

TEACHER EXHIBIT GUIDE

This exhibit guide gives a brief overview of each of the exhibits in the Samuel Slater Experience to assist educators in determining how and when a museum field trip is best incorporated into the curriculum.

Teaching Notes tie exhibits to specific subject areas.

Text Panels provide a more detailed narrative of exhibit's topic.

EXHIBIT: ORIENTATION

EXHIBIT DESCRIPTION: Visitors learn about the beginnings of a mill economy in an artfully crafted presentation that includes one-of-a-kind artifacts. These are the tools that predate the Industrial Revolution. Two of the more prominent artifacts are the spinning wheel and barn loom.

TEACHING NOTES: *The spinning wheel was the tool used to make thread to weave cloth. At the time it was a long laborious effort to make clothing. Science, technology, engineering, math (STEM) teachers could show examples of pulley, wheel and axle, pedals that work as levers, allowing students to focus on simple machines. History and social science (HSS) teachers may use this idea of self-sufficiency to lay the foundation of the dramatic social changes about to impact agrarian life as farm families move to urban areas and transition to factory life.*

Additional teacher resources are available on the SSE website to give you opportunities to better prepare students for their visit.



EXHIBIT: STRUTT'S OFFICE (8): MEET YOUNG SAMUEL SLATER IN BELPER, ENGLAND



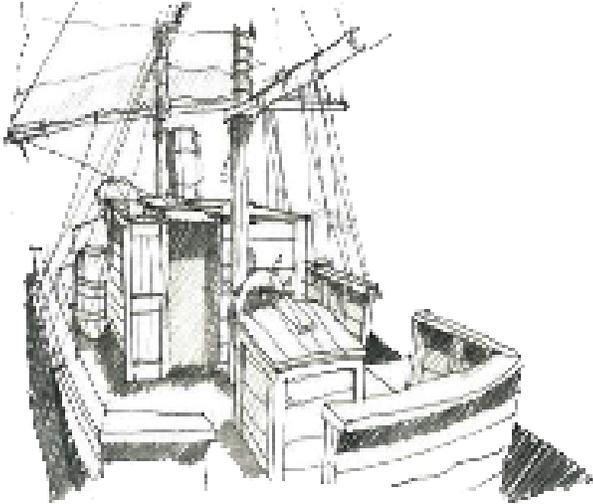
Jedediah Strutt explaining the limits placed on Samuel by England's laws designed to ensure their control over the textile industry.

EXHIBIT DESCRIPTION: Visitors meet a young and conflicted Samuel Slater and his English boss, Jedediah Strutt, in an inventive immersive multimedia presentation. Is Slater a traitor for taking the Brits' most valued manufacturing secrets?

TEACHING NOTES: Topics include terms of indenture or apprenticeship, England's class system, international laws protecting a monopoly and controlling trade.

EXHIBIT: SAMUEL SLATER'S SHIPBOARD IMMERSIVE THEATER EXPERIENCE (9)

EXHIBIT DESCRIPTION: Samuel Slater steals aboard a nearly full-size cargo vessel replete with sails, rigging and stern fittings. You are there with him. The adventure begins with a life-size hologram of Slater telling you his secret of taking knowledge of spinning technology with him. Things go downhill fast when a storm blows in. You are pummeled with wind, sea spray and, worst of all, a seasick Slater. This is a signature theater with 4D immersive elements that put you in the scene.



TEACHING NOTES: The sketch was the first step in the reproduction of the original ship. The riggings with all the ropes and pulleys provide examples of simple machines. The voyage imitates the rough seas with wind, waves, and motion creating a real-life experience. The visitor cannot help being brought into the story of Samuel Slater's voyage.

CAUTION: This exhibit is very loud during the storm at sea with claps of thunder, bright flashes of lightning, while the ship rumbles and shakes. This may overstimulate some students.

EXHIBIT: SLATER ARRIVES IN NYC. WAS THAT A RAT I SAW? (10)

EXHIBIT DESCRIPTION: Yes, there are wharf rats that poke their heads out and run across the pier. Young Slater arrives in New York City and it was not a pretty sight. As he surveys the dingy scene, he wonders if the trip was worth it. This detailed recreation of a New York wharf has sights, smells and animated furry creatures that will elicit a shriek of delight.

