

Scenes from a Salt Marsh

Bombay Hook National Wildlife Refuge Quarter

Grades Two and Three



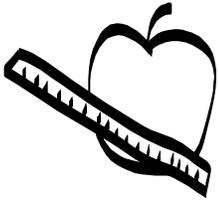
OBJECTIVES

Students will describe characteristics of a salt marsh and identify plants and animals typical of this environment. Students will synthesize and apply knowledge of a salt marsh.



MATERIALS

- 1 overhead projector or equivalent technology
- 1 overhead transparency (or photocopy) of the “Bombay Hook National Wildlife Refuge Quarter” page
- Copies of the following:
 - “Salt Marsh Reading” worksheet
 - “Salt Marsh Research” worksheet
 - “Salt Marsh Research Answer Key”
 - “In the News Checklist”
- 1 copy of an age-appropriate text that gives basic information about salt marshes, such as:
 - *Following the Coast* by Jim Arnosky
 - *Salt Marsh* by Paul Fleisher
 - *Marshes and Swamps* by Gail Gibbons
 - *A Day in the Salt Marsh* by Kevin Kurtz
- Access to age-appropriate Web sites that provide basic information on and images of salt marshes, such as:
 - www.fws.gov/refuge/bombay_hook/
 - oceanservice.noaa.gov/facts/saltmarsh.html
 - water.epa.gov/type/wetlands/marsh.cfm
- Class map of the United States
- Chart paper
- Markers
- Pencils
- Internet access
- Butcher paper
- Construction paper



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- Scissors
- Glue
- Paint



PREPARATIONS

- Make an overhead transparency (or photocopy) of the “Bombay Hook National Wildlife Refuge Quarter” page.
- Make copies of the following:
 - “Salt Marsh Reading” worksheet
 - “Salt Marsh Research” worksheet
 - “In the News Checklist” (1 per student)
- Locate a text that gives basic information about salt marshes (see examples under “Materials”).
- Bookmark Internet sites that contain information about salt marshes (see examples under “Materials”).
- Arrange to use the school computer lab for Session 2.
- Create a chart titled “Salt Marsh Characteristics” for Session 1.
- Collaborate with the art teacher for Session 3.



GROUPINGS

- Whole group
- Small groups
- Pairs
- Individual work



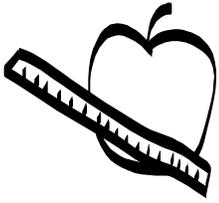
CLASS TIME

Five 30- to 45-minute sessions, total 150 to 225 minutes



CONNECTIONS

- Language Arts
- Science
- Art



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STANDARDS

- [Common Core State Standards \(CCSS\) ELA Literacy W.3.2](#)—Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- [Common Core State Standards \(CCSS\) ELA Literacy SL.3.4](#)—Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
- [Standards for the English Language Arts \(NCTE/IRA\)](#)—Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
- [Next Generation Science Standards \(NSTA\) 2-LS4-1](#)—Make observations of plants and animals to compare the diversity of life in different habitats.
- [Next Generation Science Standards \(NSTA\) 3-LS4-3](#)—Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
- [National Standards for Arts Education \(2nd grade\)](#)—Students use visual structures and functions of art to communicate ideas.



TERMS AND CONCEPTS

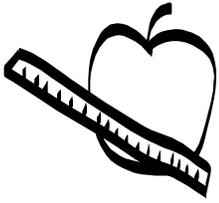
- | | | |
|--------------------|--|-------------------|
| • Quarter | • Reverse (back) | • Obverse (front) |
| • Great blue heron | • Egret | • Salt marsh |
| • Conservation | • Characteristics | • Background |
| • Foreground | • Bombay Hook National Wildlife Refuge | |



BACKGROUND KNOWLEDGE

Students should have a basic knowledge of:

- Plants and animals
- Environments
- Murals
- Elements of a news show



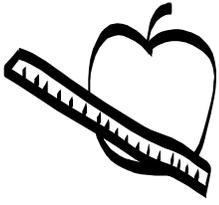
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STEPS

