

Salvation of the Sea Turtles: Investigating An Endangered Species

Author	Tara Hibbitts
Grade Level	2
Duration	2 class periods

National Standards	AZ Standards	Arizona Social Science Standards
GEOGRAPHY Element 1: The World in Spatial Terms 1. How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information Element 5: Environment and Society 14. How human actions modify the physical environment Element 6: The Uses of Geography 17. How to apply geography to interpret the past 18. How to apply geography to interpret the present and plan for the future	ELA Reading Key Ideas and Details 2.RI.1 Ask and answer questions as who, what when why and how to demonstrate understanding of details in a text. Craft and Structure 2.RI.6 Identify the main purpose of a text, including what the author wants to answer, explain, or describe. Writing Writing Foundations 2.WF.1 Demonstrate and apply handwriting skills. a. Write legibly in manuscript using correct letter formation. b. Transcribe ideas in manuscript with automaticity and proper spacing Language Conventions of Standard English 2.L.2 Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing. SCIENCE: Earth and Space: 2.E1U4.7 Construct an argument from evidence regarding positive or negative changes in water and land systems that impact humans and the environment.	GEOGRAPHY The use of geographic representations and tools help individuals understand their world. 2.G1.1 Use and construct maps, graphs, and other geographic representations of familiar and unfamiliar places in the world; and locate physical and human features. Key physical features include but are not limited to seven continents, oceans, lakes, rivers, mountain ranges, coasts, seas, and deserts. Key human features include but are not limited to equator, hemispheres, North and South Pole, cities, states, countries, regions, and landmarks Human-environment interactions are essential aspects of human life in all societies. 2.G2.2 Describe how human activities affect the culture and environment of places or regions. CIVICS Citizens have individual rights, roles, and responsibilities. 2.C2.2 Explain how all people, not just official leaders, play important roles in the world.

SIOP Elements		
Preparation Adapting content Linking to background Linking to past learning Strategies used	Scaffolding Modeling Guided practice Independent practice Comprehensible input	Grouping Option Whole class Small groups Partners Independent

Salvation of the Sea Turtles: Investigating an Endangered Species

Integrating Processes	Application	Assessment
Reading Writing Speaking Listening	Hands on Meaningful Linked to objectives Promotes engagement	Individual Group Written Oral

Arizona English Language Proficiency Standards

Stage II

Basic

Reading

Standard 4: The students will analyze text for expression, enjoyment, and response to other related content areas.

B-4 Asking questions (who what when which where why) to clarify text with instructional support

B-6 making connection to text while reading (text to text and text to self)

Listening and Speaking

Standard 2: The student will express orally his or her own thinking and ideas

B-5: asking and responding to academic questions using complete sentences, with instructional support. (i.e., who, what, where, when, why, how) (e.g., making comparisons and describing events, etc.).

Writing

Standard 2: The student will identify and apply conventions of standard English in his or her communications.

B-2: using mechanics of writing to organize writing (left to right and top to bottom with spacing between words and lines).

B-7: using periods, question marks and exclamation points with instructional support.

Overview

Within our oceans there are seven types of sea turtles. All of which are now endangered. Sea turtles keep the sea grass short and healthy. Sea grass is the important breeding grounds for lots of different fish and shellfish. Fish and Shellfish that human consume. Therefore, if sea turtles become extinct, our underwater ecosystem will be harmed, and many of the fish and shellfish that we like to eat will be gone.

Purpose

In this lesson, students will investigate the seven types of sea turtles and where they are located. They will learn why they are endangered and create an advertisement to help save them. This lesson includes strategies for teaching diverse learners.