TEACHING NOTES: You see silhouettes of dock workers carrying and loading or unloading goods from ships. You gain an awareness of the amount of activity involved in operating a seaport. One wonders how Samuel had the fortitude to go on after this long journey. You admire his vision and how he overcomes countless boundaries. He soon explores opportunities in Rhode Island, where he negotiates a partnership to build the first water powered spinning mill in Pawtucket.



EXHIBIT: "MASTER OF INDUSTRY"- SAMUEL SLATERS OFFICE (12)

EXHIBIT DESCRIPTION: Here we are later in time in Webster, Massachusetts. Samuel Slater will be known as the "Father of the American Industrial Revolution." In his office guests learn about his savvy business acumen by exploring historic documents and ledgers on an interactive digital desktop. Touching the objects brings them to life with a narrated story by Slater and his colleagues.

TEXT PANEL: In an office like this one, Samuel Slater held meetings with buyers and employees and reconciled the accounting of his business. Although he was renowned for erecting and operating the first successful textile spinning mill in the United States, Slater's greatest contribution to America's manufacturing society was the way he managed his workers and their families.

TEACHING NOTES: Topics for HSS teachers involve how factories effect a social change by providing housing, a company store, and school or church as an educational system. The life of factory workers is vastly different from subsistence farmers whose daily survival depended upon a family working at the mercy of drought, floods, insects, and family health.

STEM students should explore impact of environmental changes implemented to control water with dams, canals, reservoirs, and other ways to manage nature to control their power source. Multiple resources are available in the Teacher Resource link on the SSE website to implement required curricular standards.

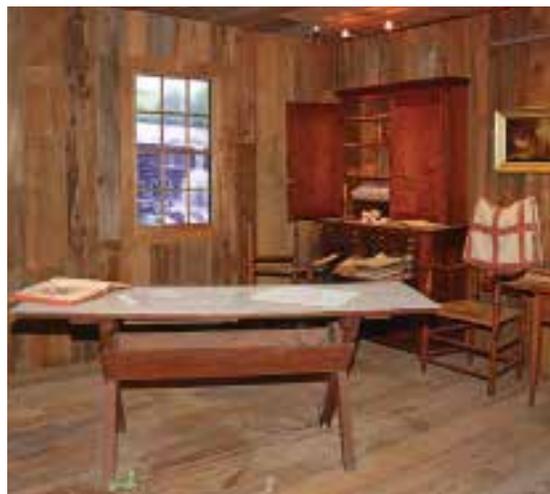


EXHIBIT: MILL WORKERS LIFE (13, 14, 16 and 17)



TEXT PANEL: Working in a mill was not an easy job, especially for those employed in America's earliest mills. The workday was long and tiresome: six days a week with each day starting at dawn and ending at dusk, as mill owners made sure to take advantage of all the daylight available each day. Workers had to endure cold and drafty conditions in winter, and conversely, hot, and humid conditions in summer. With hundreds of machines running at once, mill floors were deafening and hazardous environments in which to work. Many workers ended up with injuries from the machinery or acquired diseases such as tuberculosis from breathing the lint-filled, filthy air present in the factory.

Young children were the ideal mill workers. They could operate the simple machinery, were inexpensive, and easily controlled. Yet children were even more susceptible to injury than adult or adolescent workers. An exhausted and tired child could easily lose a finger, arm, or get their hair or clothes caught in the fast-moving parts on the machines and the belts that powered them.

The children who worked for Slater were 7-14 years old. Their parents contracted them for labor, received their wages, and made sure that they showed up for work. Weekly wages varied between 80¢ and \$1.40 and were dependent on not only the age of each child, but also on their size.

In the eighteenth and nineteenth centuries, child labor was commonplace in both England and the United States. Boys worked as farm or casual hands, ship's boys, and herders, among other positions, while girls often entered homes as domestic servants. Few saw working in the early factories as a problem. If anything, it allowed the family to remain together; the combined earnings of just the children alone could double a family's income.

