HISTORY, TRANSPORTATION, AND INNOVATION

Bring history to life and then bring it back to the classroom through this education standards guide for the B&O Railroad Museum’s experiences, tours, and programs for the 2020-2021 school year.

We are delighted to offer a variety of new tours, experiences, and workshops designed to meet your educational needs for a range of grade levels. This student group guide contains logistical information as well as frequently asked questions about visiting our museum with your student group. After completing your reservation, you will receive a pre-visit classroom activity designed to be grade-level appropriate and aligned with the educational standards of Maryland. For more detailed information about the museum, please visit our website at www.borail.org.

**Group Reservations:** Kelly Loughran | KLoughran@BORail.org | 443-627-2391
**Education Department:** Edu@BORail.org

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SUPPORTING TEACHERS

The B&O Railroad Museum is committed to supporting teachers in reaching their educational goals for students. We have developed an extensive series of new educational programming focused on history, transportation and innovation aligned with the educational standards of the state of Maryland across all grade levels.

Maryland students in grades Pre-K through 12 can visit the museum for a field trip for free.

Maryland Title I schools and Baltimore City public school groups are also eligible for free admission, one educational tour or workshop, reserved lunch dining space as available, and a ride on the Mile One Express train during their visit. See page 9 for pricing.

VIRTUAL FIELD TRIPS & COVID-19

In order to support teachers and students through this Summer and through the 2020-2021 school year, the B&O Railroad Museum is offering all of current student group tours listed in this document as either on-site or virtual field trips. See page 10 for more details and pricing.

We understand that COVID-19 has been a difficult time for educators and we are here to support your classroom goals. Our museum grounds are over 40 acres, allowing for ample space for social distancing. We are also taking measures to ensure a safe environment for all, including social distancing measures and frequently disinfecting public spaces. Any scheduled tour can easily be rescheduled and exchanged between a virtual or in-person experience in order to best meet the needs of our educational community as the situation changes throughout the year.

Please feel free to reach out to our education department with any questions or requests at Edu@BORail.org.
TOUR AND EXPERIENCE OFFERINGS

**Railroad Story Time | 30 mins | Grades Pre-K to 3**
Students listen to a railroad story read by the museum’s education team and then do a short activity related to the book. We offer a variety of stories to meet your classroom and descriptions.

**Railroad Signals Technology History Tour | 30 mins | Grades K to 6**
Explore the evolution of sign and signal designs and technology from the dawn of American railroading through the present day.

**Civil War: The War Came by Train Tour | 30 mins | Grades 2 to 12**
Uncover the story behind the first-time trains were used in warfare - the American Civil War.

**From Slavery to Civil Rights Tour | 30 mins | Grades 3 to 12**
Discover the rich and enduring legacy of African-American railroaders, from the dark days of slavery and the Civil War, through segregation, and into the Civil Rights movement.

**Technology Changes Tour | 30 mins | Grades 3 to 12**
Learn about the innovations that allowed trains and their cargo to travel faster and more efficiently throughout the history of American railroading.

WORKSHOPS

**PVC Freight Car | 60 mins | STEM | Grades K to 6**
Students will work in small groups to construct their own rolling freight cars to carry common railroad freight. They will also test their design to see how effectively it can maneuver our course while transporting important cargo.

**On Your Mark, Get Set, Lego! | 60 mins | STEM | K to 6**
Students work in small groups to design freight cars using an assortment of modified Legos. Each design will be put to the test on our very own derby track. Through this process, students will learn about gravity, forces of motion, and the scientific method.

**Bridge to Freedom: African American Civil War History | 60 mins | STEM and History | Grades 2 to 8**
Students will construct their own bridges as they learn about the role African American bridge-builders played in securing the Union’s victory in the Civil War.

