



MUSEUM

PRESENTED BY SONY

**GRADES K-8 STANDARDS-ALIGNED
EDUCATION PROGRAMS**

Creating Moments of Inspiration

Presented by



INTRODUCTION

Dear Esteemed Educators,

As the mentors of our children, teachers are an important key to the success of our future. Thank you for the vital role you play in shaping the youth of our community. As our team continues its commitment to education and innovation, we are pleased to welcome you to the 49ers Museum presented by Sony.

With more than 20,000 square feet of galleries, the 49ers Museum provides learning platforms that connect, inspire, and engage students in grades K-8. Our education program, located inside the Denise DeBartolo York Education Center, utilizes football as a platform for teaching content-rich lessons in STEM (Science, Technology, Engineering, and Mathematics). The program also encourages physical activity, while ingraining important life skills through the values of teamwork.

We hope your virtual experience at LeviStadium.com/49ersMuseum will help introduce you to the 49ers Museum, its various education programs and venues, as well as assist in planning your field trip. We look forward to welcoming you and your students to Levi's® Stadium, and providing impactful moments that will last a lifetime.

For more information regarding the 49ers Museum and its educational programming, please email museum@49ers.com.

Respectfully,



Jed York
Chief Executive Officer
San Francisco 49ers

TABLE OF CONTENTS

Overview

- 4 | Education Program
- 4 | Field Trip Rationale

Preparing for Your Field Trip

- 6 | Planning Checklist
- 7 | Field Trip Reservation Information

Exhibit and Field Trip Activities

- 9 | Grades K-3 Education Programs
- 10 | Grades 4-6 Education Programs
- 12 | Grades 7-8 Education Programs

Educator Resources

- 14 | Frequently Asked Questions



MUSEUM EDUCATION PROGRAM OVERVIEW

The 49ers Museum presented by Sony is a two-level, 20,000 square foot space dedicated to showcasing the past, present, and future of the 49ers organization and its commitment to education and innovation.

We create moments of inspiration by providing learning platforms that connect, inspire and engage students grades K-8 through relevant content, interactive explorations, peer collaboration, application of skills learned and student reflection. The 49ers Museum Education Program uses football as a platform for:

- Teaching content-rich lessons in STEM (Science, Technology, Engineering, and Mathematics) where students engage in finding real solutions to real-world problems
- Ingraining invaluable life skills
- Encouraging physical activity

The 49ers Museum Education Program Curricula

- Is aligned to California Common Core and Next Generation Science Standards
- Engages students in a variety of technologically-rich learning experiences that are student-centered and can be adapted to various development levels and learning audiences
- Integrates STEM learning through project-based activities that transfer student knowledge and skills to real-world problems
- Is aligned to 21ST Century Learning Skills (Critical Thinking, Problem-Solving, Communication, Collaboration and Creativity)
- Increases student motivation for learning and enhances student understanding of STEM concepts

Create Your Own Experience

Customizable curriculum options:

Educators will experience an array of engaging activities:

- Tours of Levi's® Stadium: Students will tour and learn how the stadium is a showcase for technology innovation and environmental sustainability
- Guided museum exploration: Students will experience the 49ers history and the game of football through an interactive experience built on innovative technology
- Movement Lab: In alignment with the NFL PLAY 60 campaign to encourage kids to be active for 60 minutes a day in order to help reverse the trend of childhood obesity, we are providing a kinesthetic movement lab to support physical activity and to get students enthused about exercising
- Hands-on STEM Lessons: Students will dive into STEM concepts related to football through project-based learning and peer collaboration

Field Trip Rationale

The 49ers Museum field trip meets the needs of the teacher and the student in the following ways:

1. The 49ers Museum provides a content-filled venue for learning
2. Our lessons challenge students in various ways by motivating them towards the construction of knowledge and discovery, and encourage a healthy and active lifestyle
3. We develop valuable life-skills including independence, teamwork, confidence, and creativity, that can be directly related back to the game of football
4. Through project-based classroom learning experiences and through examining all facets of the game, students will go through an extended process of inquiry in response to a complex question, problem, or challenge. This helps students learn key academic content and practice 21ST Century Skills (such as collaboration, communication & critical thinking)

