## SEA ME READ

VIRTUAL/OUTREACH/CLASSROOM   (GRADES PRE-K - 1)

Embark on an exciting reading adventure together about sea turtles and some of the challenges they come across. We will create a craft and read a book together with your class and opportunities to discuss our favorite parts, predict what might happen next and so much more. Books are also available to purchase to keep in your classrooms.

There are three book options:

1. "Turtle Trips" *The tale of a green turtle and his life in the bay*
   - Written and Illustrated by Sue Trew.
   Read about the sea turtle "Gus" and his every day adventures.
   Learn about how his life is being affected by many of the problems that are facing our oceans.

2. "Happy Hatchlings" *The tale of six happy hatchling turtles.*
   - Written and Illustrated by Sue Trew.
   Follow the adventures of 6 hatchling sea turtles as they emerge from their sandy nest and leave to explore our large oceans. Who will they meet and what will they see?

3. "Yoshi and the Ocean" *A Sea Turtle's Incredible Journey Home*
   - By: Lindsay Moore
   Based on a true story of a loggerhead sea turtle named Yoshi, who was released back into the wild and swam for days, for weeks, for months, for years across the wide ocean.

- NC State English language arts and science standard(s):
  - Kindergarten
    - RL.K.3: with prompting and support, identify characters, settings, and major events.
    - SL.K.2: Confirm understanding of a text read aloud or information presented orally or through other media by asking and asnwering questions about key details and requesting clarification if something is not understood.
  - 1st Grade
    - RL.1.1: Ask and answer questions about key details in a text.
    - RL.1.3: Describe characters, setting and major events in a story using key details.
    - RI.1.1: Ask and answer questions about key details in a text.
    - RI.1.2: Identify the main topic and retell key details of a text.
    - LS.1.1: Understand the basic needs of a variety of plants and animals in different ecosystems.
- Next generation science standard(s):
  - Kindergarten
    - K-LS1-1: Use observations to describe patterns of what sea turtles need to survive.
    - K-ESS3-3: Communicate solutions that will reduce the impact of humans on sea turtle populations.
  - 1st Grade
    - 1-LS1-2: Read texts and use media to determine patterns in behavior of parents and offspring of sea turtles that help offspring survive.
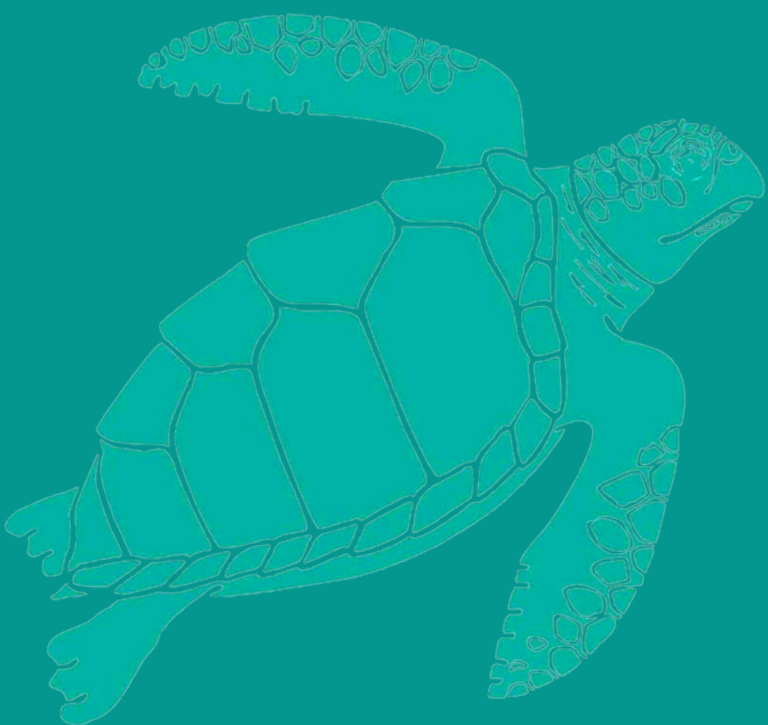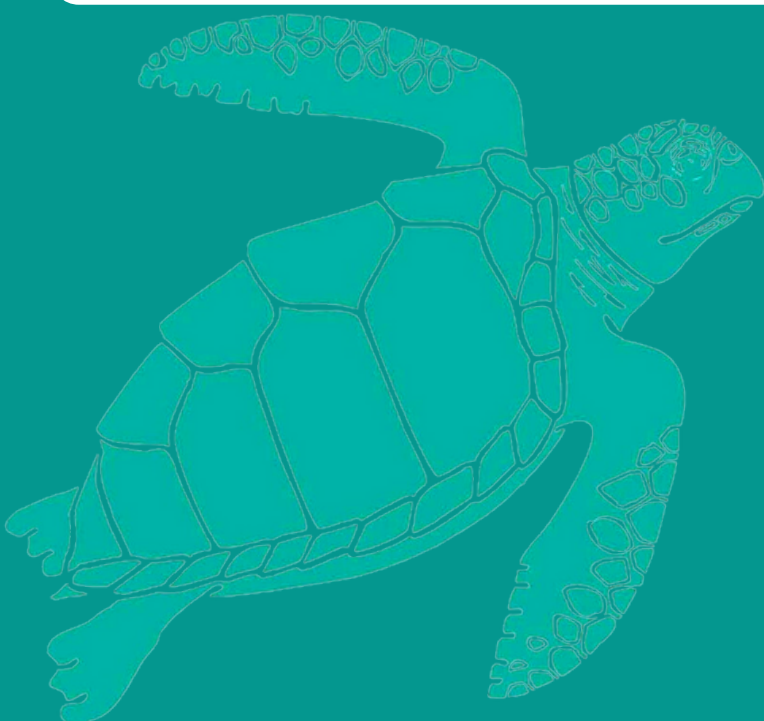
SAVING SEA TURTLES
OUTREACH/ONLINE ONLY   (Replacement for tours)   **(GRADES K - 12)**

