industries have come to the region? Do they utilize the same natural resources or other resources?

8. Do these industries support small, medium or large businesses in the region?

9. How much competition is there for the different industries?

10. Where else in the state, country and world do these industries operate?

Unit #4
New Jersey History and Government

Key Learning Points:

- New Jersey has been the location of many important events and movements that impacted American History.
- New Jersey has had a long history of governance from the colonial era to the present day.

Materials:

- Pre-visit Portion: Copies of the *Objects Based Learning Worksheet*
- Exhibition Visit: *Social Studies Hunt* sheets
- Post-visit Portion: Show and Tell objects

Standards Addressed:

New Jersey Standards Addressed: 6.1.A, 6.1.B, and 9.1.C

Pre-Visit:

- Choose an object from the exhibit that represents NJ History or State Government. Using the *Objects Based Learning Worksheet* walk the class through an analysis of the object. What are the conclusions? What other questions did they come up with?
- Alternatively, you could break the students into groups and give each group a photo of an object. Have them complete the *Objects Based Learning Worksheet*. Students will report on their findings. You could follow up with the description of the object to let them know more about it.

On-Site:

- Students can find the object they studied in class to see the real thing. This will give them an understanding of the importance of the real thing and why we would preserve it and display it. You can ask the students some questions about the difference between seeing the object in a picture and seeing the real thing.

- Students can participate in the design your own state seal activity in the exhibit. They will better understand the process of creating symbols and a message about your state.
- Have the students break into pairs or groups to use the *Social Studies Hunt*. You can choose whether to offer a prize to the first group to finish or not. Prizes can be extra credit, candy or anything else you can think of.

Post-Visit:

- Ask the students to discuss what they learned about NJ State history and government from visiting the exhibit.
- Were there any surprises?
- How have immigration and NJ natural resources shaped the history of the state?

Unit # 4 New Jersey History and Government Objects Based Learning Worksheet

In this exercise you will be given an object or a picture of an object. Answer each question after discussing it as a group and give as much detail as possible. There are no right answers, these are just your group observations.

Description

1. What color is it?

   _____

2. What is it made of?

   _____

Deduction

1. What is the purpose of this object?

   _____

2. Who do you think made it?

   _____

3. Where did it come from?

   _____

Interpretation

1. Have you seen anything like this before?

   _____

2. What does it remind you of?

   _____

3. What would you use it for?

_____

Classification

1. Is this object important?

_____

2. Does this object have value?

_____

3. Is the object useful?

_____

Unit #4: New Jersey History and Government Social Studies Hunt

Hunt for the answers to these clues!				
Harriet Fisher took over this family company in 1902: _____	This object used fans and screens to remove the chaff from wheat: _____	Trenton's production of ceramics earned it this nickname: _____	Natural resources in NJ's Pine Barrens gave rise to this industry: _____	This life-sized President is holding what document? _____
Which artist was inspired by "America's Game"? _____	What Whaling industry innovation did Lewis Temple invent? _____	Hoboken native Robert Stevens created what milestone in railroad innovation? _____	Find the Edison invention: _____	The National Flag from the *New Jersey* was a gift from: _____
Cedar from South Jersey created what Samuel Parrine innovation? _____	Who was the Weaver of Bergen County? _____	Which president is on this campaign poster from 1904? _____	What furniture style graced the homes in Trenton in the late Victorian Era: _____	Translate Gustav Stickley's phrase, *Als Ik Kan* : _____
Who was the Carriage King? _____	What is the ceremonial shield made of? _____	What company invented the Rotolactor? _____	Object made by Peter Hill, a former slave from South Jersey: _____	Find the chair belonging to this former NJ Governor: _____