MUSEUM EDUCATION PROGRAM OVERVIEW

Logistics & Daily Schedule:

Programs occur between 10AM-2PM daily

Visiting student groups will be led by museum instructors throughout the day's activities and all guests will wear clearly visible education program lanyards to designate field trip participants from the general public. Our programs can accommodate up to 180 students daily, with 90 students participating per program. Our chaperone to student ratio is:

- Grades K-3: one (1) adult per five (5) students
- Grades 4-8: one (1) adult per ten (10) students

Kindergarten-3rd Grade Daily Schedule (Dependent on bus arrivals):

School Groups Arrival Time: 9:00 AM-9:30 AM: Whole group welcome, intro and kickoff assembly

- Session #1: 9:30 AM – 10:30 AM
- Session #2: 10:30 AM – 11:30 PM
- Lunch: 11:30 AM – 12:00 PM: In the stadium
- Session #3: 12:00 PM - 1:00 PM
- Session #4: 1:00-2:00 PM
- 2:00 PM: Bus loading/departure

4th-8th Grade Daily Schedule (Dependent on bus arrivals):

School Groups Arrival Time: 9:00 AM-9:30 AM: Whole group welcome, intro and kickoff assembly

- Session #1: 9:30 AM – 10:30 AM
- Session #2: 10:30 AM – 11:30 PM
- Session #3: 11:30 PM - 12:30 PM
- Lunch: 12:30 AM – 1:00 PM: In the stadium
- Session #4: 1:00-2:00 PM
- 2:00 PM: Bus loading/departure

The schedule includes both indoor and outdoor experiences, provides for large, small group and individual activities, and is responsive to a student's need to rest or be active. Times may fluctuate as necessary.



PLANNING YOUR VISIT

Create Your Experience!

Planning a successful field trip is like planning for a big game! Use our field trip checklist below to ensure you are well prepared for your visit to the 49ers Museum. If you would like to make a reservation, please call 408.673.2048 or email museum@49ers.com.

49ers Museum Hours and Operations:

- Open seven days a week: 10:00 AM – 6:00 PM
- Education programs run Monday-Friday during the school year

Reserving your field trip

- Establish education goals for your field trip before you begin planning
- Complete necessary school paperwork (49ers Museum consent forms, field trip application, etc.)
- Determine the total number of students and chaperones who will be visiting
- Select three potential field trip dates
- Select a focus for the field trip. This program guide allows teachers to explore the museum's STEM-themed education program options
- Complete the online field trip application at <https://49ers.wufoo.com/forms/49ers-museum-field-trip-application/>
- Consult with the Museum Education Specialist: Need assistance planning or designing a field trip? Our 49ers Museum Education Specialist is available to assist you with updated exhibit information. You are welcome to schedule an onsite appointment with the Education Program Manager or Museum Education specialist. Appointments for field trip planning sessions are available afternoons, Monday-Friday.

One week prior to visit

- Prepare chaperones (See page 8)
- Create chaperone groups. Remember to follow our chaperone-student ratio
- Prepare itineraries for chaperones and gather materials for students
- Complete pre-field trip lesson activities in the classroom
- Collect 49ers Museum Consent forms from students and chaperones attending

On the day of your field trip

- Please provide identification for your group members. Use nametags, stickers, or matching shirts with your school's name and contact information
- Go over the 49ers Chaperone expectations with designated chaperones
- Organize lunches in labeled boxes or bags to speed up the check-in process. Your lunches will be picked up by museum staff from the bus and stored when you arrive. Please leave any student bags on the bus or at school
- All learning supplies will be provided by the 49ers Museum

After the field trip

- Complete post-field trip lesson activities in the classroom. Encourage students to synthesize the content given and reflect upon their field trip learning
- Submit program survey

FIELD TRIP RESERVATION INFORMATION

Field Trip Application Guidelines

To qualify for a field trip, your school must:

1. Serve students in the K-8 grades in California. We highly encourage schools located in the greater Bay Area to apply
2. Submit the 49ers Museum Field Trip Application
3. After being accepted to attend a field trip, complete a 49ers Museum consent form for each student/chaperone participating. The consent form will be sent four weeks prior to your visit.