Welcome to the enchanting world of North Carolina sea turtles and the incredible work of the Karen Beasley Sea Turtle Rescue and Rehabilitation Center! In this course, we will embark on a captivating journey to explore the various types of   sea turtles that call the North Carolina coastline their home and discover the vital   role played by the rescue center in their conservation. As we explore the different sea turtle species, we'll learn about their unique characteristics, nesting behaviors, migratory patterns, and the challenges they face in their natural habitats. But our journey doesn't end there. We'll also delve into the heartwarming work of the Karen Beasley Sea Turtle Rescue and Rehabilitation Center. This remarkable organization has been a beacon of hope for injured and sick sea turtles, providing them with expert care, nurturing, and rehabilitation. We'll learn about the dedicated team of professionals and volunteers who work tirelessly to rescue, heal, and release these majestic beings back into the wild.

- NC state science standard(s)
  - Kindergarten
    - PS.K.1: Understand how objects are described based on their physical properties and how they are used.
    - PS.K.2: Understand the positions and motions of objects and organisms observed in the environment.
  - 4th Grade
    - LS.4.1: Understand the effects of environmental changes, adaptations, and behaviors that enable organism to survive in changing habitats.
  - 5th Grade
    - LS.5.3: Understand some characteristics of an organism are inherited and other characteristics are acquired.
- Next Generation Science Standards
  - Elementary School
    - ESS3.C: Human Impacts on Earth Systems: Introduce the idea that human actions can affect the lives of sea turtles, such as pollution or litter that can harm their habitats.
  - Middle School
    - MS-LS1-4: Use argument based on emperical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.
  - High School
    - HS-LS2.A: Interdependent Relationships in Ecosystems: Explore the complex interactions between sea turtles and their habitats, including their role in maintaining ecosystem balance.
    - HS-LS2.C: Investigate how sea turtle populations can serve as an indicators of ecosystem health and discuss the implications of their decline.
    - HS-LS4.D: Biodiversity and Humans: Examine the impact of human activities on sea turtle populations, biodiversity, and ecosystem services, and discuss conservation strategies.
- Next Generation Science Standards (Crosscutting concepts)
  - Patterns: Discuss the patterns in sea turtle life cycles, their behaviors, and habitats, helping students recognize similarities and differences.
  - Cause and Effect: Introduce the concept of how actions like pollution or getting caught in fishing gear can affect sea turtles' lives.
  - Scale, Proportion, and Quanitity: Help students understand the size and scale of sea turtles compared to themselves and other animals.
  - Structure and Function: Discuss basic features of sea turtles, such as their shells, flippers, and adaptations that help them survive.

