



What Goes In?

Recommended Citation

"What Goes In?", pegasus, January 01, 1994, <https://nautilus.org/pegasus/what-goes-in/>



Teacher Orientation



Activity Guides

Expedition 2: What Goes In?

Students investigate environmental threats to the marine ecosystems of Tokyo Bay and San Francisco Bay and hold a mock press conference to share their findings.

Rationale

For millennia, bays and estuaries have been sites of intensive human settlement. It is no coincidence that many of the world's great civilizations have thrived in estuarine regions with access to ocean trade, abundant freshwater and marine fisheries. When surrounded by large urban populations, such as Tokyo and San Francisco, bays and estuaries tend to show signs of environmental duress. The most common problems—degraded natural habitats, declining plant and animal populations, diminishing fish and shellfish harvests, and impaired water quality—have worsened in the past several decades. In this activity, students act as investigative reporters from a local news magazine to discover the environmental health of the two bays. The activity challenges students to work in collaborative groups and synthesize a broad range of resources into a compelling storyline.

Materials

["What Goes In?" team guidelines](#)

Procedure

1. Introduce the activity and divide the class into small teams of 4 to 5 students. Assign Tokyo Bay to half of the teams and San Francisco Bay to the remainder of the teams.
2. Provide adequate time for the teams to access Virtual Expeditions and conduct online and offline research. At the beginning of a groupwork project, it is common for students to ask questions about procedures. Encourage students to review the guidelines for the activity and see if they can discover answers to their questions.
3. After the teams have completed their research, provide time for the students to prepare their press conference briefings. Set high expectations for the presentations. If necessary, ask key questions of groups to support their process.

4. Provide 15-30 minutes for each team to conduct its press conference. Ask students forming the audience to assume roles, such as representatives of business and industry, environmental organizations, the mayor's office, a parents group, representatives of the fishing industry, and windsurfers. The audience should be prepared to ask clarifying questions and to challenge assumptions.
5. After all the presentations have been made, facilitate a class debriefing.
 - What did you learn about the process of investigating and preparing a news magazine?
 - As an urban area such as Tokyo or San Francisco grows, what is lost? What is gained?
 - How can we compare and contrast the health of the two bays? What issues do they share? What challenges and opportunities are unique?
 - How do the environmental threats facing Tokyo and San Francisco relate to our own community?

Assessment Guidelines

In assessing student presentations, use the following guidelines. Are students able to:

- answer the fundamental questions informing a journalist's story: Who, What, When, Why, and How?
- construct a coherent narrative that draws your audience into the challenge of protecting and preserving the Bay?
- visualize information through maps, charts and other graphics?
- clarify pathways that might lead to a more sustainable marine and estuary environment?
- demonstrate the ability of your group to work together as an effective team?

You may also want to have each student complete a [Brag Sheet](#) (self-assessment) in which they list their own contributions to the group and comment on their group members' performances.

Extensions

- *Venn Diagram*. Create an illustrated and annotated Venn diagram that compares and contrasts the marine and estuary environments of Tokyo Bay and San Francisco Bay.
- *State of the Water?* Take local stream, river, lake, or bay water samples to your municipal water department to test for bacterial contamination.
- *What's Going Down the Drain?* Examine your use of chemicals that contribute to water pollution (soaps, detergent, paints, solvents, gardening supplies) and research "greener" alternatives.
- *Water Logged*. Keep a log or journal of your own water use for one day/week. Where does the water come from? Where does it go?

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