As outcome measurements are vital to fund this program, we would appreciate schools taking advantage of pre and post lesson materials that we freely provide. Please inform the Museum Education Specialist that you would like to take advantage of such a resource and materials will be provided accordingly. Our pre and post lessons align with state standards and uniquely connect with field trip content.

Availability

Please note that field trip experiences are limited, and availability is not guaranteed. Please submit your field trip application at least six weeks prior to your anticipated visit. If your class is not provided an opportunity to visit, you will have a choice of one of the following options:

1. Your class may be placed as “high priority” on our 2015/16 waiting list (in case of cancellations)
2. Your class may be placed on the 49ers Museum field trip schedule for the following calendar year
3. Your class may be provided other additional options to visit the 49ers Museum and Levi’s® Stadium. Please request additional information concerning this option.

Accessibility

The 49ers Museum is a place where everyone can participate equally in the exploration of 49ers history and learn about the exciting game of football. Please contact museum@49ers.com with questions about further accessibility needs and we will be happy to assist you.

Group Size

All school groups must make advance reservations. Reservations are booked in the order in which they are received. Your field trip application isn’t complete until you receive a confirmation email with the time and date of your scheduled visit. The 49ers Museum requests that your class size be at least 20 or more students to receive an education program option.

Lunches

We reserve a 30 minute time slot for lunch within our daily field trip schedule. As a reminder, the 49ers Museum does not provide lunch to visiting school groups. We request that students bring a sack lunch to deter the chances of leaving personal items behind. We request that classes store their lunches in boxes or bags labeled by class to support the lunch process. The 49ers Museum has an accessible student lunch area within the stadium for your convenience. Lunches will be taken off the bus and stored. The 49ers Museum provides bins for storing boxed classroom lunches, but we are unable to store backpacks and other personal belongings.

Arrival

Upon arrival, a museum instructor will meet your class in the bus loop to review your itinerary and guide your group to a programming space for general program introduction and program directions.

Late Arrivals

We appreciate your efforts to arrive on time. Classes that arrive late may receive a condensed lesson because of scheduling limitations. Groups scheduled for a guided program arriving more than 30 minutes late will convert to the self-guided museum program.

FIELD TRIP RESERVATION INFORMATION

Cancellations and Rescheduling

If you need to cancel, please call 408.673.2048 or email museum@49ers.com as soon as possible. All museum field trips are subject to change. In the event of a field trip cancellation, the 49ers Museum will work diligently with your establishment to reschedule an opportunity to visit.

Chaperones

Chaperones are 49ers Museum partners working with us to assist in the students' experience to provide the most productive and educational museum visit possible. Below is our chaperone to student ratio:

- Grades K-3: one (1) adult per five (5) students maximum
- Grades 4-8: one (1) adult per ten (10) students maximum

When arriving to Levi's® Stadium, get ready to transform into ASSISTANT COACHES for the day! As seen on the football field, assistant coaches are an integral part to the success of a team, and your role on this field trip is no different. Please read over the chaperone expectations below with your chaperones before arriving to Levi's® Stadium. Thank you for your cooperation!

- Every chaperone and teacher has a signed consent form (same as the students)
- Chaperones are to assist and execute all disciplinary actions with their students
- Chaperones are to be engaged in educational content
- No photos taken until prompted by museum education staff
- Must stay with group the entire time
- Assist with lunches when promoted by museum education staff
- Assist with bathroom breaks when promoted by museum education staff
- Refrain from using cell phones during lessons (both chaperones and students). If there is an emergency, please have our staff support in getting you the space needed to take the call/text.
- Support museum education staff
- Chaperones and teachers are responsible for the overall safety of students throughout the museum and its grounds.
- Chaperones must be at least 21 years old.