SEA TURTLE RESCUE
OUTREACH/CLASSROOM   **(GRADES K - 12)**

Welcome to our lesson on sea turtle strandings! In this short and informative session, we'll become marine biologists and explore the intriguing phenomenon of sea turtle strandings. We will learn what it means when a sea turtle is stranded, and the crucial steps we can take to help these remarkable creatures when they find themselves in distress. Join us as we delve into the world of sea turtle strandings and discover how we can be advocates for their well-being and conservation.

- NC state science standard(s)
  - LS.K.1.: Understand the characteristics of living organisms and nonliving things.
  - LS.4.1: Understand the effects of enviromental changes, adaptations, and behaviors that enable organisms to survive in changing habitats.
  - LS.5.3. Understand some characteristics of an organism are inherited and other characetristics are acquired.
  - LS.Bio.4: Engage in argument from evidence to evaluate various solutions to reduce the impact of human activities on biodiversity.
- Next Generation Science Standards
  - Elementary
    - LS1.A: Structure and Function: Discuss sea turtles physical characteristcs that help them survive in their environment.
    - LS2.C: Ecosystem Dynamics, Functioning, and Resilience: Explain how sea turtles are part of marine ecosystems and how their presence or absence can impact these ecosystems.
  - Middle School
    - MS-LS2.A: Interdependent Relationships in the Ecosystems: Investigate the role of sea turtles in marine ecosystems, their interactions with other organisms, and the impacts of their strnadings on these ecosystems.
  - High School
    - HS-LS2.A: Interdependent Relationships in Ecosystems: Invesitage the intricate relationships between sea turtles and other species in marine ecosystems, analyzing how strandings can disrupt these relationships.
    - HS-LS2.C: Ecosystem Dynamics, Functioning, and Resilience: Dive into the concept of ecological resilience and explore how sea turtle strandings can impact ecosystem stability and recovery.
    - HS-LS4.D: Biodiversity and Humans: Discuss the role of human activities, including pollution, habitat desctruction, and climate change, in sea turtle strandings and the broader effects on biodiversity.
- Next Generation Science Standards (cross-cutting concepts)
  - Patterns: Help students identify patterns in sea turtle behaviors, migration, and strandings to understand potential causes.
  - Cause and Effect: Explore the cause-and-effect relationship between human activities and sea turtle strandings.
  - Stability and Change: Discuss the stability of marine ecosystems and how sea turtle strandings can be considered indicators of change.

4 TURTLE TREK
OUTREACH/CLASSROOM   **(GRADES K - 12)**
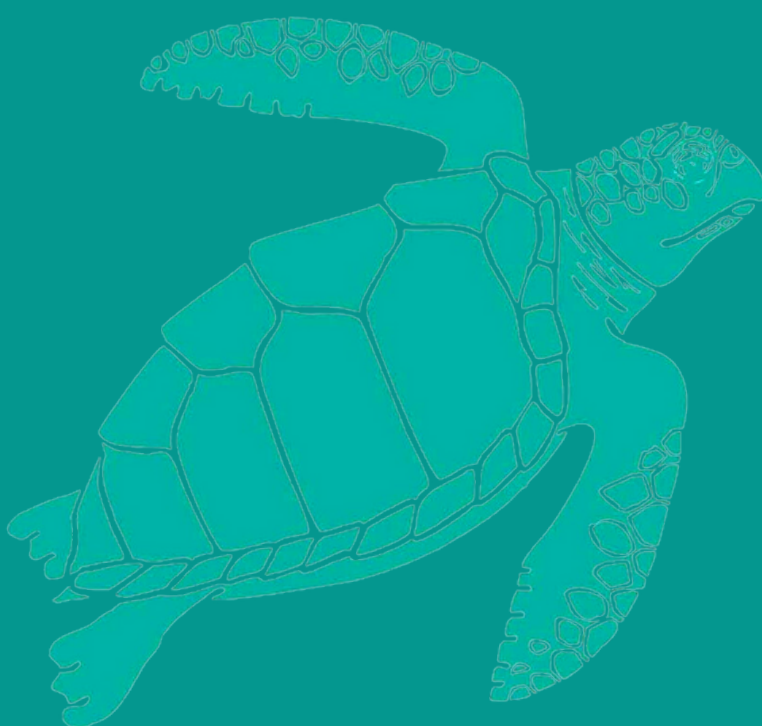
In this exciting course, we will dive deep into the captivating world of sea turtles and their incredible adaptations that have allowed them to survive and thrive in the vast oceans for millions of years, but especially their beaks and how they're used to eat the foods they prefer. Get ready for an educational journey as we explore the secrets of these ancient mariners and discover how they have evolved to conquer the challenges of their aquatic habitats. From shell design to navigation skills, join us on the "turtle Trek" to unveil the remarkable adaptations of sea turtles!

