

Sea Turtle Rescue Round-up

Author:	Tricia LeBlanc
Organization:	Audubon Aquarium of the Americas
Subject area	Science
Grade	3-8
Lesson Length	45 minutes



Focus/Overview: Students will play a game to explore the health problems endangered sea turtles face as a result of the spill, and to learn about the methods used to care for them.

Student Learning Objective(s):

The students will....

- ... learn about the health issues rescued turtles can face as they come in contact with oil from a spill.
- ... become familiar with what is involved in rehabilitating sea turtles.

Louisiana SCIENCE Grade Level Expectations

GRADE LEVEL	TARGET GLEs
3: Inquiry GLE 1 4: Inquiry GLE 1	Ask questions about objects and events in the environment (e.g., plants, rocks, storms) (SI-E-A1)
3: Inquiry GLE 14 4: Inquiry GLE 14	Identify questions that need to be explained through further inquiry (SI-E-B1)
3: Inquiry GLE 7	Use the five senses to describe observations (SI-E-A3)
3: Inquiry GLE 11	Combine information, data, and knowledge from one or more of the science content areas to reach a conclusion or make a prediction (SI-E-A5)
5: GLE 49	Identify and give examples of pollutants found in water, air, and soil (SE-M-A3)
5-8: Inquiry GLE 11	Construct, use, and interpret appropriate graphical representations to collect, record, and report data (e.g., tables, charts, circle graphs, bar and line graphs, diagrams, scatter plots, symbols) (SI-M-A4)
5-8: Inquiry GLE 12	Use data and information gathered to develop an explanation of experimental results (SI-M-A4) 12Use data and information gathered to develop an explanation of experimental results (SI-M-A4)
5-8: Inquiry GLE 13	Identify patterns in data to explain natural events (SI-M-A4)

Ocean Literacy Principles

5. The ocean supports a great diversity of life and ecosystems.

a. Ocean life ranges in size from the smallest virus to the largest animal that has lived on Earth, the blue whale.

6. The ocean and humans are inextricably interconnected.

b. From the ocean we get foods, medicines, and mineral and energy resources. In addition, it provides jobs, supports our nation's economy, serves as a highway for transportation of goods and people, and plays a role in national security.

e. Humans affect the ocean in a variety of ways. Laws, regulations and resource management affect what is taken out and put into the ocean. Human development and activity leads to pollution (such as point source, non-point source, and noise pollution) and physical

modifications (such as changes to beaches, shores and rivers). In addition, humans have removed most of the large vertebrates from the ocean.

g. Everyone is responsible for caring for the ocean. The ocean sustains life on Earth and humans must live in ways that sustain the ocean. Individual and collective actions are needed to effectively manage ocean resources for all.

Materials needed (list quantities per student or group)

- Game chips (10 of each color per student)
You can use red, yellow, and green poker chips, M&Ms or pieces of construction paper (the color of the “chip” is the key element used in the game)
- Game cards – one set per group of students (**Blackline Master #1**, attached)
- Small prizes for winners (optional).

Background Information

The Louisiana Marine Mammal and Sea Turtle Rescue Program has been engaged in rescuing marine mammals (porpoises, manatees, etc.) as well as sea turtles since 1993. In the state of Louisiana the program is coordinated by the Audubon Aquarium of the Americas. These trained Audubon staff and volunteers respond to turtle strandings all year long, and rehab turtles and marine mammals that are stranded, or in some way need assistance and medical attention. In the Deepwater Horizon event, LMMSTRP volunteers and Audubon staff cleaned turtles caught up in oil spills and provided food and housing for them until they are well enough to be released back into the ocean. It is estimated that it takes around \$5,000 to pay for the equipment, supplies, medicine and veterinary staff time to help one turtle recover. To read more about this program, visit the Audubon Institute’s website about this important project (<http://www.auduboninstitute.org/about/conservation/lmmstrp>)

If You Encounter a Live Beached Marine Mammal or Sea Turtle

- IMMEDIATELY call 1-866-557-1401 and tell stranding personnel about a live animal stranding and give a precise location.
- DO NOT RETURN THE ANIMAL TO THE WATER.
- Keep people and pets away from it until professional help arrives.
- Keep the animal cool and wet during hot months by splashing water onto the skin, but AVOID getting water in the blowhole. In the cold winter months shield the animal from the wind.
- If it is a dolphin apply a wet cloth to the animal, taking care not to cover the blowhole, dorsal fin, flippers or tail.
- If it is a sea turtle apply a wet cloth over the shell but do not cover the animal’s head.
- Keep your hands away from its mouth, and keep your body away from its tail section.