49ers Team Store

A time for students to browse and purchase items will be included for groups. Teachers and chaperones must supervise students in the store and those waiting to enter. The 49ers Museum and 49ers Team Store are not responsible for storage of items purchased and if any items become lost, damaged or stolen.

Guidelines for Student Visits

Educators, students and chaperones are expected to:

- Adhere to the code of conduct established by your school and the 49ers Museum
- Stay with pre-assigned chaperone-sized groups at all times, regardless of the students' ages
- No gum, food, or drinks are allowed in the museum
- Photography is allowed and encouraged, but no flash photography within the museum and only through prompting of the museum education staff
- Students must be accompanied by a chaperone at all times
- No touching of any artifacts/memorabilia unless prompted by museum staff
- Please remember to use inside voices and walk at all times
- Please leave all back-packs, and jackets on the bus or at school. All bags subject to search upon entry and exit of the 49ers Museum
- Most of all, have fun!

GRADES K-3 EDUCATION PROGRAMS

Experience Synopsis

These instructor-guided programs were created to ensure a developmentally appropriate STEM-based curriculum program for all grade levels. This option was designed to serve the “on the go” class that would enjoy a guided Levi’s® Stadium tour and museum STEM hands-on activity outlined by the learning playbook. The playbook incorporates STEM content elements by development level and guides students through the museum experience. Each STEM activity is directly related to an exhibit or artifact, and is geared to spark student interests in STEM-related concepts.

Program Components:

1. Pre-lesson Experience: (Optional: At school site—content introduction and STEM support). Please inform museum staff if you would like to take advantage of this resource
2. At the 49ers Museum:
 - Guided Education 49ers Heritage Tour: Student engagement is channeled through celebrated stories of 49ers and interactive activities: One (1) hour
 - Standards-based STEM Activity: One (1) hour
 - Levi’s® Stadium Tour: One (1) hour
 - Movement Lab: One (1) hour
3. Post-lesson Experience: At school site—follow up materials/survey of programs

Gearing Up for the Big Game

In this STEM exploration exercise, students will actively learn and identify how engineering and design influence the various parts of a football, uniform, and equipment. Instructors will have a 49ers uniform and equipment for students to explore and understand what is involved to gear up before the big game. Students will be able to touch and feel the various parts of the equipment and come up with their own innovative design for either a team logo or equipment during a guided and collaborative discussion.

Football Forces & Movement Lab

Students will explore the variety of forces that affect the football on the field. After learning these concepts through hands-on demonstrations and student engagement, students will participate in explorative activities and simulations that model such forces and reflect in multiple ways how these forces dramatically impact the game. Museum instructors will also lead students in a fun motor skill activities designed to help students understand all the various forces within the game and inspire them to live an active and healthy lifestyle through movement.

Measure Up with Math

The subject of math is ever-present in the game of football. Math is involved with field yardage, shapes found in equipment, numbers on scoreboards, the way coaches design plays, and much more. In this learning activity, students will explore exactly how important math concepts are in the game of football (and in life) through interactive discussion and hands-on activities. From this experience, students will be enthused about math and its real world applications.

Tackling Literacy

This literacy-based activity is designed for students to experience the joy of reading in an exciting way through active engagement and by encompassing the exciting game of football. Each program features a story presented in an animated fashion that is sure to expand students’ minds and imagination, and is accompanied with a hands-on, creative project.

GRADES 4-6 EDUCATION PROGRAMS

Experience Synopsis

Education is a primary goal of the 49ers Museum and the Denise DeBartolo York Education Center is its centerpiece. As part of a comprehensive visit to the Levi's® Stadium, grades 4-6 school groups engage with the education center's classroom experience. Teachers may select from thirteen lessons to explore with their class; each lesson falls under one of four STEM themes: Science, Technology, Engineering, Math. Each lesson follows a prescribed structure aligned with state standards that leverages leading-edge technology in immersive and meaningful ways. Students of all learning styles are engaged through different activities, from tactile object-recognition based exploration of concepts to group project challenges that promote creativity and artistic expression. Students will be engaged in a hands-on project surrounding STEM concepts, and will apply what they learn in an upbeat, focused and engaging manner.