- NC State science standard(s)
  - LS.4.1: Understand the effects of environmental changes, adaptations, and behaviors that enable organisms to survive in changing habitats.
  - LS.8.3: Understand the evolution of organisms over time based on evidence and processes.
  - LS.Bio.9: Understand natural selection as a mechanism for biological evolution.

- Next Generation Science Standards
  - Elementary School
    - LS1.A: Structure and function: Introduce the concept that animals like sea turtles, have different body parts that help them survive in their environments.
  - Middle School
    - MS-LS1.A: Structure and Function: Explore how different sea turtle adaptations, such as their flippers, shells, and respiratory systems, help them survive in their environments.
  - High School
    - HS-LS1.A: Structure and Function: Explore the anatomical, physiological, and behavioral adaptations of sea turtles that allow them to survive in their diverse habitats and fulfill specific roles within ecosystems.
    - HS-LS2.A: Interdependent relationships in Ecosystems: Investigate how sea turtle adaptations contribute to their interactions with other species and their roles within marine ecosystems
- Next Generation Science Standards (crosscutting concepts)
  - Patterns: Identify patterns in sea turtle adaptations across different species and habitats, and discuss how these patterns help them adapt to specific environmental conditions.
  - Cause and Effect: Explore the cause-and-effect relationships between environmental factors, natural selection, and the development of particular adaptations in sea turtles.
  - Structure and Function: Examine how specific adaptations of sea turtles, such as their streamlined bodies or specialized diets, serve particular functions.
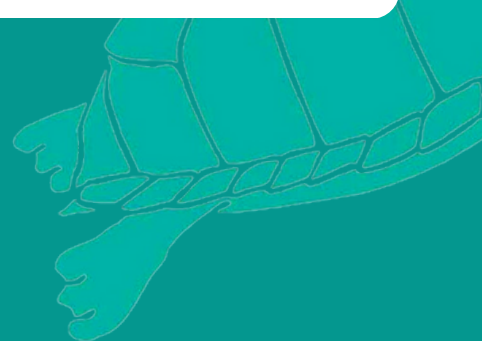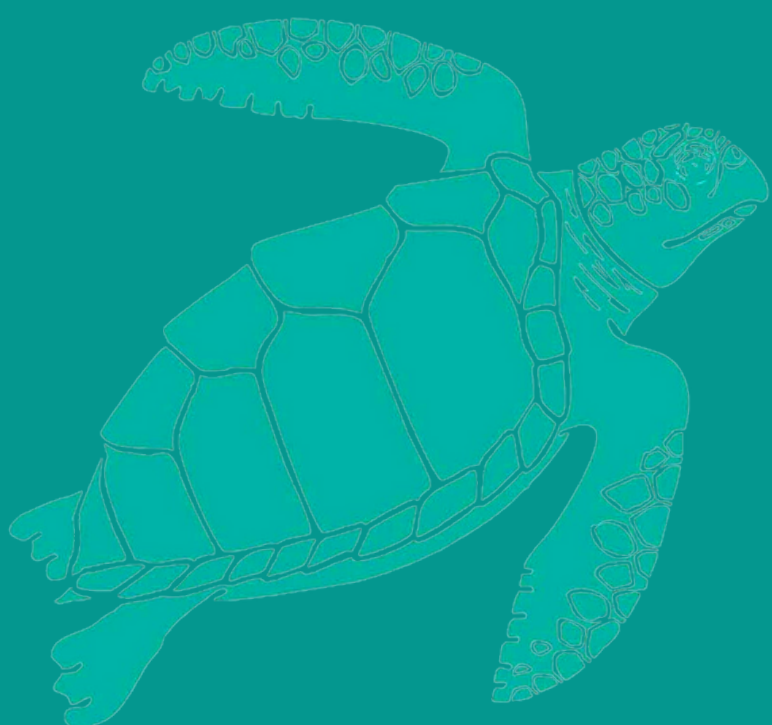
SEA TURTLE SUPPER
OUTREACH/CLASSROOM/VIRTUAL

(GRADES 1 - 12)

Join us for "Sea Turtle Supper" as we unravel the connections between sea turtles and their diverse range of prey, discovering the vital role they play in maintaining a balanced and thriving oceanic food web. Get ready to explore the delicious delicacies that sea turtles munch on and how they contribute to the health of our oceans.