Samuel Slater respected New England traditions and patriarchy and, therefore, divided labor based on age and gender. Male householders accepted work as farm hands, night watchmen, teamsters, or other traditional male jobs. Women remained at home, where they often took in work such as making palm leaf hats, brooms, or lace. However, this way of life changed in the 1840s with the arrival of immigrant workers into these mill communities. Economic conditions, partly created by an influx of new labor and Samuel Slater limiting the influence of the householders, meant that social values had to change. As such, parents began working in factories alongside their children.

EXHIBIT: MILL WORKER'S KITCHEN (14)

TEXT PANEL: For Slater's workers, the mill village was the center of everyday life. It was much more than just a place to work, but rather a community where they raised a family. A new way of life was created by blending a rural heritage and the experience of factory labor. A typical village comprised the Superintendent's house, several single-family dwellings, a church, a small school, and a company store. Weekly wages were paid in company store credit rather than cash; book deductions from workers' pay were made for food, provisions, and wood, among other items.



Early mill housing was very plain and often crowded. However, it was significantly better than the housing many families could afford elsewhere. Each house was no larger than four rooms total. The most important room was the kitchen, where the family would eat and relax in the few hours they had to themselves. An open fireplace heated the room and was used to cook food, to aid in the laundering of clothes and other household chores. Water was drawn from a well which was shared by multiple families.

Slater allowed tenants to pasture their animals on company land for a fee. They could grow their own produce on the land near their house. Fresh fruits and vegetables were plentiful during warm months and scarce during the late winter and early spring. Meat and fish were also dependent upon the seasons. To extend the shelf life of their food well into the harsh New England winters, most fruits were dried, vegetables pickled, and meats and fish salted. Milk was churned into butter and used to make cheese. Animal fat was rendered to make candles and soap.

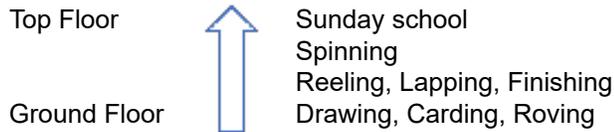


EXHIBIT: WATERWHEEL AND SLATER'S MILL DESCRIPTION (15)

EXHIBIT DESCRIPTION: Guests explore Slater's mill in detail. A full-scale working waterwheel powers pulleys and machinery. Looms spin and an immersive video of mill workers, including children, are seen in life size tableaus as they labor under challenging conditions. Full size artifacts allow guests to see the inner workings of mill machinery.

TEXT PANEL: Waterpower was widely available in New England due to several fast-running streams and rivers interrupted by waterfalls and rapids. Starting a textile mill was predicated on the location of a suitable waterpower site and then arranging to purchase the land. Ideally this was where a stream ran naturally into a large pond and then fell sharply over a waterfall, the higher the better. Although American farmers had been using waterwheels to power millstones when grinding corn, textile mill owners had to design and build giant waterwheels—some thirty to forty feet in diameter—to enable sufficient power to drive their machinery. Each wheel was made of wood and placed in a stone-lined space called a wheel pit, and this in turn, was designed to join a river. When water met the wheel, it was collected in bucket style sections. Water entering was called the “headrace” and when it returned to the river after turning the wheel, it was called the “tailrace.” To utilize the power of the water, the waterwheel would be aligned to gears, shafts, pulleys, and belts inside the mill.

The technology available was what determined the size and shape of the earliest mills. Factories had deep stone foundations to withstand the vibrations of all the machinery. The buildings were constructed with large windows and were built narrow enough to allow sufficient daylight to enter. Machinery had to be kept as close to the waterwheel as possible to be most efficient. Cotton mills were a fire hazard. The use of timber framing was done away with and iron framing with stone or brick became the standard. Sir Richard Arkwright's mills were the model for the early American factories. Each floor was dedicated to a certain step in the process of cotton spinning.



TEACHING NOTES: STEM teachers: This exhibit has a wide variety of gears, pulleys, and wheels. An example of a chain drive can be seen amongst the pulleys. Often when you see two pulley wheels side by side, one is the idler pulley the other is the drive pulley. There is a wooden lever that simply pushes on and off.

All around the exhibits are example of the six simple machines. Your students can also find examples of several simple machines combined to perform one task.

Students can research the “factory system” and how it impacted the labor force.

You can find supplemental video and lessons in the Teacher Resource folder on our website.