SESSION 1

1. Display and examine the “Bombay Hook National Wildlife Refuge Quarter” page. Locate this site on a class map. Note its position in relation to your school’s location.
2. As background information, explain to the students that the United States Mint began to issue the quarters in the America the Beautiful Quarters® Program in 2010. By the time the program ends in 2021, there will be a total of 56 designs. Each design will focus on a different national site—one from each state, territory, and the District of Columbia.
3. Tell the students that the front of the coin is called the “obverse” and the back is called the “reverse.” Ask the students to tell you what they see in the image on the quarter’s reverse. Explain that the image depicts a special kind of environment called a tidal salt marsh. Tell the students that they are going to be learning about the special features of the Bombay Hook National Wildlife Refuge.
4. Explain that the image on this coin represents a salt marsh found in Delaware within the Bombay Hook National Wildlife Refuge. According to the National Wildlife Refuge System, “the mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” Define a “wildlife refuge” as “a naturally occurring area that is protected by the government for the conservation of fish, wildlife, and plants.” Identify the birds in the image as a great blue heron in the foreground and an egret in the background.
5. Ask the students what characteristics they notice about the birds in the image, encouraging them to identify the long legs and beaks in both birds. Ask the students to brainstorm other plants and animals that might be found in the same environment. List student responses on chart paper. Tell the students that they will be learning about the salt marsh environment.
6. Introduce the students to the selected text about salt marshes. Distribute the “Salt Marsh Reading” worksheet to the students. Explain that they will be making notes about the salt marsh based on what they learn from the selected text. As the text is read aloud, give the students time to briefly make notes about characteristics of the salt marsh and the plants and animals typically found there.

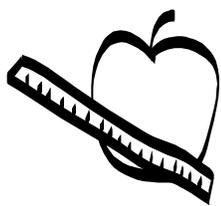


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7. Read the text aloud. After reading, ask students to share two facts they learned and one question they have about salt marshes with a partner. Guide the students to list the book title and author in the “Source” section at the bottom of the worksheet.
8. Ask the students to share characteristics of a salt marsh that they noted on the worksheet. List these responses on chart paper. Using the text and the student notes, work together as a class to come up with a definition of a “salt marsh,” such as “a wetland with many grasses and quiet salt waters.”
9. Explain to the students that they will be researching more information about the salt marsh environment in the next session.

SESSION 2

1. Display the “Bombay Hook National Wildlife Refuge Quarter” page. Review with the students the material covered in the previous session, including the class definition of a salt marsh.
2. Distribute a copy of the “Salt Marsh Research” worksheet to each student. Explain to the students that they will be using the Internet to research additional information about salt marshes.
3. Allow the students time to work with partners to conduct their research and take notes on the worksheet. Guide the students to list the Web sites used in the “Source” section at the bottom of the worksheet.
4. After allowing time for research, ask the pairs to share their findings with the group. Add any additional salt marsh characteristics discovered to the chart created in Session 1. Revisit the class definition of a salt marsh as a whole group and revise it as needed. Have the students staple together their two “Salt Marsh Research” worksheets.
5. Explain to the students that they will be using what they learned about salt marshes to create a mural representing this environment in the next session.
6. Divide the class into three teams. One team will be responsible for the overall layout of the mural, the water element, and the background. One team will be responsible for the plants. One team will be responsible for the animals. If time allows, let the teams begin planning their murals.



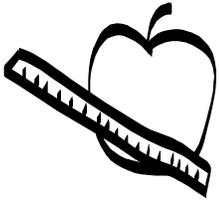
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SESSION 3

1. Display the “Bombay Hook National Wildlife Refuge Quarter” page. Review with the students the material covered in the previous sessions.
2. Distribute supplies for creating the mural.
3. Allow the student groups time to create the salt marsh mural. Display the completed salt marsh mural in the classroom.

SESSIONS 4 AND 5

4. Display the “Bombay Hook National Wildlife Refuge Quarter” page. Review with the students the material covered in the previous sessions. Display the “In the News” checklist and review it with the students.
5. Explain to the students that they will be using the information they discovered about salt marshes and the class-created mural to create a news show.
6. Ask the students to brainstorm features of a news show. Responses might include news stories, weather reports, traffic reports, interviews, and cooking segments. Record all ideas on chart paper.
7. Tell the students that they will be creating their own segments for a news show from the salt marsh. Tell the students that their news show should encourage someone to visit Bombay Hook.
8. Guide the students to come up with a creative name for their class news show.
9. Allow time for the students to plan their segments. Allow the students to work as individuals or groups and to create props. Encourage them to be as creative as possible. Provide time for the students to write scripts for their segments and rehearse them.
10. As the students complete their scripts, have them rehearse and record their segments using the class mural as a backdrop.
11. Share the class news show to teach others about the salt marsh. Options for sharing the news show might include open house, parent night, science fair, or morning announcement show(s).



