

Salt Marsh Life

Day 1

- **Introductory Information:**

- Title of Lesson: Salt Marsh Life, ecology, food web, and importance of ecosystem
- Content Area / Grade Level: Science / 7th grade.
- Time Span for Lesson: 2-50 minute class period.
- Identified Standards:

Standard 7.EC.5 The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environments.

Instructional Objectives:

<p>Students will be able to illustrate a Salt Marsh food web.</p> <p>7.EC.5B.2 Develop and use models (food webs and energy pyramids) to exemplify how the transfer of energy in an ecosystem supports the concept that energy is conserved.</p>	<p>Standard 7.EC.5 The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environments</p>	<p>7.EC.5B Organisms in all ecosystems interact with and depend upon each other. Organisms with similar needs compete for limited resources. Food webs and energy pyramids are models that demonstrate how energy is transferred within an ecosystem.</p>	<p>Understanding the structure of a food web and understanding of the flow of energy.</p>
<p>Students will learn the ecological importance of the Salt Marsh and the environmental impact provided.</p>	<p>Standard 7.EC.5 The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environments</p>	<p>7.EC.5B Organisms in all ecosystems interact with and depend upon each other. Organisms with similar needs compete for limited resources. Food webs and energy pyramids are models that demonstrate how energy is transferred within an ecosystem</p>	<p>Students should have prior understanding of environmental factors (pollution, extinction, population, etc.).</p>

<p>7.EC.5B.1 Develop and use models to explain how organisms interact in a competitive or mutually beneficial relationship for food, shelter, or space (including competition, mutualism, commensalism, parasitism, and predator-prey relationships).</p>			
<p>Students will learn the importance of Spartina grass to the Salt Marsh.</p> <p>7.EC.5B.1 Develop and use models to explain how organisms interact in a competitive or mutually beneficial relationship for food, shelter, or space (including competition, mutualism, commensalism, parasitism, and predator-prey relationships).</p> <p>7.EC.5B.3 Analyze and interpret data to predict how changes in the number of organisms of one species affects the balance of an ecosystem.</p>	<p>Standard 7.EC.5 The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environments</p> <p>Standard 7.EC.5 The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environments.</p>	<p>7.EC.5B Organisms in all ecosystems interact with and depend upon each other. Organisms with similar needs compete for limited resources. Food webs and energy pyramids are models that demonstrate how energy is transferred within an ecosystem</p>	<p>Understanding populations, communities, and habitats.</p>

- **Anticipatory Set Induction:** Draw a picture of a Salt Marsh food web. What do you think should be included? Be prepared to justify your answer.

- **Lesson Body and Sequence:**

- **Instructional Materials and Resources Needed:** Salt Marsh Poster, *Guide to the Salt Marshes and Tidal Creeks of the Southeastern United States*, Guiding Questions (see attached)
- **Timeline:**

Approximate Time	What is the Teacher Doing?	What is the Student Doing?
5 minutes	Providing direction regarding what students will be doing for pre-assessment and reminding them of the time they will have.	Students should be completing the warm up Pre-assessment Salt Marsh Drawing
5 minutes	Guiding Questions and expectations for using the poster to analyze questions.	Reviewing questions and understanding expectations
25 minutes	Explaining the lab, observing student interaction as they work together in pairs, and answering student questions.	Students should be working together to answer questions using Salt Marsh Poster
15 minutes	Asking students questions about their Salt marsh questions and how their thinking has changed from the beginning of class. Directions for Post-assessment.	Students should be listening to others and answering questions. Post-assessment Salt Marsh Drawing

Day 2

- **Independent / Guided Practice:** Students will create a Nearpod on an organism from the marsh and its importance in this ecosystem.
- **Interactive Experience:** Students will create an interactive presentation on an organism in the Salt Marsh. They will show the flow of energy, habitat, niche, and other important facts of interest. The students are to anticipate what would happen to their food web if there are changes in the population, climate, or habitat of the salt marsh environment.

Activity	Description	Materials / Resources	Questions / Answers
Salt Marsh Nearpod	Students will assemble a presentation on Nearpod	Salt Marsh poster, books, and access to technology.	See Rubric Below



Life in the Salt Marsh

Salt Marsh Organisms Nearpod

Use Guide to the Salt Marshes and Tidal Creeks of the Southeastern United States to choose an organism (you may choose an invasive species also!)

Nearpod Requirements:

- 1. Name of Organism (both what we call it and its *Genus Species*)-10 points**
- 2. Where does it live in the Marsh Ecosystem?-15 points**
- 3. Role it plays in the ecosystem (Its Niche) - 15 Points**
- 4. What it consumes (eats)- 15 Points**
- 5. What its predators are- 15 Points**
- 6. Pictures-can do multiple on one slide (ask me!)20 Points**
- 7. What would happen if this organism disappeared from the Salt Marsh (10 points)**
- 8. Interesting facts about organism –Bonus 5**

No larger than 8 slides

Make it colorful

Due:

Name _____ Class _____ Date _____

Salt Marsh Poster Questions

- 1. What is a Salt Marsh?**

- 2. What is the dominant plant in the Marsh**

- 3. Why is this plant so unique?**

- 4. How is this plant a benefit to other organisms?**

- 5. What geographic area does this plant cover (states)?**

- 6. What are the main benefits of a Salt Marsh? Name 3 and explain why they are important.**
 - 1.**
 - 2.**
 - 3.**

- 7. Name at least 6 organisms that live in the Salt Marsh. Have you ever seen any of these organisms?**

- 8. Illustrate the life cycle of Marsh Grass**

- **Closure-** discuss post Salt Marsh Illustrations and how our thinking of Salt Marshes has changed.

- **Extended Practice:**

Activity/Assignment	Description	Extension of What Knowledge/Skill	Evaluation Use
video	Films about Spartina grass in the salt marsh.	This film will give students a good look at the salt marsh environment, habitat, animals, and wrack.	Seeing the film will cement how important Spartina grass is to the salt marsh environment.

- **References:** *Guide to the Salt Marshes and Tidal Creeks of the Southeastern United States*

States, Videos: <https://www.youtube.com/watch?v=3HXyTMnj7ac>,

<https://www.youtube.com/watch?v=mHXVSF71a4Y>