



Turtle Trek

Adaptation Adventures of Sea Turtles

Essential Question:

- What adaptations do sea turtles have? And how do they use them to survive?

Audience: Grades 6 - 8

Learning Objective(s):

- Learn what an adaptation is and how they improve an animal's ability to survive - specifically sea turtles.

North Carolina Standards:

8th Grade

- LS.8.3: Understand the evolution of organisms over time based on evidence and processes.

Next Generation Science Standards:

- MS-LS4-4: Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.
- MS-LS4-2: Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.



Background Information:

Every organism has a variety of adaptations that are suited to its specific living condition.

Adaptations are the behaviors and physical characteristics that allow organisms to live successfully in their environments. All animals must be able to obtain food and water, protect themselves from harm, withstand the climate and reproduce young so that the species doesn't become extinct. An adaptation can be a body part, body covering, body function, or behavior that increases an animal's chances of survival in a particular place.

Imagine you are traveling to a far-off land where everything is different from what you're used to. What would you do to survive and feel comfortable? You might need to adjust to the weather, the language, and the culture. Similarly, animals and plants face these challenges too, but they can't change as quickly as we can. Instead, they have adapted over many generations to fit into their specific habitats like true masters of survival.

Animals develop adaptations over time to match the environment where they live. The process of **natural selection** means that animals with **traits** that help them survive are more likely to live and pass on those traits to their **offspring**. It takes many generations for adaptations to develop.

But, why is understanding adaptations crucial? Well, it teaches us not only about the natural world but also about the delicate balance of ecosystems. By learning how animals and plants adapt, we can appreciate the importance of preserving their habitats and the rich biodiversity of our planet.



Vocabulary

- Adaptations:
- Natural Selection:
- Traits:
- Characteristic:
- Habitat:
- Organism:
- Offspring:
-

Questions

1. What kinds of things might help an animal survive well in its environment?

2. What kinds of adaptations do you think sea turtles have? Name a few.

Pre-Test:

What do you already know?

Directions:

Match the sea turtle species- looking closely at their beaks - to the food you think they may eat.

Kemp's Ridley



Leatherback

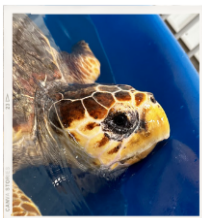


Photo Credit: NOAA

Hawksbill



Loggerhead



Green

Sea grass

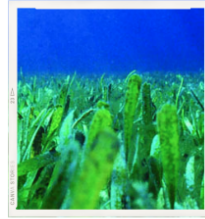


Photo Credit: NOAA

Coral/Sponges



Photo Credit: NOAA

Shrimp



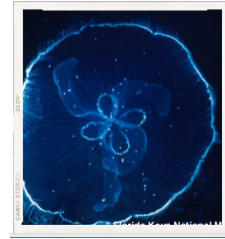
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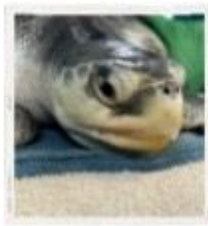


Photo Credit: NOAA

Jellyfish



Pre-Content - Answer sheet



Kemp's Ridley



Photo Credit: NOAA

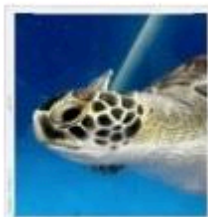
Leatherback



Hawksbill



Loggerhead



Green



Photo Credit: NOAA

Sea grass



Photo Credit: NOAA

Coral/Sponges



Photo Credit: NOAA

Shrimp



Photo Credit: NOAA

Conch



Sea Jelly



Vocabulary

- **Adaptations:** The behaviors and physical characteristics that allow organisms to live successfully in their environments.
- **Natural Selection:** The process whereby organisms that are better adapted to their environment, tend to survive and produce more offspring.
- **Traits:** Specific characteristics of an individual (i.e. eye color/height)
- **Characteristic:** Qualities or features that describe the distinct features of an individual organism or of a group.
- **Habitat:** The natural home or environment of an organism.
- **Organism:** Any living thing
- **Offspring:** an animal's young.

Questions

1. What kinds of things might help an animal survive well in its environment?
 - Camouflage
 - Echolocation
 - Color
 - Ear shape
 - Eye structure
 - Legs
 - Webbed feet
 - Prey defense mechanisms
 - Venom
 - Speed
 - So many more!
2. What kinds of adaptations do you think sea turtles have? Name a few.
 - Flippers - front to swim, rear to turn
 - Beaks- different shapes dependent on what they like to eat.
 - Carapace shape
 - Carapace color
 - Nails on front flippers
 - Carapace and plastron



Post- Content - For teachers

Ideas for your students after doing the program

- Have students do an adaptation research project. Either of the different species of sea turtles or an animal of their choosing. Present with a presentation or written paper.
- Have students create their own sea turtle with different adaptations. They must be able to explain why they gave the sea turtle they created each adaptation and how it will improve their likelihood of survival. (ie. venom, size, shape, beak, eyes, legs).