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ASSESSMENTS

- Take anecdotal notes about the students' participation in class discussions.
- Use the students' worksheets, scripts, news show performance, and "In the News Checklist" to evaluate whether they have met the lesson objectives.



ENRICHMENTS/EXTENSIONS

- Have students create murals of other environments represented on coins.
- Have students compare the characteristics, plants, and animals of other national wildlife refuges.
- Have students incorporate persuasive language in their scripts and news presentations.
- Have students learn more about another water environment (the bayou) with the 2015 Kisatchie National Forest quarter lesson plan for kindergarten and grade 1 at www.usmint.gov/kids/teachers/lessonPlans/viewLP.cfm?id=443.
- Have students create and explain a model to show how the salt marsh serves as its own filter system.



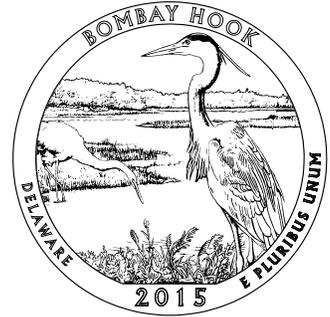
DIFFERENTIATED LEARNING OPTIONS

- Allow students to dictate written responses on the worksheets and scripts.
- Allow students to complete worksheets and products with a partner.
- Provide students with sample scripts and framed sentence starters for the news show.
- Allow extended time for research.



Name _____

Salt Marsh Reading



Directions: As you listen to the text, record what you learn about the characteristics, plants, and animals of the salt marsh.

CHARACTERISTICS	PLANTS	ANIMALS

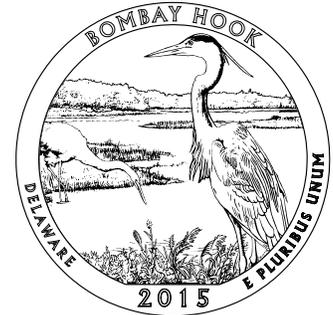
Source: _____



Name _____

Salt Marsh Research

Directions: As you research, record what you learn about the characteristics, plants, and animals of the salt marsh.



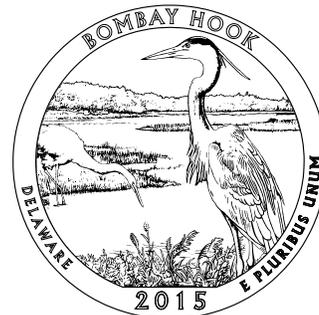
CHARACTERISTICS	PLANTS	ANIMALS

Source: _____



Answer Key

Salt Marsh Research



Directions: As you research, record what you learn about the characteristics, plants, and animals of the salt marsh.

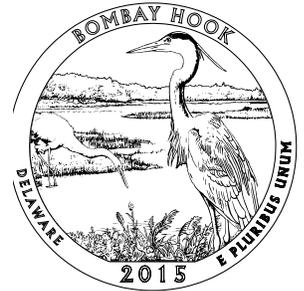
CHARACTERISTICS	PLANTS	ANIMALS
<p>Answers will vary but may include:</p> <ul style="list-style-type: none"> • Coastal wetland usually covered with water • Breeding ground for migrating birds • Some are influenced by ocean tides • Prevent erosion and reduce flooding • Soil made of deep mud and peat • Low oxygen levels 	<p>Answers will vary but may include:</p> <ul style="list-style-type: none"> • Salt tolerant plants • Grasses • Cattails • Cord grass 	<p>Answers will vary but may include:</p> <ul style="list-style-type: none"> • Great blue heron • Egret • Migratory birds • Waterfowl • Ducks • Geese • Sandpipers • Plovers • Clams • Crabs • Fish • Shrimp

Source: _____



Name _____

In the News Checklist



Directions: Use the following checklist to review your salt marsh news performance. Include examples of how you included each goal in the Evidence column. Think carefully when you answer the Reflection questions.

