WAVE on Wheels Outreach

Turtle Time Presentation

Grades K-2

Time requirement

1 Hour

Group size and grade

Up to 50 students maximum

Materials

3 species of turtle & tortoise
Turtle Artifacts Bin
WAVE Tablecloth

Goal

Through live turtle and tortoise encounters, students will be excited, engaged, and educated about the wonders of turtle life and the importance of conservation.

Objectives

1. Students will be able to identify what type of animal a turtle is.
2. Students will be able to identify the difference between a turtle and a tortoise.
3. Students will be able to identify 2 adaptations a turtle has.
4. Students will be able to identify what turtles and tortoises eat.
5. Students will be able to identify what animals eat turtles and tortoises.
6. Students will be able to discuss how they can help save turtles and tortoises in their backyard and the ocean.

Theme

Turtles and tortoises have similar but distinct adaptations to survive in their environment.

Kentucky Core Academic Standards – Science

Kindergarten – *Interdependent Relationships in Ecosystems: Animals, Plants, and Their Environment*

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

LS1.C: Organization for Matter and Energy Flow in Organisms.

K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living lings in the local environment.

ESS3.A: Natural Resources

ESS3.C: Humans Impacts on Earth Systems

First Grade – *Structure, Function, and Information Processing*

1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

LS3.B: Variation of Traits

Second Grade – *Interdependent Relationships in Ecosystems*

2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

LS4.D: Biodiversity and Humans

Background

Turtles are Reptiles

Turtles and tortoises are reptiles. Reptiles are cold-blooded or ectothermic animals, which means they depend on external sources to maintain their body temperatures. Scales or scutes protect reptiles from abrasions and loss of body moisture. Reptiles breathe air through lungs. Most reptiles hatch from eggs which are typically covered in soft, leathery shells. Reptiles include crocodilians, snakes, turtles, and lizards.

A Turtle or a Tortoise

All tortoises are turtles, but not all turtles are tortoises. Tortoises are a specific group within the larger turtle classification. Tortoises and turtles are similar; however, a turtle lives mainly in water and a tortoise lives on land. Since turtles spend most of the time in water they have webbed feet for swimming. Turtles can live in the ocean or in freshwater, like ponds and lakes. Tortoises do not have webbed feet since they walk on land. Another difference is their shells. A tortoise shell is large and dome-shaped while most turtle shells are flat and hydrodynamic.

Turtle (including Tortoises unless Specifically Stated) Adaptations

Turtles have a shell that is made up of 59-61 bones covered by plates called scutes which are made of keratin, like human fingernails and hair. They cannot crawl out of the shell because the spine and rib cage are connected to the shell. They also feel pain and pressure through the shell as nerves run throughout the shell. In addition to the protection of their shell, various types of turtles have a variety of defensive adaptations. Box turtles have a hinged shell capable of encapsulating their entire body, while many tortoises have bulky, tough, and sometimes spurred front legs that will protect their head once pulled into the shell. Snapping turtles have a smaller plastron but are more aggressive, and some turtles, like musk turtles, can emit a foul smelling odor.

Turtle Diets

Most turtles are omnivores, which means they eat plants and animals, such as fish, snails, worms, and insects. Most tortoises are herbivores eating grasses, leafy plants, flowers, fruits, and even cacti. Some sea turtles prefer eating jellyfish. Turtles lack teeth but have a large beak specifically shaped to their dietary needs.

Turtle Predators

Sea turtles are mostly prayed on by large sharks, for example tiger sharks. Some turtles can be eaten by crocodilians, canines, cats, raccoons, and types of birds that will pick up smaller turtles and drop them onto a rock which breaks the shell so they can eat them. One of the biggest predators of all species of turtle is humans.

Turtle Conservation

It is important to dispose of trash properly. Recall that turtles have small brains and can easily be confused by food items. Sea turtles eat jellyfish, and if a plastic bag gets into the water it resembles a jellyfish. The turtle may think it is food and consume it causing severe issues to their body. It is also important to avoid bright lights by beaches because sea turtle hatchlings use the light of the moon to find water. They will seek to brightest horizon which may sometimes be in the wrong directions thanks to human influences.

Vocabulary

Adaptation – the process by which an animal or plant species becomes fitted to its environment through body parts and behaviors
Camouflage - concealing coloration, background matching in animals, the use of biological coloration to mask location, identity, and movement, providing concealment from prey and protection from predators
Conservation – the study of the loss of Earth's biological diversity and ways this loss can be prevented
Diversity – the variety of life found in a place on Earth or the total variety of life on Earth
Environment – the external conditions, resources, stimuli etc. with which an organism interacts

Habitat – the place where an organism or a community of organisms lives, including all living and nonliving factors or conditions of the surrounding environment
Keratin – a fibrous structural protein found in hair, fingernails, turtle shells, bird beaks, rhino horn, and other animal structures
Observation – the act of attentive watching, perceiving, or noticing
Predator – an animal whose diet consists of other animals
Prey – an animal who is eaten by other animals, or predators
Survive – the continuation of life or existence

Extension Activities

Project WILD Activities. Please contact your state Project WILD coordinator for more information. See http://projectwild.org/KentuckyCoordinator.htm (for Kentucky) or http://www.projectwild.org/ProjectWILDCoordinators.htm (for other states).

- Beautiful Basics – Students will identify five basic survival needs shared by people and all other animals, including pets, and wildlife.
- And the Wolf wore shoes – Students will distinguish between real and imaginary animals, and give example of real and imaginary animals and their characteristics.
- Learning to Look, Looking to See – Students will describe differences seen in the environment as the result of casual and detailed observation, and give reason for the importance of looking closely at any environment.
- Animal Charades – Students will define wildlife, and distinguish between domesticated and wild animals.
- Ethi-Thinking – Students will generate a list of activities that are harmful to wildlife and the environment, discuss reasons these activities are inappropriate, and recommend alternate activities that are not harmful.
- What's That, Habitat – Students will identify their own basic needs for food, water, shelter, and space in a suitable arrangement; and generalize that wildlife and other animals have similar basic needs.

Turtle Craft - http://www.first-school.ws/activities/shapes/animals/turtle-craft.htm
Book - Tommy the Trustworthy Turtle - http://www.lsuagcenter.com/NR/rdonlyres/472FF8F4-BE41-4602-8E09-D8CAD17A03F9/59405/TommytheTrustworthyTurtleStory.pdf
Book - What kind of turtle Am I? Donna Zappala
Book - Carolina's Story? Donna Rathmell
Book - Living Green: A Turtles Quest For a Cleaner Planet, Artie Knapp

Resources

WAVE Foundation http://www.wavefoundation.org
Project Wild http://www.projectwild.org
Project Wet http://www.projectwet.org
Project Learning Tree http://www.plt.org

Endangered Species Information - http://education.nationalgeographic.org/media/endangered/
Turtle Information - http://ocean.si.edu/slideshow/meet-seven-sea-turtle-species
Turtle Information - http://animals.sandiegozoo.org/animals/turtle-tortoise