**Food on the Move | 60 mins | History | Grades 3 to 7**
Students explore the great lengths food travels, determining the distance from farm to table while utilizing map reading skills, then take an informative tour of historic and modern food freight cars.
## EDUCATION STANDARDS OVERVIEW

<table>
<thead>
<tr>
<th>Program</th>
<th>Grades K – 2</th>
<th>Grades 3 – 5</th>
<th>Grades 6 – 8</th>
<th>Grades 9 – 12</th>
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<tr>
<td></td>
<td>4-SS-5.C.3</td>
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<tr>
<td>TOUR: Railroad Signals Technology History</td>
<td>K-2-SS-5.A.2</td>
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<td>4-SS-5.C.4</td>
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<td>HS-SS-5.1.2.c</td>
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<td>3-5-ETS1-1</td>
<td>MS-PS2-1</td>
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<td>5-PS2-1</td>
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<td>WORKSHOP: Bridge to Freedom</td>
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<td>4-SS-5.C.4</td>
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<td>7-SS.3.C.1</td>
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## DETAILED EDUCATION STANDARDS

**Civil War: The War Came by Train Tour**

2-SS-5.A.1: Examine differences between past and present time.
3-SS-5.A.2: Investigate how people lived in the past using a variety of primary and secondary sources.
4-SS-5.C.3: Analyze regional differences in the Civil War and its effects on people in Maryland.
8-SS-5.C.5: Analyze factors affecting the outcome of the Civil War.
**Railroad Signals Technology History Tour:**
K-2-SS-3.C.1: Explain how transportation and communication link places by the movement of people, goods, and ideas.
3-SS-5.A.2: Investigate how people lived in the past using a variety of primary and secondary sources.

**From Slavery to Civil Rights Tour:**
4-SS-5.A.1.c: Describe the establishment of slavery and how it shaped life in Maryland.
4-SS-5.C.4: Analyze how the institution of slavery impacted individuals and groups in Maryland.
8-SS-5.B.5.c: Identify the legal and illegal actions used to deny African-Americans civil rights.
HS-SS-5.4.3: Analyze the major developments, controversies and consequences of the Civil Rights Movement between 1946-1968 (5.4.3).

**Technology Changes Tour:**
4-SS-5.C.2.b: Describe the importance of changes in industry, transportation, education, rights and freedoms in Maryland, such as roads and canals, slavery, B&O railroad, the National Road, immigration, public schools, and religious freedoms.
8-SS-5.C.3: Analyze the influence of industrialization and technological developments on society in the United States before 1877.
HS-SS-5.1.2.c: Describe new technologies and inventions in agriculture, transportation, communication, manufacturing and the impact on individuals, groups and regions (PNW, G, E).

**PVC Freight Challenge Workshop:**
K-PS2-1: Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.
K-PS2-2: Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.
2-PS1-3: Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.
K-2-ETS1-3: Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs
MS-PS2-1 Apply Newton’s Third Law to design a solution to a problems involving the motion of two colliding objects.
MS-PS3-2 Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.
MS-PS3-5 Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes energy is transferred to or from the object.

**On Your Mark, Get Set, Lego! Workshop:**
STEM-SOP-2.A.K-5: A. Analyze interdisciplinary connections that exist within the science, technology, engineering, and mathematics disciplines and other disciplines.
STEM-SOP-2.B.K-5: B. Apply integrated science, technology, engineering, and mathematics content to answer complex questions, to investigate global issues, and to develop solutions for challenges and real world problems.
K-PS2-2: Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.

2-PS1-3: Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.

K-2-ETS1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETS1-3: Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

3-PS2-2: Make observations and/or measurements of an object’s motion to provide evidence that a pattern can be used to predict future motion.

4-PS3-1: Use evidence to construct an explanation relating the speed of an object to the energy of that object.

5-PS2-1: Support an argument that the gravitational force exerted by Earth on objects is directed down.

Bridge to Freedom Workshop:

3-SS-5.C.3: Analyze regional differences in the Civil War and its effects on people in Maryland a. Describe the economic interests in Maryland, such as agricultural v. industrial and slave v. non-slave b. Explain why loyalties to the North and the South were divided in Maryland.

3-SS-5.C.4.a: Analyze how the institution of slavery impacted individuals and groups in Maryland a. Compare the lives of slave families and free blacks.

4-SS-5.A.1.c: Describe the establishment of slavery and how it shaped life in Maryland.

4-SS-5.C.4: Analyze how the institution of slavery impacted individuals and groups in Maryland.

8-SS-5.C.5: Analyze factors affecting the outcome of the Civil War.