If You Encounter A Dead Marine Mammal or Sea Turtle

- Call 1-866-557-1401 to report the deceased animal and give the general location.
- Leave the carcass just as you found it—do not touch it or remove any parts of the animal.
- If the animal has been spray painted with bright orange X, the animal has already been reported to authorities and samples have been taken. You do NOT need to call to report it. Leave it where you found it.

(Source: <http://www.auduboninstitute.org/about/conservation/lmmstrp>)

Additional background information on the importance of sea turtles to our oceans can be found in the booklet published by Oceana, **Why Healthy Oceans Need Sea Turtles** (<http://na.oceana.org/en/news-media/publications/reports/why-healthy-oceans-need-sea-turtles-the-importance-of-sea-turtles-to-marine-ecosystems>; 20 pages, 4.3M)

Advance Preparation

1. Break up the class into small groups of 4-6 students each. Copy enough cards to have one complete deck per group. Some cards will have multiples for each deck. The card template (**Blackline Master #1**) is included at the end of this lesson. The four pages make one complete deck. Laminate the cards or print them on cardstock to make them sturdier and reusable. To make the cards double sided (optional), you can use the turtle templates (**Blackline Master # 2**).
2. Gather red, yellow and green game pieces (chips, M&Ms or cut out colored paper chips). You will need ten of each color per student plus extras.
3. Downloaded and/or run off a copy of Oceana's *Why Healthy Oceans Need Sea Turtles* (<http://na.oceana.org/en/news-media/publications/reports/why-healthy-oceans-need-sea-turtles-the-importance-of-sea-turtles-to-marine-ecosystems>; 20 pages, 4.3M) This booklet has excellent information about turtle life cycles and habitats and is filled with awesome colored pictures. Show your students turtle pictures and share some of the information using an Infocus Projector or Elmo Projector.

Procedure

Engage

1. Create a classroom KWL chart with three columns for the entire class to complete. Label them "What do I know? What do I want to know? What have I learned?" Tell students they are going to learn about the dangers sea turtles face from oil spills, but before they do, they need to complete the first two portions of the chart.
2. The teacher can gather information or have students do their own research to find out about rescue efforts in the Gulf to save sea turtles affected by the oil spill. Oceana's Sea Turtle report can be used (see attached). Other sources can include Audubon Nature Institute, The Sea Turtle Conservancy, and NOAA. Just be sure your materials have reliable information from established, credible scientific sources.
3. Review research materials with students and ask them to describe some of the health problems turtles might encounter if they were to come in contact with oil. Add or make adjustments to the KWL chart at this point if needed.

Explore/Explain

1. Explain to students that they are going to become sea turtles that have been oiled by the Deepwater Horizon blow-out. They are going to experience what these turtles go through, and how they are rehabilitated by playing a game.
2. Tell students that at places like Audubon Aquarium of the Americas, turtles are triaged, treated for immediate health issues, monitored for any health problems that might develop over time, and then maintained until they can be released back into the wild. Audubon uses a system of colors to identify where turtles are in this process:

Red Zone: Sea turtles in this zone have just come in from the wild and are usually covered in oil, sometimes on the inside as well as the outside. When they arrive, veterinarians assess their health, they are scrubbed down, and their mouth and eyes are swabbed with a mayonnaise mixture to remove oil trapped there. They are also given medicines like antibiotics to help them avoid infections that can develop. The turtles are also given vitamins and fluids to help them get stronger and begin a treatment of being fed a mixture of mayonnaise and cod liver oil. This mixture helps them get rid of any oil they may have ingested that can harm their internal organs.