Key Vocabulary

endangered: when a type of animal is almost extinct

extinct: when there is no more of a type of animal

protect: keep from getting hurt

investigate: to research and study a topic

Materials

- Internet
- Endangered Ocean Life—Sea Turtles, Endangered Species
<https://www.youtube.com/watch?v=sbxKh78zw3o>
- White board or document camera
- Articles on Sea Turtles (flatback, Kemp's Ridley, Olive Ridley, hawksbill, loggerhead, leatherback, and green)
- Small World map
http://geoalliance.asu.edu/sites/default/files/maps/World_Continents.pdf
- Table Top World map World map (color) with oceans (needs to be assembled)
<http://geoalliance.asu.edu/sites/default/files/maps/world-map-color-tabletop.pdf>
- Sea Turtle Study: Water Experiment
- 5 cups of water at various temperatures
- 5 Infra-red thermometers (IRTs) or regular thermometers (non-mercury)

Salvation of the Sea Turtles: Investigating an Endangered Species

- Book--Where Should Turtle Be? by Susan Ring
- 7 Buckets/tubs
- at least 28 various sea animals and sea plants
- at least 28 various items that should not be in the sea
- Drawing Paper
- Advertisement Samples
- Sea Turtle Advertisement Scoring Guide

Objectives

The student will be able to:

1. Label a world map with locations of the sea turtles.
2. Describe the affects humans have on the oceans and how it harms sea turtles.
3. Construct an argument on how to protect the sea turtles.

Procedures

Prior to the Lesson: Print 7 of the table top maps <http://geoalliance.asu.edu/sites/default/files/maps/world-map-color-tabletop.pdf> and assemble them for the group work.

SESSION ONE

Engage:

- a. Begin the lesson by playing the Youtube video (5.20 min) about why sea turtles are endangered and what can be done. If you would like to skip the Endangered Species information, start video at 2:30.
<https://www.youtube.com/watch?v=sbxKh78zw3o>
- b. After the video has finished, draw a circle map on the white board with "Why are sea turtles are endangered? Tell the students to listen for the reasons and then we will fill in the circle map. (start video at 2:30). Play the video a second time so the students can listen for these reasons. Have students share their answers. (Possible answers: animals eat the turtle hatchlings, turtles get entangled in fishing gear, fisherman catch them by mistake, their habitat is being changed/destroyed) (**Grouping: Whole Class**)
- c. Repeat step b. above but this time the circle map should be "What are the 7 types of sea turtles? (flatback, Kemp's Ridley, Olive Ridley, hawksbill, loggerhead, leatherback, and green).
- d. Explain to students that they will be investigating the sea turtles and determining a way to protect them from becoming extinct. Play the video a third time and have the students complete a third circle map on "What can be done to save the sea turtles?"

(possible answers: make laws to stop trading sea turtles, design new fishing gear or fishing practices to keep turtles from being caught, protect the turtles and have make money from ecotourism, protect their environment)

Explore:

e. Group students in 7 groups (one per turtle.) Each person in the group will receive an article about one of the kinds of sea turtles with the small World map on the back. Each group will receive a table top sized World map. Using the table top map, the students should label the oceans on the small world map.

f. Instruct the students to take turns reading the article and after each reader, they will discuss with their group what information they have found.

(Grouping: Small Groups)

g. After reading and discussing their articles, students will locate where their turtle is found on their maps (individual and table top). Students can just label the maps (ex: green sea turtle) or they can make a drawing of their sea turtle on the oceans where their sea turtle is found. (**Scaffolding:**

Comprehensible input)

h. Now have students complete a Quick Chat—Redistribute the students so one member of each of the original groups are with members from each other other groups. It is their task to discuss their turtles in 6 rotations (one per turtle). They will also locate where the other 6 sea turtles can be found on their individual maps. (**Grouping: Small Groups, Application: Promotes engagement**)

i. Write the 3 topics that each person should cover on the white board. They need to say 1) the name of the turtle they learned about, 2) what type of water it likes, and 3) an interesting fact they learned.

(Intergrating Process: Speaking, Scaffolding: Guided practice)

SESSION 2

Prior to the Lesson: Prepare the investigations with water.

Explain:

j. Explain that today, the students will be conducting an "investigation" to find the right environment for their sea turtles. Ask the students how they could determine what would be the right habitat for a sea turtle. (Possible answers: ask someone, read a book, go to the Internet). Ask if last session gave them any clues as to what might be the best environment for their kind of sea turtle. Keep taking possible answers until someone says that the groups know the water temperature that the sea turtles prefer. Do you know how we measure sea temperatures? Let's find out.