Program Components

1. Pre-lesson Experience: (Optional: At school site—content introduction and STEM support). Please inform museum staff if you would like to take advantage of this resource
2. At the 49ers Museum:
 - Guided Education 49ers Heritage Tour: Student engagement is channeled through celebrated stories of 49ers and interactive activities: One (1) hour
 - Standards-based STEM Activity: One (1) hour
 - Levi's® Stadium Tour: One (1) hour
 - Movement Lab: One (1) hour
3. Post-lesson Experience: At school site—follow up materials/evaluation of programs

The World of Engineering & Design in Football

This cross-curricular STEM lesson focuses on the design and the science/engineering behind all things related to football. Students learn about areas of specialization within engineering and design found in the game, and apply tools and procedures to complete hands-on instructional activities that are geared to solve a specific problem related to this concept. Students are shown how the engineering process can be directly related to football and the world around them through the exploration of stadium construction/design and by learning how the engineering design process helps engineers create safe and effective sporting equipment. After discovering how a football is engineered and how technological engineered advancements have changed the way the game is played, students will be inspired to further investigate engineering principles that can be found in all types of environments and realize that engineering is an exciting field to study.

Environmental Sustainability of Levi's® Stadium

In this activity, students will learn about all the eco-friendly features included in the Levi's® Stadium design and construction and the unique ways the stadium reduces its environmental impact. Through hands-on, project-based learning, students will explore renewable energy sources, learn how solar energy is harnessed and utilized at Levi's® Stadium, as well as learn how throughout its design, the stadium was built to be a sustainable entity for years to come. From the use of recycled materials in its construction and the unique installation of the green roof, to the integration of efficient irrigation systems that recycle valuable water, students will gain a new appreciation through interactive experiences of how structures like Levi's Stadium®, can be designed and built with the protection of our environment in mind.

Goal-line Mathematics

This fun-filled math activity will introduce students to how data, statistics, and geometry play a pivotal role in the game of football. Students will learn through technology-driven simulations and collaborative learning that these mathematical concepts are present throughout the game, from the shape of the football to how a pass is thrown. Using real-world scenarios related to the game and through hands-on exploration, students will be

GRADES 4-6 EDUCATION PROGRAMS

able to identify/classify angles and geometric shapes, as well as examine how pertinent statistical information can support teams in executing their game plans.

Technological Advancements of the Game

Technology has changed nearly every aspect of the game of professional football. Its impact has been felt in play calling, communication, drafting and in medical treatment. From TV timeouts to auto-syncing iPad playbooks, technology is a driving force in the evolution of the NFL. Students will experience the vast changes that have taken place since the advent of the NFL. Based on what they learn from the past to the present, students will participate in design activities that will allow them to invent or create what the game may look like in the near future and beyond. This activity encourages students to explore the potential of today's technologies and envision how future innovations could change how we interact in society.

Health & Nutrition

In this lesson, students will find it takes preparation, nutrition, strength and conditioning training to be able to compete at the professional football level, and that such actions can also support a healthy lifestyle. Through participating in simulation-based and collaborative exercises, students will discover their overall health, nutrition, and fitness go hand in hand. Students will explore the concept of how nutrition and movement is the key to a healthy body and gain a new perspective of what they eat daily by exploring the nutritional value of common foods, and gain the knowledge that healthy food choices and being physically active is significant to their overall health.



GRADES 7-8 EDUCATION PROGRAMS

Experience Synopsis

The museum's middle school program options are designed to drive interest in STEM concepts and build career awareness in the field of professional football and in STEM-related disciplines. Each class will enjoy a guided Levi's® Stadium tour and museum STEM hands-on activity outlined by the 49ers Museum Learning Playbook. The 49ers Museum Learning Playbook incorporates the STEM content elements by development level and guides students through the museum experience. Each STEM activity is directly related to an exhibit or artifact, and is geared to spark student interests in STEM-related concepts.