- NC State science standard(s)
  - LS.5.2.2: Use models to classify organisms within an ecosystem according to the function they serve: producers, consums, or decomposers
  - LS.6.2.1: Use models to summarize how energy derived from the sun is used by plants to produce sugars and is transferred to consumers and decomposers.
  - LS.8.2: Understand how organisms interact with and respond to the biotic and abiotic factors in their environment.
  - LS.Bio.4: Analyze the relationships between matter and energy within ecosystems.
- Next Generation Science Standards
  - Elementary School
    - LS1.C: Organization for matter and energy flow in Organisms: Introduce the concept that anials including sea turtles, need food to live and grow, and they get energy from their food.
  - Middle School
    - MS-LS2.A: Interdependent Relationships ni Ecosystems: Explore the interconnections in the sea turtle food chain and discuss how changes in one species can affect others.
    - MS-LS2.B: Cycles of Matter and Energy Transfer in Ecosystems: Discuss how energy flows throug the sea turtle food chain and how matter is sycled through various organisms.
  - High School
    - HS-LS2.A: Interdependent Relationships in Ecosystems: Explore the interconnected relationships in the sea turtles food chain and discuss how changes in one species can impact others.
    - HS-LS2.c: Ecosystem Dynamics, Functioning, and Resilience: Examine the role of sea turtles within marin ecosystems and discuss how disruptions in the food chain can affect ecosystem dynamics.
    - HS-LS2.D: Social Interactions and Group Behavior: Explore social interactions and group behaviors among species in the sea turtle food chain, such as predator-prey relationships.
- Next Generation Science Standards (Crosscutting concepts).
  - Patterns: Explore patterns of energy transfer and consumption within the sea turtle food chain, considering the roles of primary producers, consumers, and decomposers
  - Cause and Effect: Analyze how changes in population sizes within the sea turtle food chain can lead to cascading effects on other species and the overall ecosystem.
  - Energy and Matter: Discuss the flow of energy and matter through the sea turtle food chain, emphasizing how energy is transferred and transformed between organisms.
  - Stability and Change: Examine how disturbances in the sea turtle food chain, such as overfishing or pollution, can disrupt ecosystem stability and lead to changes in species interactions.
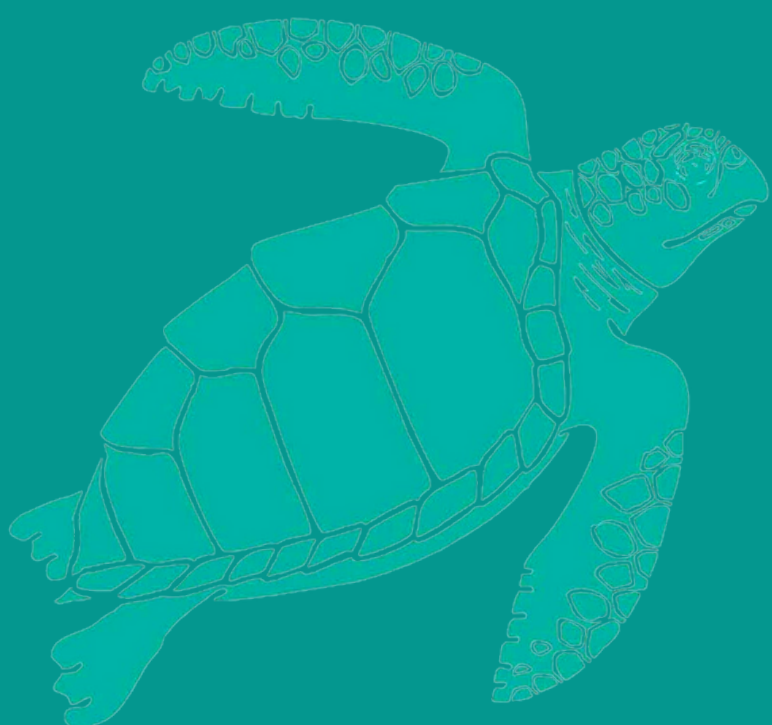
From the sandy shores where females lay their precious eggs to the thrilling hatching of adorable hatchlings, we'll follow the incredible journey of sea turtles from birth to adulthood. We'll learn about the nesting habits of different sea turtle species, the challenges they face during this critical stage, and the vital importance of preserving their nesting habitats. Recreate a sea turtle nest excavation and find the hatchling success rate. Get ready to be amazed by the wonders of sea turtle nesting and gain a deeper appreciation for the remarkable life cycle of these fascinating creatures.