Salvation of the Sea Turtles: Investigating an Endangered Species

k. Show students how to safely use the IRTs or regular thermometers. Then pull out the 5 cups of water (freezer, fridge, bottled, sun heated, and sink).

l. Distribute the Sea Turtle Study: Water Investigation worksheet to each student. Allow students to work in groups to take the temperature of the 5 cups of water. They should record the temperatures on the worksheet. **Application: Promotes engagement, Hands-on)**

m. When everyone has the temperatures recorded, have a discussion of what is hot and what is cold. (The higher the number the warmer the water.) Determine which of the temperatures taken would be warm, cold, very cold. **(Scaffolding: Comprehensible input)**

n. Then have students will complete the 2 sentences on their worksheet. **(Assessment: Written)**

Elaborate:

o. Read aloud the story Where Should Turtle Be? By Susan Ring. Discuss turtle's environment.

p. Review yesterday's water investigation and discuss how sea turtles live in an ocean environment. However some things in the water don't belong there. Have students create a list of items that should not belong in the ocean that could harm sea turtles. (Plastic, bottles, fishing nets, etc.)

q. Have students return to their 7 turtle groups and give each group a bucket/tub full of water. Within the water have the plastic boats, sea animals, and various other items that do and don't belong in the ocean.

r. Inform students that their buckets are their oceans. They need to pull out the items that can harm their sea turtle. When someone in the group pulls out an item, they need to tell their group why they pulled it out. This sentence frame should be posted on the board to encourage student talking. (I pulled out _____ because _____.) **(Assessment: Group)**

s. After they have had time to pull items and orally use the sentence frame above, call on 3-4 students to share aloud what they pulled out and why they pulled it out using the same sentence frame.

(Integrating Process: Listening and Speaking)

Evaluate:

t. Inform students that they are now going to take action and protect our sea turtles. They will create a written advertisement to show people how to save the turtles. Their advertisement will have two sentences on it. The kind of sea turtle is endangered. You can help by at least 2 ways. Post the sentence frames so they can copy them. **(Scaffolding: Guided practice)**

u. Show them Sample Advertisements.

(Scaffolding: Modeling)

v. Pass out art supplies. Give students time to create their advertisements. **(Assessment: Individual or Group, Written)**

Assessment

Science and Writing

The Sea Turtle Study: Water Investigation Worksheet can be graded for complete sentences on what water would and would not be good for their turtle. Mastery will be considered 100% on having accurate and complete sentences.

Geography

The table top and individual maps can be graded for correctly locating the 7 species of turtles. (Allow for turtles to be anywhere in the correct ocean not necessarily near the coast lines as should be expected). Mastery will be considered 5 of the 7 turtles are in the correct oceans.

Writing

The sea turtle advertisements will be graded for completeness, grammar, and accuracy using the Sea Turtle Advertisement Scoring Guide. Mastery will be considered 24 points or higher.

Reading

The Vocabulary Test can be given to assess language acquisition. Master will be considered 80% or higher.

Extensions

Students can display their posters around school and share with others.

Sources

Where Should Turtle Be? By Susan Ring :
https://www.amazon.com/Where-Should-Turtle-Susan-Ring/dp/160718608X/ref=sr_1_1?ie=UTF8&qid=1530605453&sr=8-1&keywords=where+should+turtle+be

Small World map

<http://geoalliance.asu.edu/sites/default/files/maps/World%20Continents.pdf>

World map (color) with oceans from Arizona Geographic Alliance (needs to be assembled)

Salvation of the Sea Turtles: Investigating an Endangered Species

<http://geoalliance.asu.edu/sites/default/files/maps/world-map-color-tabletop.pdf>

Articles summarized from National Geographic:
<https://www.nationalgeographic.com>

Endangered Ocean Life—Sea Turtles, Endangered Species

<https://www.youtube.com/watch?v=sbxKh78zw3o>