Yellow Zone: Once turtles have been cleaned, and seem to be stabilizing, they are moved into the yellow zone. Turtles in the yellow zone continue to receive antibiotics, vitamins, fluids and the mayonnaise mixture for as long as the vet staff feels it is needed. They may also continue to receive treatment for any other

injuries that they may have incurred while out in the wild. In the yellow zone, turtles are still monitored very closely for any signs of recovery or further illnesses.

Green Zone: Turtles in the green zone have fully recovered from any injuries or illness due to the oil, and are eating and swimming well. These turtles are ready to be released back into the wild.

3. Explain the following rules of the game:
 - a. The game consists of colored chips or game pieces of some kind (whatever you prefer to use). Chips are red, yellow, and green in color. The game also includes cards – these cards describe things that can happen to sea turtles affected by oil. Some cards describe negative impacts of oil and health hazards, and some cards describe how rescuers help turtles to recover. The cards should be well-shuffled before beginning the game.
 - b. The object of the game is to become a healthy turtle. To do this the turtle must make it to the green zone by collecting all green chips. The first player to collect all green chips is the winner. They are a healthy recovered “turtle” that has made it to the green zone is ready for release.
 - c. Break students into small groups of 4-6 players. Each player begins the game with 10 red chips. Each group receives a deck of cards and a mixture of red, green, and yellow chips. The cards and extra chips are placed in a pile in the center of the group.
 - d. Groups can draw straws, roll dice, or pick numbers to determine who begins, and the group will take turns clockwise from that person on each round.
 - e. On each turn, students will select a card, read the card aloud to the group, and do what the card says. Each card instructs the player to exchange some of their chips for chips from the middle pile. At all times all players should have 10 chips, no more or no less. If all cards have been used but there is still no winner. Reshuffle the cards and use them again. The first person to get their turtle into the green zone and ready for release is the winner. Continue to play the game until all turtles make it to the green zone.

4. Once the game has been played and all groups have a winner, distribute prizes if you choose. Afterward, review with students what happened to them as they made their way to the green zone. Ask them to discuss the cards they selected, and describe some of the problems and advantages they may have encountered as they attempted to recover from the oil. Finish the discussion by asking students to review and complete the KWL chart with any other information. As this chart is being completed, the “Want to know” section should get smaller and the “Learned” section should increase in the amount of information added.

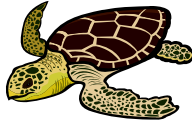
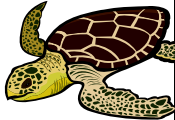
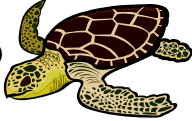
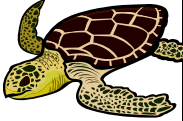
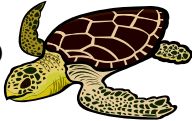
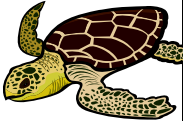
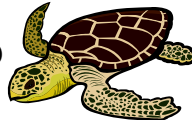
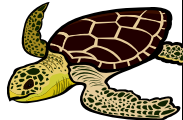
Expand

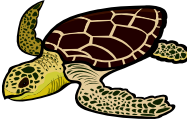
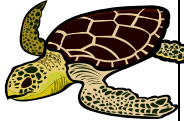
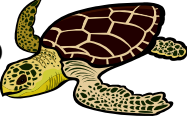
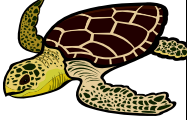
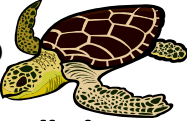
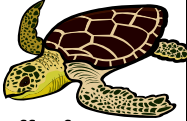

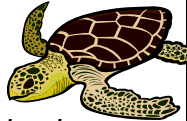
Incorporate a creative writing exercise, and have students write a news article about turtle rehabilitation or a fictional essay called “A Day in the Life of a Recovering Turtle”. Have students write an imaginative description of what the recovery process is like from the point of view of the turtle.