- NC State science standard(s)
  - Elementary School
    - LS.2.1.1: Use models to summarize the life cycle of animals including: birth, developing into an adult, reproducing, aging and death.
    - ESS.4.3.3: Obtain, evaluate and communicate information to compare solutions to environmental problems impacting plants and animals.
    - LS.5.3.1: Ask questions to compare instincts and learned behaviors.
  - Middle School
    - LS.6.2.2: Analyze and interpret data to predict how the abiotic factors and biotic factors affect the ability of organisms to grow and survive in different biomes.
    - LS.8.2.1: Carry out investigations to explain how changing biotic and abiotic factors such as food, water, shelter, and space affect populations in an ecosystem
- Common Core Math
  - Middle School
    - NC.6.RP.4: Use ratio reasoning to solve real-world and mathematical problems with percents by: Understanding and finding a percent of a quantity as a ratio per 100. (grade 6)
    - NC.7.RP.2: Recognize and represent proportional relationships between quantities. a. Understand that a proportion is a relationship of equality between ratios. o Represent proportional relationships using tables and graphs.(grade 7)

- Next Generation Science Standards
  - Elementary School
    - 3-LS1-1 (Life Science - From Molecules to Organisms: Structures and Processes) Performance Expectation: Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.
    - **3-LS4-3** (Life Science - Biological Evolution: Unity and Diversity) Performance Expectation: 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.
    - **4-LS1-1** (Life Science - From Molecules to Organisms: Structures and Processes) Performance Expectation: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
    - **5-ESS3-1** (Earth and Space Science - Earth and Human Activity) Performance Expectation: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
  - Middle School
    - MS-LS1-5: Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
    - MS-LS2-1: Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.
    - MS-LS2-2: Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
    - MS-LS2-4: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

7 SEA TURTLE PROSTHETIC PARTY
OUTREACH/CLASSROOM **(GRADES 3 - 12)**

Dive into the fascinating world of sea turtle prosthetics in our course that's more fun than a sea turtle's day at the beach! Imagine sculpting the perfect flipper accessory for these shelled superheroes, giving them the power to glide through the ocean with style. From learning the secrets of sea turtle biology to getting your hands wet in the art of prosthetic design, this course is a shell of a good time. You'll discover that saving the day for our flippered friends can be as rewarding as catching a wave, and by the end of the course, you'll be a certified sea turtle superhero

- NC State science standard(s)
  - Elementary School
    - LS.3.1.1: Use models to infer the functions of the skeletal and muscular systems.
    - LS.4.1.1: Use models to explain that plants and animals have external structures that function to support survival.

- Next Generation Science Standards
  - Elementary School
    - 3-5-ETS1-1: Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost
  - Middle School
    - MS-ETS1-1: Define criteria and constraints of a design problem with sufficient precision to ensure a successful solution taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
    - MS-ETS1-2: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
    - MS-ETS1-3: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria and constraints of the problem.
  - High School
    - HS-ETS1-3: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

8 SEA TURTLE CAREERS COURSE
OUTREACH/CLASSROOM/VIRTUAL **(GRADES 9 - 12)**

Dive into a world of wonder and conservation with our exciting course on careers with sea turtles. Explore the majestic realm of these ancient marine creatures and discover the myriad opportunities to make a difference in their lives. Whether you aspire to become a marine biologist, a wildlife conservationist, or simply have a deep passion for protecting our oceans, this course will unveil a sea of possibilities for you to explore. Join us in this journey of discovery and become a champion for the preservation of these magnificent sea turtles and their oceanic homes.

More courses to come!

If you have a subject you'd like to have covered, please contact us!

For more information please contact Kimberly Escalante at education@seaturtlehospital.org or to schedule a program, please fill out the form on our website.