



## SAN FRANCISCO MARITIME NATIONAL PARK ASSOCIATION

### **Hyde Street Pier Science and Living History Programs**

**This document summarizes how the education programs offered by the San Francisco Maritime National Park Association address CA content-area standards.**

The education programs at Hyde Street Pier provide a unique opportunity to bring the many strands of the content standards together in engaging, hands-on experiences. With the help of our crew of professional experiential education instructors, the students are persuaded to imagine the colorful world of the famous Barbary Coast waterfront in the mid-19<sup>th</sup> to early 20<sup>th</sup> century. As students are transported to the hard but adventurous life of a sailor, gold prospector, or merchant among the historic ships at San Francisco Maritime National Historic Park, they learn about the challenges posed by life in a different era. The programs integrate social studies, math, science, language arts, and visual and performing arts. Whether it's the physics of how a block-and-tackle works or the music and poetry of sea chanteys, the core themes of the content standards are presented in a lively and imaginative way.

#### **Additional Classroom Activities**

The educators on Hyde Street Pier work with teachers to make each group's experience the best it can be. This can include providing practice materials related to the AOS activities that can be used in-class to prepare for the students' eventual visit to the Pier. It can also include a possible early visit and instruction from an AOS educator. For suggested pre and post-visit lesson plans and activities, visit our [website](#). The Hyde Street Pier education programs, in conjunction with in-class lessons and activities, form a complete system addressing CA content standards.

## **Gold Rush Day Program**

For this four-hour living history program your students are transported back to 1849 San Francisco. Since the discovery of gold in Coloma just a year before, tens of thousands of people from all over the world have flooded the area and the city is booming with opportunity. The students are brought aboard the historic sailing ship *Balclutha* where they meet the gold-crazed miner, the stern ship captain, and the business-savvy merchant. Played by experienced Age of Sail instructors, each of these characters will guide the students through fun hand-on learning activities while regaling them with stories of their lives and history. After meeting each character, the students then get a chance to choose which of these three opportunities is best for them.

The Gold Rush program teaches students about one of the most important periods in the history of California through direct, fully-immersive experience. They also learn about the periods before and after the Gold Rush, including its important impacts on the state's development, through discussion and demonstration. The Gold Rush activities teach students more than history, as they are often challenged to think critically and mathematically in order to complete certain tasks. Further, this program supports in-class discussion of many earth science standards, as students learn of the importance of such knowledge for the successful mining of gold. Once the students choose their preferred Gold Rush profession, they learn what became of themselves and discuss these outcomes, and their historical implications, with the ship's captain.

What will be your students' fates on this living history adventure?

## **Meeting and Supporting the Standards**

### **Grade 4: Gold**

#### **History and Social Science**

##### **K – 5th Historical Analysis Skills**

Among other skills, K-5 students are expected to demonstrate Chronological and Spatial Thinking by placing “key events and people of the historical era they are studying in a chronological sequence and within a spatial context,” explaining “how the present is connected to the past, identifying both similarities and differences between the two, and how some things change over time and some things stay the same,” and judging “the significance of the relative location of a place (e.g., proximity to a harbor, on trade routes) and analyze how relative advantages or disadvantages can change over time.”

Historical Interpretation skills focus on students being able to “summarize key events” and “explain historical context of those events.” Students must also “identify the human and physical characteristics of the places they are studying and explain how those features form the unique character of those places.”

Through experiential learning, the Gold Rush program achieves a level of historical chronological and spacial awareness that is not possible with classroom instruction alone. By living for a day in the time they are studying, students gain historical empathy, which is key to understanding the past. They know the differences and similarities between past and present through first-hand experience and they know the significance of location in history because they have lived for a day on a real historic sailing ship docked at one of the most historic and significant harbors in the world.

The Research, Evidence, and Point of View skills that K-5 students are expected to demonstrate are related to understanding the difference between various types of historical sources and observations. This includes being able to differentiate between primary and secondary sources, being able to “pose relevant questions about events they encounter” in various types of historical documents and sources, and being able to “distinguish fact from fiction by comparing documentary sources on historical figures and events with fictionalized characters and events.”

During the Gold Rush Program students work through experiential learning activities on a floating primary source: the sailing ship *Balclutha*. The students also learn the stories of those that lived during the Gold Rush through direct experience and through in-depth discussion and reflection with the ship’s captain, the Gold Rush instructor who leads the contemplative debrief at the end of every program. The students also meet a gold miner and merchant. Each of these characters, the Captain, gold miner, and merchant, are based on historical archetypes for these professions from the period and have evolved through years of program development and historical research. Discussion of their experiences in the classroom preceding and following their day on the pier can further enrich their understanding and practice of these historical skills.

### **Specific History Topics and Standards**

In 4th grade students learn about the history of California from pre-Columbian societies to around 1900. The Gold Rush program has evolved over years to correspond directly to these 4th grade historical topics and standards. Through experiential learning on location, students receive a level of “understanding of the physical and human geographic features that define places and regions in California” that is not possible in the usual classroom setting **(4.1)**. Students also gain a detailed

understanding of the Gold Rush and what it meant for San Francisco and California **(4.3)**. They do this by visiting the waterfront where the history actually occurred, working on a real nineteenth century sailing ship, and meeting characters from the period. There were many opportunities for people coming to the area looking for success. The students experience each through active learning and then choose which they feel works best for them. They then learn their fate, whether they were successful or not. Each of these fates are based on many of the actual fates the thousands of people arriving in San Francisco might have experienced. They then discuss their fates with the ship captain during a program debrief, where they also hypothesize and discuss the future of San Francisco and the State of California, including its agricultural and industrial power **(4.4)**.