Food on the Move Workshop:

3-5-SS.3.A.1: Using geographic tools to locate places and describe the human and physical characteristics of those places. Construct and interpret a variety of maps using map elements.

4-SS.3.C.1.c: Describe the transportation and communication networks for the movement of people, goods, and ideas to, from and within Maryland such as Bay Bridge, National Road, B&O Railroad, the Port of Baltimore, and C&O Canal.


7-SS.3.C.1: Movement of People, Goods and Ideas 1. Describe and analyze population growth, migration and settlement patterns in contemporary world regions.

**MORE INFORMATION**

For complete booking information, please visit [www.borail.org/groups/student.aspx](http://www.borail.org/groups/student.aspx)

**Questions? Contact our Education Department:** Edu@BORail.org
**BUS PARKING**

We offer convenient and complimentary parking for all our guests. We are equipped to accommodate several buses in our front parking lot by the museum entrance. Upon arrival, our parking security guard will guide bus drivers where to park. Buses are free to remain on site during the duration of your trip.

**LUNCH FACILITIES**

You can reserve either our outdoor pavilion ($35) or our indoor Education Station ($50) for your students for lunch. Each rental is for a scheduled, one-hour lunch time. We also offer several unreserved picnic tables outside around the Kids Rides area. These picnic tables are available on a first-come, first-serve basis. Please contact us to reserve a dining facility.

**TRAXSIDE CAFÉ**

The cafe also offers beverages and snacks in our vending area year-round. The TraxSide Café is open on weekends from Labor Day through Memorial Day and Wednesday-Sunday, 11am-3pm during the summer. There are additional restrooms located inside the cafe, as well. Due to city regulations, groups cannot bring outside food into the cafe.

**GIFT SHOP**

Our on-site gift shop is available for all our guests and groups to enjoy throughout the duration of your trip. If your group would like to schedule to shop during their visit, we would be happy to include that in your schedule.

**MILE ONE EXPRESS**

**TRAIN RIDE**

We are home to the historic first mile of commercial railroad track in the country! Students can travel on a real train along this historic route. Informative audio will narrate the train ride and point out important landmarks throughout the ride, while docents are positioned on each car to answer any questions you may have during the trip. While we make every effort to accommodate all groups and guests on the train, we cannot delay departure for groups running late. Inquire about including a train ride when you book your group.

**KIDS RIDES**

We have several fun rides on-site for our younger visitors, including our train-themed carousel and a miniature train ride. Your group can purchase tickets for our rides, as well as an unlimited ride pass, for the duration of your visit. Get discounted rates by reserving tickets when you book your visit.
CHAPERONES & IDENTIFICATION
As you prepare for your upcoming trip, please note that we require one adult chaperone for every eight students throughout the duration of the trip. This helps to ensure that all of our guests have a safe and enjoyable experience. All groups are also required to wear group-specific identification badges or clothing. Students and chaperones should dress appropriately for expected weather conditions as you will need to go outside to access many exhibit areas.

ACCESSIBILITY
The B&O Railroad Museum is a recognized ADA accessible facility. All of the B&O’s exhibition buildings as well as train platforms are equipped with ramps to accommodate those with mobility issues. The train ride is equipped with several positions for guests with wheelchairs, however spots are limited. To reserve tickets for wheelchair accessible cars, please contact us ahead of time.

SENSORY KITS
We are equipped with sensory-friendly kits for our guests with sensory sensitivity. These kits are equipped with noise-canceling headphones, timers, non-verbal feelings chart, and fidgets. For on-site assistance, please reach out to any staff member, all of whom have undergone sensory awareness training through the Autism Society of Baltimore-Chesapeake.

RESERVATIONS & PAYMENT
Reservations are required at least two weeks prior to your planned visit. A $50 non-refundable deposit is required to reserve your group.

Full payment is required ten business days prior to your scheduled visit. Prices are subject to change without notice. Client assumes all responsibility and financial liabilities in the event of damages.