EXHIBIT: CREATE YOUR OWN TEXTILE (17)



INTERACTIVE FOR STUDENTS: Guests are challenged to design their own textile in this engaging interactive hands-on experience. They select a pattern, add colors, a custom monogram, and see their creative handiwork come to life. They can then text or email their finished textile to themselves or others.

TEACHING NOTES: The use of Jacquard's punch cards was the first use of code to control a machine. This small leap in technology spearheaded the digital programming world we live in today.

EXHIBIT: WHY THIS PLACE? (18)

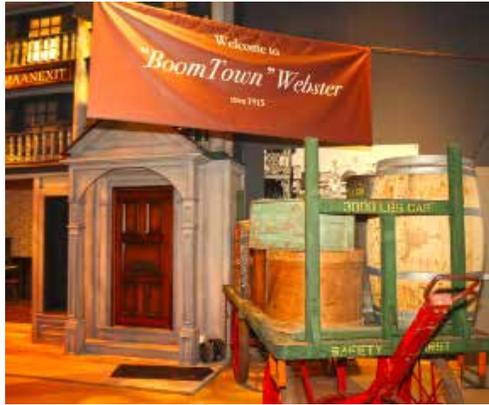
EXHIBIT DESCRIPTION: The circular theatre illustrates the transition beyond the mill exhibits as we jump forward in time. You can hear fascinating stories from a variety of local towns people about early Webster. Samuel Slater's son Horatio recounts the continuing saga of the growing Slater textile empire. This large multiscreen video presentation is surrounded by artifacts of the era and stunning graphics and photos. You will see characters talking about immigration and the opportunities they had and what they accomplished. You will meet a much older Samuel Slater extolling his successes in developing mills all over southern New England.

TEACHING NOTES: For HSS teachers the videos give examples of the impact immigrants had in Webster, the affluence of tourists using Webster as a resort destination, the expansion of the economy based upon the success of industry.



EXHIBIT: TOWN OF WEBSTER STREETScape (19-20)

EXHIBIT DESCRIPTION: A hundred years after Samuel Slater's arrival, Webster has become a thriving town. Webster in the early 1900s had flourished with the financial gains of being a mill town.



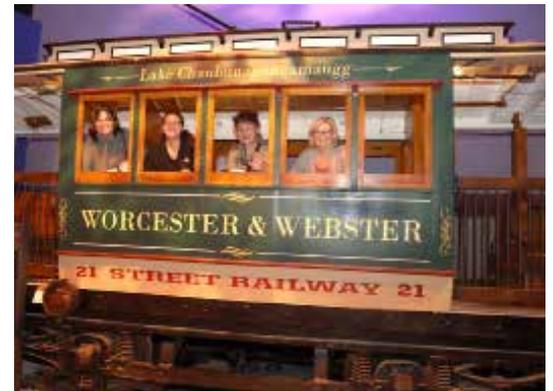
The town of Webster comes to life with these multistory replicas of downtown Webster. Historic buildings, including the Maanexit Hotel, The Liberty Theater, and The Webster Times are faithfully reproduced. Guests can feel the excitement of this quintessential turn-of-the-century town.

Visitors can explore the makings of the Industrial Revolution with artifacts, photos, and richly textured graphics displayed throughout the exhibit space. You will see an antique auto, truck, horseless carriage, gas pump, and bicycles while strolling down Main Street.

EXHIBIT: THE TROLLEY CAR 4D EXPERIENCE (23)

EXHIBIT DESCRIPTION: This Webster and Dudley trolley car is a carefully researched and constructed replica circa 1898. Guests can climb aboard and examine the details of this favorite form of transportation.

Once on board guests get to ride down Webster's Main Street on a virtual tour from downtown out to Webster Lake. Guests looking out one side see the town roll by using immersive video projections. On the other side of the trolley, guests see stories come to life in the windows of the Webster streetscape. The trolley rumbles and rocks, completing this 4D theatrical ride.



TEACHING NOTES: CAUTION: This multisensory exhibit may not be suitable for all students. The trolley is loud and vibrates, and the street rolls past when looking out the windows creating a sense of motion.



EXHIBIT: MAANEXIT HOTEL LOBBY (21)

EXHIBIT DESCRIPTION: Step back in time to a simpler era. The Maanexit Hotel lobby tells the story of the weary travelers who were coming to Webster Lake to vacation.