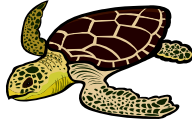
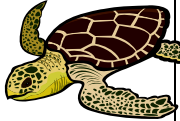
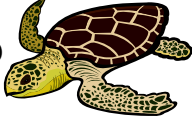
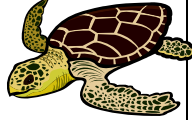
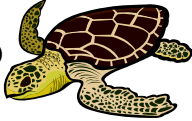
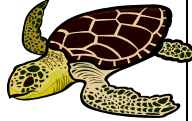
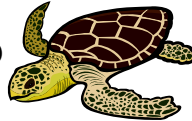
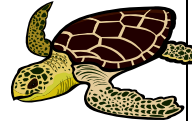
Evaluate

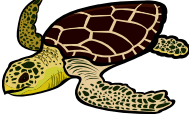
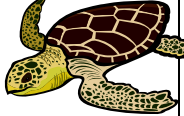
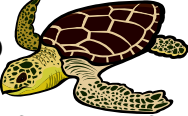
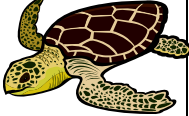
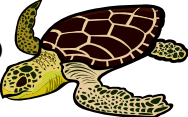
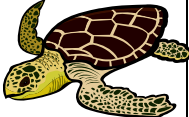
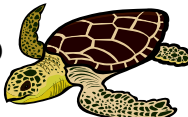
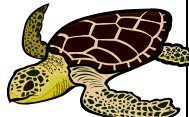
Check the written exercise for accuracy of the turtle’s experience throughout the rehabilitation process, including kinds of health problems and recovery procedures.

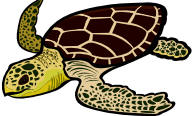
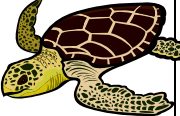
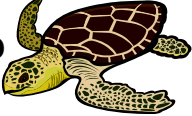
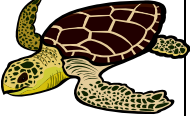
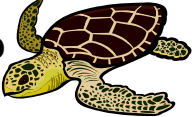
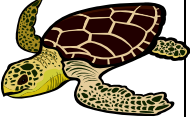
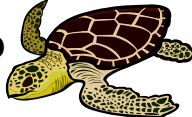
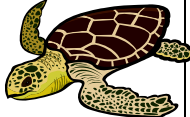
This lesson was developed by the Audubon Aquarium of the Americas in response to the BP Deepwater Horizon blowout in partnership with Louisiana teachers, Louisiana Sea Grant College Program, Louisiana Wildlife and Fisheries, LSU Department of Education Theory, Policy and Practice, UNO Pontchartrain Institute for Environmental Studies, LSU Agriculture Center, SELU Department of Teaching and Learning, Barataria Terrebonne National Estuary Program and Louisiana Universities Marine Consortium.

<p>Rescue Round-up </p> <p><i>You've swallowed some of the oil you swam through as you surfaced to breathe.</i></p> <p>Exchange 3 chips for 3 RED chips</p>	<p>Rescue Round-up </p> <p><i>You've swallowed some of the oil you swam through as you surfaced to breathe.</i></p> <p>Exchange 3 chips for 3 RED chips</p>
<p>Rescue Round-up </p> <p><i>You've swallowed some of the oil you swam through as you surfaced to breathe.</i></p> <p>Exchange 3 chips for 3 RED chips</p>	<p>Rescue Round-up </p> <p><i>The Vet feeds you a mayonnaise mixture that helps you pass the oil you swallowed out of your system.</i></p> <p>Exchange 2 chips for 2 YELLOW chips</p>
<p>Rescue Round-up </p> <p><i>The Vet feeds you a mayonnaise mixture which helps you pass the oil you swallowed out of your system.</i></p> <p>Exchange 2 chips for 2 YELLOW chips</p>	<p>Rescue Round-up </p> <p><i>The Vet feeds you a mayonnaise mixture which helps you pass the oil you swallowed out of your system.</i></p> <p>Exchange 2 chips for 2 YELLOW chips</p>
<p>Rescue Round-up </p> <p><i>The oil suppresses your immune system and you get an infection in your lungs.</i></p> <p>Exchange 3 chips for 3 RED chips</p>	<p>Rescue Round-up </p> <p><i>The oil suppresses your immune system and you get an infection in your lungs.</i></p> <p>Exchange 3 chips for 3 RED chips</p>