SAFETY
Our large campus contains about 40 acres, which includes both indoor and outdoor exhibit space. Please note that a big part of what makes our museum so unique is that it was an actual working railroad yard. There are train tracks and rails embedded into the ground that are still sometimes used by operating trains. We ask that students refrain from running, even when outside, as there may be tripping hazards. In the event that a member of your group becomes injured or requires medical treatment during your visit, please notify a member of our staff. We are equipped with several first aid devices, automated external defibrillators (AEDs), and can contact emergency medical response as needed.
### PRICING AT-A-GLANCE

<table>
<thead>
<tr>
<th>School Group Type</th>
<th>K-12 Student Admission Sept–Feb</th>
<th>K-12 Student Admission Mar – Aug</th>
<th>20+ Students</th>
<th>Tours &amp; Workshops</th>
<th>Mile One Express Train Ride**</th>
<th>One Hour Reserved Lunch</th>
<th>Teachers</th>
<th>Chaperones</th>
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<tbody>
<tr>
<td>Maryland Title I and Baltimore City Public Schools</td>
<td>Free</td>
<td>Free</td>
<td>N/A</td>
<td>One program included</td>
<td>Free</td>
<td>Included***</td>
<td>Free</td>
<td>Free*</td>
</tr>
<tr>
<td>All other Maryland Schools</td>
<td>Free</td>
<td>$200 (up to 20 students)</td>
<td>$10/student Mar - Aug</td>
<td>$5/student per program</td>
<td>$2/person</td>
<td>$35 Outdoor $50 Indoor</td>
<td>Free</td>
<td>$10/person</td>
</tr>
<tr>
<td>Out-of-State Schools</td>
<td>$200 (up to 20 students)</td>
<td>$200 (up to 20 students)</td>
<td>$10/student</td>
<td>$5/student per program</td>
<td>$2/person</td>
<td>$35 Outdoor $50 Indoor</td>
<td>Free</td>
<td>$10/person</td>
</tr>
</tbody>
</table>

**Now accepting reservations for the 2020-2021 school year.**

*The museum requires one adult chaperone for every eight students. One chaperone receives free admission for every eight (8) students. Additional chaperone admission is $10 per person.

**Please note, Mile One Express train rides are offered seasonally and at various times throughout the year. Free trains rides will be provided only when the train is regularly scheduled. Passes for other rides offered at the museum can also be purchased. Prices are as follows:

- Carousel Ride: $2/person
- Happy Train Ride: $2/person
- Unlimited Mile One Express Train, Carousel, and Happy Train Rides: $5/person

***Reserved dining spaces will be made available on a first-come, first-served basis and provided when available.
## Virtual Tours Information

<table>
<thead>
<tr>
<th>School Group Type</th>
<th>K-12 Classroom September – February</th>
<th>Additional Classrooms* September – February</th>
<th>K-12 Classroom March – August</th>
<th>Additional Classrooms* March – August</th>
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<tbody>
<tr>
<td>Maryland Title I and Baltimore City Public Schools</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
<td>Free</td>
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<tr>
<td>All other Maryland Schools</td>
<td>$150</td>
<td>$25</td>
<td>$175</td>
<td>$50</td>
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<tr>
<td>Out-of-State Schools</td>
<td>$175</td>
<td>$50</td>
<td>$175</td>
<td>$50</td>
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</tbody>
</table>

*Please note: Capacity for virtual tours is limited to 99 participants per session. For 100 or more participants, there is an additional $50 fee.

**Now accepting reservations for the 2020-2021 school year.**

*Classrooms must be from the same school and be participating during the same session.*

In order to support teachers and students through this Summer and through the 2020-2021 school year, the B&O Railroad Museum is offering all of current student group tours listed in this document as either on-site or virtual field trips. We understand that COVID-19 has been a difficult time for educators and we are here to support your classroom goals. Our museum grounds are over 40 acres, allowing for ample space for social distancing. We are also taking measures to ensure a safe environment for all, including social distancing measures and frequently disinfecting public spaces.

Any scheduled tour can easily be rescheduled and exchanged between a virtual or in-person experience in order to best meet the needs of our educational community as the situation changes throughout the year. We understand the unpredictable future in the educational community at this time. To better accommodate the needs of students and educators, the B&O will work with teachers to switch any field trip from virtual to on-site or on-site to virtual, as needed.

Please feel free to reach out to our education department with any questions or requests at Edu@BORail.org.