## **Mathematics**

The following is based on the California Common Core State Standards (<https://www.cde.ca.gov/be/st/ss/documents/ccsmathstandardaug2013.pdf>). These standards list eight base mathematical practices that are encouraged in common core:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

The Gold Rush program supports each of these practices through direct, real world problem solving experience. The students go through three activity rotations, each representing a possible occupation from the Gold Rush period. As will be outlined below, the learning activities of the merchant rotation are the most directly associated with 4th and 5th grade core standards for mathematics. At the end of the program, students must use the information presented to them from each rotation to decide which profession would be best for them. As a group, they discuss the results of these decisions by making sense of the outcomes, overcoming presented problems, and critiquing each other's reasoning.

## 4th Grade

- **Multistep Word Problems:** In the 4th grade, students must solve multistep word problems using the four operations and whole numbers (4.OA, 4.OA.3). These word problems must involve “measurement and conversion of measurements from a larger unit to a smaller unit” (4.MD) including monetary units (4.MD.2). Students must also work with numbers in base ten (4.NBT) and gain basic understanding of fractions (4.NF).

During the Gold Rush program, the students go through three activity rotations, each representing a possible occupation from the Gold Rush period. Though each activity rotation demands basic reasoning based on the common core mathematical practices outlined above, it is the activities of the merchant rotation that are the most directly associated with 4th grade core standards for mathematics. Here, the students learn the skills needed to be a successful business person from the period. The focus especially is on the concepts of supply and demand. The students act out what they learn in a real world setting. A few students act as shop keepers, while the rest act as miners looking to buy their supplies. The merchant character, played by a Hyde Street outdoor educator, acts as the investor, loaning money to both the shopkeepers and the miners. All of the students must negotiate sales while considering multiple mathematical models. They must try and sell all of their wares to make a profit, or use what little money they have to purchase all the gear they need, while also considering the money they will owe their investor, the merchant, which always includes a certain amount of interest added to the loan.

## 5th Grade

- **Decimals:** In 5th grade, students must add, subtract, multiply, and divide decimals to hundredths (5.NBT, 5.NBT.7) and multiply fractions using real-world problems (5.NF.6).

During the Gold Rush program, the students go through three activity rotations, each representing a possible occupation from the Gold Rush period. Though each activity rotation demands basic reasoning based on the common core mathematical practices outlined above, it is the activities of the merchant rotation that are the most directly associated with 4th grade core standards for mathematics. Here, the students learn the skills needed to be a successful business person from the period. The focus especially is on the concepts of supply and demand. The students act out what they learn in a real world setting. A few students act as shop keepers, while the rest act as miners looking to buy their supplies. The merchant character, played by a Hyde Street outdoor educator, acts as the investor, loaning money to

both the shopkeepers and the miners. All of the students must negotiate sales while considering multiple mathematical models. They must try and sell all of their wares to make a profit, or use what little money they have to purchase all the gear they need, while also considering the money they will owe their investor, the merchant, which always includes a certain amount of interest added to the loan.

## Summary of 4<sup>th</sup> and 5<sup>th</sup> Grade Content Standards for Gold

### Standards Directly Addressed

Standard	Standard Language
HSS4.1	Demonstrate an understanding of the physical and human geographic features that define places and regions in California.
HSS4.2	Describe the social, political, cultural, and economic life and interactions among people of California.
HSS4.3	Explain the economic, social, and political life in Californian History
HSS4.4	Explaining how California became an agricultural and industrial power, tracing the transformation of the California economy and its political and cultural development.
4.OA	Operations and Algebraic Thinking : Use the four operations with whole numbers to solve problems.
4.OA.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
4.MD	Measurement and Data: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
4.MD.2	Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
4.NBT	Number and Operation in Base Ten.
4.NF	Number and Operations – Fractions.
5.NBT	Multiplying Number and Operation in Base Ten.
5.NBT.7	Multiplying Number and Operation in Base Ten with decimals in the hundredths.
5.NF.6	Multiplying Fractions using Real-world problems.

SL4.1-6	Accomplishing objectives given through communication and cooperation, through critical thinking, active listening, problem solving, self-respect, teamwork, and leadership.
SL5.1-6	Accomplishing objectives given through communication and cooperation, through critical thinking, active listening, problem solving, self-respect, teamwork, and leadership.
L4-5.1-6	Demonstrating command of the conventions of standard English grammar and usage when writing or speaking, using knowledge of language and its conventions when writing, speaking, reading, or listening, and determine or clarify the meaning of unknown and multiple-meaning words and phrases.

### Standards Supported

Standard	Standard Language
4-ESS2-2	Analyze and interpret data from maps to describe patterns of Earth's features.
5-ESS3-1	Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
5-LS2-1	Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
4-ESS3-2	Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.
RL4-8.1-10	Students gain adequate exposure to a range of texts and tasks. Students read increasingly complex texts through the grades.
RI4-8.1-10	Citing evidence, determining central text ideas and word meaning, analyzing how particular sections fit into overall text, tracing authors specific argument or point-of-view, and comparing and contrasting one author's presentation with that of another.
RF4-8.1-10	Develop students' understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system.
W4-8.1-10	Students gain adequate mastery of a range of skills and applications. Each grade, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources.