

The Bay Bridge—Old and New.

Instructions for Teachers Before the Museum Visit

Below are some facts about bridges over the Bay. While it is not directly linked to the student lesson, hopefully it will provide you (and your students) with basic information about Bay Area bridges.

Bridge Facts:

- The original Bay Bridge opened in 1936.
- The new east bay span of the bridge opened in 2013.
- The original east bay span of the bridge was a cantilever design [having two long structural parts lying across a support, with the two arms in balance].
- The new east bay span is a self-anchored suspension bridge [it has a single tall tower with one cable].
- In 1936 the San-Francisco-Oakland Bay Bridge was the longest bridge in the world.
- The original bridge spanned more than four and a half miles over water.
- Between 1927 and 1962 eight bridges were built across the San Francisco Bay.
- The San Francisco Bay Bridge is the longest of these bridges.

Encourage students to think about why we build bridges and how they change the way people live in an area. Include some ways we use bridges and how bridges help us. You can have a class discussion, or have the class separate into groups, then report back on their findings. You might also want to explain **cantilever** and **suspension** bridges to help them to understand why the two spans look so different.

Make copies of the photos with the two bridges and the student work sheets (to be completed *before* the visit). Either have students work individually or in small groups. Allow time for sharing ideas.

Museum Visit

Have students explore the Bridges section in the exhibition. Ask students to complete the worksheet to be completed *at the Museum*. You might want to review it to make sure they understand what they are looking for at the museum.

Make sure students use only pencils for work done at the museum.

After the Visit

Allow students to share the facts and information they collected either as a whole class or in groups (with time to report to the whole class).

A follow-up activity:

We know that ideas and inventions often change over time. The original eastern span was replaced after more than 75 years over the Bay. Ask students to imagine they are asked **75 to 100 years from now to design a new bridge for the Bay**. Have them draw a picture of their design. Encourage them to think about not only how it would look, but to also include some new ideas and/or materials that may not be available today.

Encourage students to write either a short factual description of their design and some of its features or a short story about their bridge. You can make a classroom display or a booklet of their ideas and some of their innovative features for the future.

Student worksheet—Complete Before the Museum Visit

A. Look at the photos of the old and the new east bay spans (sections) of the bridge. They certainly look different, but they also have some things in common. When comparing them think about how they look, how they were built, why they were built.

List four (4) ways the bridges are different

List four (4) ways the bridges are similar (or almost the same)

B. Take another look at the two bridges. Which one do you think is better? Explain why.

Student worksheet—Complete At the Museum

Look at the exhibit and read the signs to find out about when the bridge was first built. **Find two (2) or three (3) facts about the bridge.** You can find out when it was built, who built it, the plans for the bridge, or anything else you find interesting or important.

In the exhibit there are many items from the old bridge. **Look for two (2) or three (3) items that you think are interesting.** What are they? Why do you find them interesting?

Look at the rest of the exhibit and write down anything else you find interesting or important to share with other students when you get back to school.

Old Eastern Span of Bay Bridge



New Eastern Span of Bay Bridge