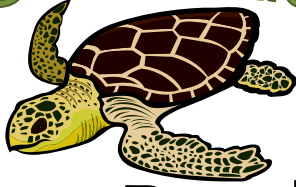
<p>Rescue Round-up </p> <p><i>The oil suppresses your immune system and you get an infection in your lungs.</i></p> <p>Exchange 3 chips for 3 RED chips</p>	<p>Rescue Round-up </p> <p><i>You get a shot of antibiotic medication to help you fight off infections.</i></p> <p>Exchange 2 chips for 2 YELLOW chips</p>
<p>Rescue Round-up </p> <p><i>You get a shot of antibiotic medication to help you fight off infections.</i></p> <p>Exchange 2 chips for 2 YELLOW chips</p>	<p>Rescue Round-up </p> <p><i>You get a shot of antibiotic medication to help you fight off infections.</i></p> <p>Exchange 2 chips for 2 YELLOW chips</p>
<p>Rescue Round-up </p> <p><i>The oil is hard to clean off of your eyes, making it hard for you to see.</i></p> <p>Exchange 3 chips for 3 RED chips</p>	<p>Rescue Round-up </p> <p><i>The oil is hard to clean off of your eyes, making it hard for you to see.</i></p> <p>Exchange 3 chips for 3 RED chips</p>
<p>Rescue Round-up </p> <p><i>The oil is hard to clean off of your eyes, making it hard for you to see.</i></p> <p>Exchange 3 chips for 3 RED chips</p>	<p>Rescue Round-up </p> <p><i>Your shell, skin and scales have been scrubbed clean by rehab workers.</i></p> <p>Exchange 2 chips for 2 YELLOW chips</p>

<p>Rescue Round-up </p> <p><i>Your shell, skin and scales have been scrubbed clean by rehab workers.</i></p> <p>Exchange 2 chips for 2 YELLOW chips</p>	<p>Rescue Round-up </p> <p><i>Your shell, skin and scales have been scrubbed clean by rehab workers.</i></p> <p>Exchange 2 chips for 2 YELLOW chips</p>
<p>Rescue Round-up </p> <p><i>You are doing a little better, but still not feeling well. The Vets continue to give you vitamins and fluids.</i></p> <p>Exchange 2 chips for 2 YELLOW chips</p>	<p>Rescue Round-up </p> <p><i>You are doing a little better, but still not feeling well. The Vets continue to give you vitamins and fluids.</i></p> <p>Exchange 2 chips for 2 YELLOW chips</p>
<p>Rescue Round-up </p> <p><i>You have just come in from the Gulf and you are covered in oil—inside and out.</i></p> <p>Exchange 5 chips for 5 RED chips</p>	<p>Rescue Round-up </p> <p><i>You have just come in from the Gulf and you are covered in oil—inside and out.</i></p> <p>Exchange 5 chips for 5 RED chips</p>
<p>Rescue Round-up </p> <p>Wild Card! Exchange 2 chips of any color with another player</p>	<p>Rescue Round-up </p> <p>Wild Card! Exchange 2 chips of any color with another player</p>