CHECK	GOAL	EVIDENCE
	I included characteristics of the salt marsh.	
	I included the animals of the salt marsh.	
	I included the plants of the salt marsh.	
	I carefully prepared and practiced my script.	Attach your script.

REFLECTION

The best part of creating the news show was:

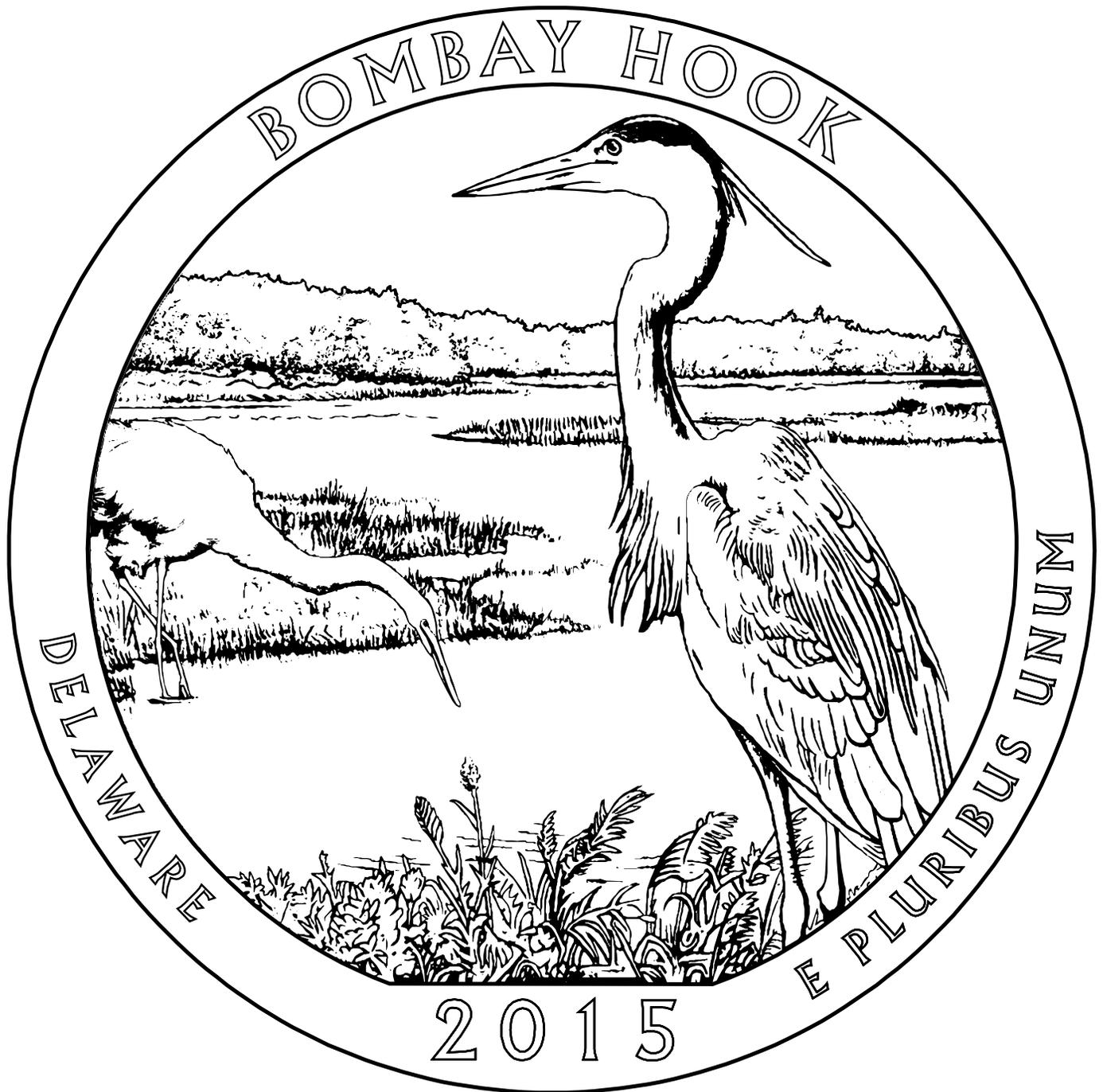
The most challenging part of creating the news show was:

The most surprising thing I learned was:





Bombay Hook National Wildlife Refuge Quarter



The United States of America

