

## Active Pedagogy: Teaching Inquiry-Based Science and Social Studies

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### Overview

In Expeditionary Learning schools, teachers use expeditions and projects, problem-based content, and interactive instructional practices to foster inquiry in science and social studies. As much as possible, these disciplines are taught through learning expeditions that focus on big ideas. Science and social studies expeditions require students to think, write, and research like social scientists or scientists, and to use the tools of inquiry specific to the disciplines studied. The in-depth investigations of science and social studies expeditions focus on issues and problems that promote inquiry.



## BENCHMARK 5:

### TEACHING INQUIRY-BASED SCIENCE AND SOCIAL STUDIES

#### A. Structures for Teaching Science and Social Studies

1. Specific science and/or social studies content areas (e.g., biology, history, archaeology) are often at the core of learning expeditions.
2. Some expeditions integrate science and/or social studies with other subject areas so that each subject area shares equal focus.
3. Some expeditions are designed with another subject area at the core, and science and/or social studies content is integrated where authentic (e.g., World War II and nuclear fission).
4. Science and social studies projects that are not part of learning expeditions always incorporate some expedition elements.
5. Science and social studies expeditions and projects always integrate literacy and research: students read, write, speak, investigate, and think critically.

#### B. Science and Social Studies Curriculum

1. The compelling topic often focuses on engaging current issues, controversies, social justice, and cultural diversity.
2. Often, the compelling topic concentrates on an event, a place, a person, or living history (e.g., the case study approach).
3. In-depth investigations lead students to generalizations, concepts, and big ideas.
4. Inquiry and products require research and the authentic use of the tools of the discipline studied.
5. Learning expeditions in science often examine the history of the development of scientific ideas.
6. Expeditions foster identification with the discipline studied by modeling the inquiry and practice of real professionals and by including their expertise in the expedition plan.
7. Teachers select a variety of engaging information sources beyond textbooks for research and products (e.g., articles, short text, biographies, data sets, primary sources, original documents, interviews, experts, and fieldwork).

#### C. Teaching Science and Social Studies

1. Teachers model and make explicit the use of subject-specific comprehension strategies.
2. Students are given multiple opportunities to engage in complex, problem-based activities, labs, and investigations, and to represent and analyze data.
3. Teachers ask students to articulate their theories, explanations, and understandings.
4. Teachers ask students to represent and reflect on their thinking (e.g., create analogies, make graphs, create pictures, build models).
5. Students are asked to apply knowledge in diverse and authentic contexts, explain ideas, interpret texts, predict phenomena, and construct arguments based on evidence (instead of focusing exclusively on pre-determined “right answers”).
6. Students are asked to take and defend positions and to consider multiple perspectives.
7. As part of ongoing assessment, teachers look for misconceptions and create experiences that challenge those misconceptions.
8. Students are asked to generalize, transfer, and apply concepts and procedures to other contexts and problems.
9. Students are taught to engage in disciplinary discourse that pushes their understanding.