

Estuaries and the Gulf of Mexico

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UNIT DESCRIPTION

This unit includes two 90-minute lessons focusing on aspects of tidewaters. For background readings and resources, go to the Geography: Teaching with the Stars web site at www.geoteach.org and click on the Teacher Resources page. This page also includes a profile of Sharlene Walker.

The purpose of this unit is to examine two different aspects of coast region of the United States. It is part of a Grade 9 Human Geography course. In the first lesson, students examine characteristics of estuaries. In the second lesson, they explore issues related to the Gulf of Mexico.

INSTRUCTIONAL OBJECTIVES

After participating in these lessons, students will be able to:

- analyze videos about various aspects of estuaries
- present what they learned about estuaries
- explore different issues related to the Gulf of Mexico
- create a newspaper presenting views on the overall health of the Gulf of Mexico

NATIONAL GEOGRAPHY STANDARDS (2012)

Geography Standard 7: The physical processes that shape the patterns of Earth's surface

Physical features interact over time to shape particular places on Earth's surface

Geography Standard 8: The characteristics and spatial distribution of ecosystems and biomes on Earth's surface.

Ecosystems are dynamic and respond to changes in environmental conditions

The distribution and characteristics of biomes change over time

Geography Standard 14: How humans modify the physical environment

Human modifications of the physical environment can have significant global impacts

The use of technology can have both intended and unintended impacts on the physical environment that may be positive or negative

People can either mitigate and/or adapt to the consequences of human modifications of the physical environment

Geography Standard 15: How physical systems affect human systems

Humans perceive and react to environmental hazards in different ways

Geography Standard 16: The changes that occur in the meaning, use, distribution, and importance of resources.

The spatial distribution of resources affects patterns of human settlement and trade.

Policies and programs that promote the sustainable use and management of resources impact people and the environment.

MATERIALS AND ADVANCE PREPARATION

All materials you need to conduct these lessons are provided in this guide, accessible via links contained in the guide, or available in most classrooms. The following is a list of the materials used in this lesson, along with some suggestions for preparing them for use.

Lesson One: Estuaries

A copy of the **Video Analysis Chart** for each student. (Students will be working in groups of 4–5)

Links to short videos dealing with various aspects of estuaries. These are available from the National Oceanic and Atmospheric Administration, National Estuarine Research Reserve System site at <http://estuaries.noaa.gov/Estuarylive/VideoGallery.aspx?ID=2>. Each group views a different video. Some examples are:

- Plants (Circle of Life)
- Estuaries: Defining Our Terms
- Estuary Basics (Marsh Plants)
- So What is an Estuary, So Now You Know
- Sea Grass PSA

Computers for groups to use in viewing videos.

Poster boards and markers for use by groups in creating posters synthesizing what they learned from watching the videos.

Lesson Two: The Gulf of Mexico

A copy of the **Information Chart** for each student. (Students will be working in expert groups of 4–6)

A copy of an article dealing with the Gulf of Mexico for each member of an expert group. Each expert group examines a different article. Here are some possible articles, they are all accessible on the Internet.

- Tiger Shrimp Hunted in Gulf, *San Antonio Express-News*, March 1, 2012
- Dead zone as big as Massachusetts along the coasts of Louisiana and Texas, scientists say. *New Orleans Times-Picayune*, August 5, 2010.
- How Hurricane Season Might Impact Gulf of Mexico Oil Production—Analysis, *U.S. Energy Information Administration*, June 15, 2011
- Gulf of Mexico Oil Spill: After the Kill, *The Economist*, September 23, 2010.
- Oil spill damage spreads though Gulf economies, *CNN Money*, June 1, 2010.

Access to the newspaper template for each expert group. Available at <http://newspapertemplate.net/newspaper-template-for-word>

Computers for the expert groups to use to create their newspapers.

Lesson One:

Estuaries

(two class periods)

OPENING THE LESSON

1. Indicate to students that in this lesson they will work in groups to view a video about estuaries and then develop a presentation about their video to share with the class. Each group will view a different video.
2. Divide the class into groups of four or five students each. Assign a video and a computer to each group. Distribute a copy of the **Video Analysis Chart** handout to each student. Indicate to students that they should use the handout to record what they learn about estuaries from their assigned video.

DEVELOPING THE LESSON

3. Have the groups watch their assigned videos and record what they learn on their analysis forms. Encourage group members to share what they are learning from the video. You might want to monitor their progress.
4. When students have had time to view the video and fill out their forms, ask them to begin to design and create their posters and decide what role each group member will have in presenting the posters. You should monitor their progress, ask questions, and make suggestions, as necessary.

CONCLUDING THE LESSON

5. Have each group make its presentation. Encourage other students to ask questions of the presenters. You may want to ask questions of the presenters yourself or add to their presentations.

Video Analysis Chart

Title of Video	
Key Terms	A-
	B-
	C-
	D-
Main Topic	
Facts	
Facts	
Facts	
Facts	
Facts	
Facts	
Facts	
Summarize Facts	

Lesson Two:

The Gulf of Mexico

(two class periods)

OPENING THE LESSON

1. Indicate that in this lesson, students will be investigating the Gulf of Mexico.
2. Begin by having students share what they already know about the Gulf of Mexico.

DEVELOPING THE LESSON

3. Divide students into groups of four or five (one group for each of the articles used in the lesson.) Provide each group with copies of its assigned news story about the Gulf of Mexico. Indicate that each group's task is to become experts about the information contained in the news article it was assigned.
4. Distribute a copy of the **Information Chart** to each student. Have the students use the first row of the chart to guide their exploration of their assigned article.
5. Give each group about 20-25 minutes to read the assigned news article and to develop expertise about the Gulf of Mexico contained in the story, making use of the chart, and sharing their findings within their expert group.
6. After the allotted time, form new, groups so that there is at least one person who is an expert on each of the stories in each of the new groups.
7. Have the members share their expertise about the stories within these new groups. Encourage other group members to ask questions and add information to their charts, in the available rows, as each article is shared.
8. After completing the sharing of the Gulf of Mexico stories, have students return to their original groups. Invite each group to create the front page of a newspaper focusing on what they learned about the Gulf of Mexico in this lesson. Have each group select a leader to coordinate student work.
9. List the following guidelines on the board:
 - Create one front page per group
 - Pick a name for your newspaper
 - Create ads, articles, opinion pieces, letters to the editor related to the Gulf
 - Choose pictures to include and create an editorial cartoon to be scanned into the newspaper
 - Use "catchy titles" for all articles.

CLOSING THE LESSON

10. When each group is ready, have group members use the newspaper template available on its computer to create their newspapers.
11. Make a gallery display of the newspapers.

Information Chart

Article	Where	Who	What	When	Why