MAANEXIT HOTEL SPEAKEASY

EXHIBIT DESCRIPTION: You want to know a secret? Well, we cannot tell you unless you know the password. This secret doorway houses a fun surprise for those who can find it.

During Prohibition, the sale of liquor was against federal law. However, many clever individuals had false cabinets, and sliding walls. The Maanexit had a secret room for those who knew the password. It was a private club whose sole purpose was to circumvent the law. Illegal gambling was equally popular at the Speakeasy.



EXHIBIT: THE LIBERTY THEATER INTERIOR (22)



EXHIBIT DESCRIPTION: Sit and enjoy the films from 1910, enhanced by the music of the player piano and smell of popcorn. This is the silent film era when the first movies were produced. It was the start of the film industry soon to be followed by talkies. Take a seat and witness the newest technology of the times.

EXHIBIT: WEBSTER TIMES OFFICE (24)

EXHIBIT DESCRIPTION: Want to know how a newspaper was put together? See how the presses were run and stories got told. Artifacts and working presses are all there.

TEXT PANEL: At the time of the first edition in 1859, the Webster Times not only printed newspapers, but also advertised job printing that could compete with city offices in style and price. They boasted that they printed everything from books, pamphlets and circulars to posters and show cards in block or fancy colors, business, gift and wedding cards, bank and insurance blanks, and bill heads, labels, and tags. If there was a color, type style, pattern, or kind of paper a customer desired, the Webster Times could deliver.

After about 50 years of setting all the type by hand, the company purchased its first linotype machine. The linotype revolutionized the printing industry, producing type faster and more accurately than ever before. A highly skilled linotypist would type out the chosen text on a special 90-key keyboard, causing the mold of each individual letter to drop down. This "line o' type" would then be injected with molten lead, and once cooled, that new line would then be assembled into a frame and loaded onto a press to be printed.



EXHIBIT: MAKE YOUR OWN WEBSTER TIMES NEWSPAPER (24)

INTERACTIVE FOR STUDENTS. This inventive digital interactive display lets guests produce their personal edition of the Webster Times. They choose the stories and can add their name as a byline. They set the type, take their photo, and then print their article as it would appear as front-page news on a virtual paper. They can then email or text their creation to others or themselves.



EXHIBIT: RACICOT BROS. (25)

TEXT PANEL: One of the leading and most well-known retail businesses in Webster was founded in 1897 by two entrepreneurs, Alexander and Arthur Racicot. While furniture ultimately became their main product, they initially sold tea, coffee, spices, and extracts. In the early days of their business, customers received complimentary housewares with their coffee and tea orders.



Alexander had formerly worked for another Webster business owner, E. J. Benoit, who had a tea and coffee store. After just 18 months, he purchased the business with his brother Arthur as partner. Alexander then stepped away from active management of the tea and coffee business by joining Alfred Brassard across the street in the Breen and Brassard Furniture store in Webster. In 1901, he was able to buy out the interests of his employer. The brothers merged the two businesses and were once again working together.

EXHIBIT: DUGAN DRUG (26)

TEXT PANEL: The building at 229 Main Street was originally owned by Lawrence Dugan, who commissioned its construction in 1921. Over time this red brick building became known as the Dugan Block. Records show that the site had been a drug store for more than 100 years but the original building was more modest and constructed of wood. The cost to Dugan for his new building was estimated to be about \$30,000. He utilized the entire ground floor and cellar for his drug store. Upstairs, the 2nd floor was used as office space, and the 3rd floor had apartments.

Dugan was a lifelong resident of Webster. He launched his pharmacy career in 1895, serving as an apprentice to Mr. E. N. Bigelow, a well-known druggist in Webster. Dugan then opened his own drug store in 1905, located in another part of town. He ran this for sixteen years prior to moving to Main Street in March 1922. When he retired in 1936, Lawrence Dugan passed the management of the Dugan Drug Store to his son, James Dugan.



EXHIBIT: WEBSTER TODAY (27)

This engrossing six-minute video production looks at how Webster has changed after the mills ceased operations or left town. Interviews with local townspeople, historians, and town officials tell the contemporary Webster story in their own words. The town has been through some ups and downs but today the future is bright, and it all started with Samuel Slater.