Program Components:

1. Pre-lesson Experience: (Optional: At school site—content introduction and STEM support). Please inform museum staff if you would like to take advantage of this resource
2. At the 49ers Museum:
 - Guided Education 49ers Heritage Tour: Student engagement is channeled through celebrated stories of 49ers and interactive activities: One (1) hour
 - Standards-based STEM Activity: One (1) hour
 - Levi's® Stadium Tour: One (1) hour
 - Movement Lab: One (1) hour
3. Post-lesson experience: At school site—follow up materials/evaluation of programs

Game-day Forces

Students will investigate the physical science present in the sport of football by successful completion of hands-on experiments, written observational records, and oral discussion/reflection. By investigating in depth the physics of football, students will learn about the various laws of motion and energy distribution within the game. Students will explore the variety of competing forces that affect the football after it has been thrown or kicked and the variables involved in the motion and interaction of players on the field. After learning these concepts, students will participate in simulated activities/experiments that model such forces and report data from the outcome of such experiments and collectively share with their classmates.

Gridiron Engineering & Design Lab

This hands-on lesson provides students an engaging introduction to design theory and engineering methods, with particular emphasis on those used in sports equipment design. There will be a wide range of topics discussed and demonstrations provided utilizing cutting-edge technology that will support students' understanding of the connection between engineering & design to how the game has developed and is currently played. Collaborative projects and real-world simulations, focusing on a specific engineering design challenges found in football, will allow student teams to put the techniques and theory discussed into practice. By the time the lesson is complete, students will learn how to think like a designer and understand that by applying a design-centered approach to problems found in the game, that teams can conceive radically innovative solutions, and understand how to assess the effectiveness of their solutions, so as to improve the game in various ways.

Game Communications & Technology

Students will explore how technology and communication has evolved significantly since the advent of the game. Students will comprehend through project-based experiences, utilizing cutting edge technology, how to utilize such innovations and further investigate how they have improved communication quality within the game, enhanced how the game is covered by the media, as well as understand how it has dramatically improved the fan experience. From advancements in wireless technology to sports broadcasting innovations, from video game technology to communication on the field, students will collaboratively learn through these experiences that improvements in communications and technology impact and have enhanced every element of the game.

GRADES 7-8 EDUCATION PROGRAMS

Career Connections

Students will get a behind-the-scenes look at career opportunities within the 49ers organization and from 49ers community partners. Career Connections lessons provide an opportunity for a classroom of visiting field trip students to hear, firsthand, about a particular 49ers/STEM occupation, the necessary preparation, required knowledge/education, and other interesting information from a current practitioner in that field. The culminating activity will involve interactive discussion and collaborative research where students will develop a career action plan and be inspired to further investigate interesting career pathways.



MORE INFORMATION

Frequently Asked Questions

1. *What is the cost of a field trip?*

Field trips are free standards-aligned quality educational experiences

2. *What grade levels do the programs cover?*

Kindergarten through 8TH grade (K-8)

3. *What subjects do the programs cover?*

Science, technology, engineering, mathematics, life skills, health & fitness, history, career connections, the game of football, and the arts

4. *How do schools receive an opportunity for a field trip?*

To qualify for a field trip, schools must:

- Serve students in the K-8 grades in California. We highly encourage schools located in the greater Bay Area to apply
- Submit the 49ers Museum Field Trip Application

5. *What time does the program start?*

Most education programs typically run from 9:00 AM – 2:00 PM

6. *Does the museum charge for teachers and chaperones?*

No, we do not charge for teachers and chaperones, however, we do keep to a chaperone-to-student ratio: In grades K-3: One (1) adult to five (5) students and in grades 4-8: One (1) adult to ten (10) students

Stay Informed with E-News for Educators

Sign up today for the Goalline, the 49ers Museum quarterly education e-newsletter, to learn more about museum field trips, special events, professional development opportunities, and classroom resources or email museum@49ers.com.

Our staff is always scouring the education world for new STEM lessons and activities. If you have found, or had the opportunity to teach a successful lesson, we are happy to share this with other teachers and professionals in the education field.