<p>Rescue Round-up </p> <p>Wild Card! Exchange 2 chips of any color with another player</p>	<p>Rescue Round-up </p> <p><i>Your system has been flushed of oil, and you are eating on your own and feeling much better.</i></p> <p>Exchange 3 chips for 3 GREEN chips</p>
<p>Rescue Round-up </p> <p><i>Your system has been flushed of oil, and you are eating on your own and feeling much better.</i></p> <p>Exchange 3 chips for 3 GREEN chips</p>	<p>Rescue Round-up </p> <p><i>You are on your way to recovery after receiving treatment. You are eating and swimming very well.</i></p> <p>Exchange 3 chips for 3 GREEN chips</p>
<p>Rescue Round-up </p> <p><i>You are on your way to recovery after receiving treatment. You are eating and swimming very well.</i></p> <p>Exchange 3 chips for 3 GREEN chips</p>	<p>Rescue Round-up </p> <p><i>You are on your way to recovery after receiving treatment. You are eating and swimming very well.</i></p> <p>Exchange 3 chips for 3 GREEN chips</p>
<p>Rescue Round-up </p> <p><i>You are completely recovered and ready to be released back into the wild!</i></p> <p>Exchange 5 chips for 5 GREEN chips</p>	<p>Rescue Round-up </p> <p><i>You are completely recovered and ready to be released back into the wild!</i></p> <p>Exchange 5 chips for 5 GREEN chips</p>

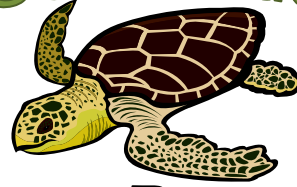
<p>Rescue Round-Up </p> <p><i>No significant change to your health. You need more rest and attention in the zone you are in.</i></p> <p>Skip a Turn</p>	<p>Rescue Round-up </p> <p><i>No significant change to your health. You need more rest and attention in the zone you are in.</i></p> <p>Skip a Turn</p>
<p>Rescue Round-up </p> <p><i>No significant change to your health. You need more rest and attention in the zone you are in.</i></p> <p>Skip a Turn</p>	<p>Rescue Round-up </p> <p><i>No significant change to your health. You need more rest and attention in the zone you are in.</i></p> <p>Skip a Turn</p>
<p>Rescue Round-up </p> <p><i>No significant change to your health. You need more rest and attention in the zone you are in.</i></p> <p>Skip a Turn</p>	<p>Rescue Round-up </p> <p><i>No significant change to your health. You need more rest and attention in the zone you are in.</i></p> <p>Skip a Turn</p>
<p>Rescue Round-up </p> <p><i>No significant change to your health. You need more rest and attention in the zone you are in.</i></p> <p>Skip a Turn</p>	<p>Rescue Round-up </p> <p><i>No significant change to your health. You need more rest and attention in the zone you are in.</i></p> <p>Skip a Turn</p>

Sea Turtle



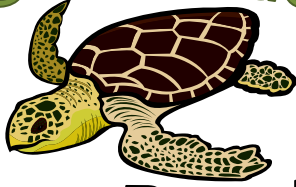
Rescue Round-Up

Sea Turtle



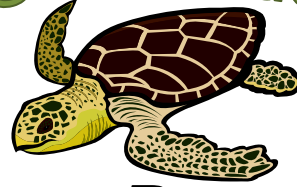
Rescue Round-Up

Sea Turtle



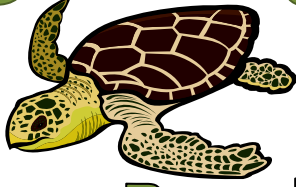
Rescue Round-Up

Sea Turtle



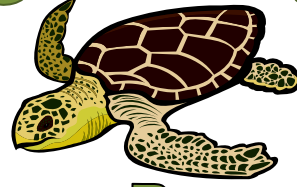
Rescue Round-Up

Sea Turtle



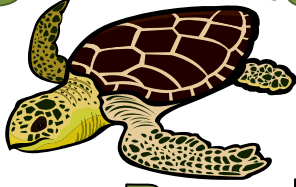
Rescue Round-Up

Sea Turtle



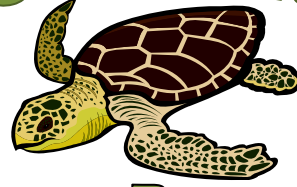
Rescue Round-Up

Sea Turtle



Rescue Round-Up

Sea Turtle



Rescue Round-Up