

MANGROVES: HEALTHY MANGROVES

Grade 5

ESSENTIAL QUESTIONS: WHY ARE MANGROVES IMPORTANT?

- What does a healthy mangrove environment/ecosystem look like?
- What can harm a healthy mangrove environment/ecosystem?

LEARNING GOALS

What should learners know and be able to do by the end of the lesson?

Students will be able to:

- Name characteristics and components of a healthy mangrove
- Describe examples of things and human actions that can harm a healthy mangrove
- State cause and effect of harms done to a healthy mangrove

Approximate Length of Lesson: Two 45-minute class sessions

Approximate Number of Minutes: 90 minutes

BENCHMARKS

Sci.1.5.2 Explain cause and effect relationships in nature (for example, that a lack of rain results in plants being stressed and sometimes dying).

Sci.5.5.3 Describe that global warming is causing sea levels to rise, and explain how sea level rise can impact marine ecosystems.

SUMMATIVE ASSESSMENT

Song creation and performance

FORMATIVE ASSESSMENT TOOLS

- Vocabulary review
- Responses to discussions
- Student drawings of healthy and unhealthy mangroves

FOCUSED LANGUAGE FEATURES: VERNACULAR + ENGLISH

Language Functions	Related Sentence Structures / Patterns (Examples)	Vocabulary
State cause and effect	If <u>cause</u> , then <u>effect</u> . <u>Effect</u> because <u>cause</u> . <u>Cause</u> so <u>effect</u> .	healthy benefit change
Distinguish between healthy and unhealthy mangroves	A healthy mangrove _____, <u>but</u> an unhealthy mangrove _____. A healthy mangrove _____. <u>On the other hand</u> , an unhealthy mangrove _____.	harm

LEARNING SEQUENCE

Lesson: Healthy Mangrove Environment/Ecosystem

Activate Prior Knowledge	<ul style="list-style-type: none"> Read aloud the essential questions for this lesson. Give students some time to think about the questions. Ask for volunteers to share their thoughts. Show pictures of mangrove forests. Ask students to identify benefits and services that the mangrove forest provides from the pictures (coastal protection, nursery, building materials, food)
Introduce Vocabulary	<ul style="list-style-type: none"> Define the term healthy (physically strong, not likely to become ill or weak). Name characteristics of a healthy person, healthy animal, healthy ocean Review vocabulary from Lesson 1 (benefit, change, harm)
Healthy Mangrove	<ul style="list-style-type: none"> If a mangrove environment/ecosystem is healthy, what will the mangrove ecosystem look like? (roots, leaves) What kinds of living things will we find in the mangrove environment/ecosystem? In small groups, create and label drawing of a healthy mangrove environment/ecosystem.
What Can Harm a Healthy Mangrove	<ul style="list-style-type: none"> Refer to the interview from lesson 1. Ask students to recall harms caused by people to mangroves. Listen to/read different scenarios of actions done towards a mangrove swamp as a result of those benefits/services. Scenarios 1 to 3 focus on general actions done towards a mangrove swamp; scenarios 4 and 5 on human impacts on mangrove swamp; and scenarios 6 and 7 on human impacts and sea level rise and extreme weather as a result of climate change. Create a cause/effect flow chart to show how certain things and actions can harm mangrove swamps. Teach and practice using

the cause/effect signal words to communicate the cause/effect of harms to mangrove swamps.

- If those things and actions take place, what will happen to the mangrove ecosystem? In small groups, create and label drawing of an unhealthy ecosystem
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Compare student drawings of healthy and unhealthy mangrove ecosystems and distinguish between the two.

Song: Healthy Mangroves

- Have students work in small groups to create a song that describes a healthy mangroves and things that can harm healthy mangroves
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Revisit K-W-L chart from lessons 2 & 3 and answer questions/record new learning

Essential Questions

Review the essential questions for this lesson. Ask for responses based on what we have learned.

RESOURCES

- Pictures of mangrove forests
- Fact sheet #5 on sea level rise and mangroves
- Cause/effect flow chart
- Paper for drawing
- Pencil and markers for drawing
- Scenarios
- Song about mangroves
- K-W-L chart from lessons 2 & 3