Discovery Trunk
Teacher's Guide
Raging Reptiles
Grades K-2

Description

Alligators, lizards, and turtles, Oh My! Reptiles are amazing creatures and they fill a special niche in the animal kingdom. Learn about Texas reptiles and what makes them so unique and even have the opportunity to pet a live turtle!

Texas TEKS

Kindergarten: 112.11 Science

(b) Knowledge and skills.

(2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:

(A) ask questions about organisms, objects, and events observed in the natural world;

(9) Organisms and environments. The student knows that plants and animals have basic needs and depend on the living and nonliving things around them for survival. The student is expected to:

(A) differentiate between living and nonliving things based upon whether they have basic needs and produce offspring; and

(B) examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants.

(10) Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments.

First Grade: 112.12 Science

(b)Knowledge and skills

(2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:

(A) ask questions about organisms, objects, and events observed in the natural world

9) Organisms and environments. The student knows that the living environment is composed of relationships between organisms and the life cycles that occur. The student is expected to:

(A) sort and classify living and nonliving things based upon whether or not they have basic needs and produce offspring

(C) gather evidence of interdependence among living organisms such as energy transfer through food chains and animals using plants for shelter.

(10) Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to:

(A) investigate how the external characteristics of an animal are related to where it lives, how it moves, and what it eats.

Second Grade: 112.13 Science

(b) Knowledge and Skills

(2) Scientific investigation and reasoning. The student develops abilities necessary to do scientific inquiry in classroom and outdoor investigations. The student is expected to:

(A) ask questions about organisms, objects, and events during observations and investigations

(9) Organisms and environments. The student knows that living organisms have basic needs that must be met for them to survive within their environment. The student is expected to:

(A) identify the basic needs of plants and animals;

(B) identify factors in the environment, including temperature and precipitation, that affect growth and behavior such as migration, hibernation, and dormancy of living things; and

(C) compare and give examples of the ways living organisms depend on each other and on their environments such as food chains within a garden, park, beach, lake, and wooded area.

(10) Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to:

(A) observe, record, and compare how the physical characteristics and behaviors of animals help them meet their basic needs such as fins help fish move and balance in the water

Before Your Program/How to Set Up Your Room

- Teacher needs to be present at all times.
- Review the vocabulary with the students
- Please provide at least one clear table at the head of the classroom

Vocabulary

Cold-blooded: An animal whose body temperature is controlled by the temperature of its environment. Examples: fish, amphibians, reptiles.

Herpetology: The study of reptiles and amphibians.

Dinosaur: Literally means "terrible lizard;" a group of large, extinct reptiles. Dinosaurs are not lizards, however. They share certain characteristics but are in a group all their own. Dinosaurs walked with legs directly below the hips, whereas, other reptiles whose limbs splay out horizontally. Dinosaurs walked in an upright manner, rather than close to the ground like crocodiles and lizards. Whether dinosaurs were warm blooded is still under debate.

Endangered: Threatened with extinction.

Environment: One's surroundings, including all objects (plants, rocks, animals, water, etc.) and conditions (weather, temperature, humidity, etc.).

Extinct: Animals that no longer exist (such as the dinosaur).

Fossil: A remnant or a trace of an animal or plant from past geologic ages.

Habitat: Place where a plant or animal is most likely to be found; its environment.

Nocturnal: Active at night.

Predator: An animal that lives by hunting other animals for food.

Prey: An animal hunted or caught for food by a predator.

Reptile: A cold-blooded, usually egg-laying vertebrate such as a snake, turtle, lizard, crocodile, tuatara, or dinosaur; has dry scales, breathes with lungs its entire life.

Vertebrate: An animal with a backbone; includes fish, amphibians, reptiles, birds, and mammals.

Carapace – a turtle's upper shell

Plastron – a turtle's lower shell

Scales – plates on the skin of a reptile

Scutes – enlarged scales on the skin that covers the bony shell of most turtles

Herbivore – an animal that eats only plants

Carnivore – an animal that eats only other animals

Omnivore – an animal that eats both plants and animals

Reptile Myths

Snakes don't have bones: All snakes have bones: skull and jawbones, backbones, and lots and lots of ribs. Large pythons, boas and anacondas may have 300-400 pairs of ribs.

All snakes are venomous: Out of the 110 species of snakes in the United States, only 20 are venomous. Venomous insects, fish, and poisonous plants pose more of a threat to humans than do venomous snakes. In fact, more people die each year of bee stings than snake bites. If you encounter a snake in the wild that you are not sure about, leave it alone and it will leave you alone. Back away slowly; don't try to run it off by throwing things at it.

Snakes can hypnotize you with their stare: Snakes not only can't hypnotize you, most can't even see you very well. Lacking moveable eyelids, snakes can't blink; thus they even sleep with their eyes "open." Most snakes have very poor eye sight, and can only track the presence and movement of animals by their heat and when they move.

All lizards eat flies and other insects: Many species of lizards are vegetarians, consuming only leaves, flowers and fruits. Some species of lizards eat primarily plant matter with a few insects, other invertebrates, or small animals now and then. Others eat primarily invertebrates or only animals, including other lizards, snakes, amphibians, fish, birds and mammals. You cannot make a carnivorous reptile into a vegetarian and you should not feed animals to vegetarian lizards. Doing either will result in serious health problems and an early death.

Snakes can sting you with their tongues: When a snake flicks its tongue, it is smelling the air. If it flicks its tongue at you, it is learning whether you are something edible (no snakes eat people or food that people generally eat) or a possible danger to it, such as a snake predator. Snakes recognize their owner's by their smell, and recognize other people with whom they frequently interact. When a snake's tongue touches you, it has a light, feathery touch that may tickle a bit.

Only venomous snakes have teeth; that's why other snakes can't bite: All snakes have teeth, rows of recurved teeth (pointing backwards, rather like rows of sharp crochet hooks) that enable them to grip their prey. Venomous snakes have these teeth, plus special teeth, called fangs, that are used to deliver the venom. Some

have fangs near the front of their mouth, others have fangs towards the rear of their mouths. Lizards have teeth, too, even vegetarian lizards like green iguanas.

Some snakes have stingers in their tails: No snakes have stingers in their tails. Some have hard skin on their tail tip that may be due to a variety of reasons, such as unshed skin or new scales emerging as the snake is growing. Some burrowing snakes may have a hardened tip on their tail that they use to push against the ground to give them some leverage as they burrow new tunnels.

Some snakes are vegetarians: No snake is a vegetarian, nor do any snakes eat vegetation. All snakes are carnivores with diets, depending on species, ranging from arthropods, other invertebrates, fish, amphibians, reptiles, birds, or mammals. Some snake species are cannibalistic and will eat other snakes, including members of their own species.

All snakes have to eat live prey: In the wild, snakes do not eat carrion. In captivity, however, most snakes who will eat rodents can be converted to feeding easily and willingly on prekilled rodents. This is more humane for the rodent and safer for the snake as many can be injured while catching and killing their prey. Many people believe that snakes "need" to kill their prey. Most do not, and those who do will still "kill" their already dead prey. Some people say that it is not natural to feed a snake (or rodent-eating lizard) killed prey. Captivity isn't natural, however. Many snakes are injured every year, some even dying of their wounds, from being fed live prey; since we are responsible for their well-being, one of the things we must do is make sure they will not be harmed during feeding.

You can spread special slime on a young turtle and get a Ninja turtle: There are no Ninja turtles, but many young humans are convinced that the turtle they catch in the yard, win at a fair, or buy at a pet store can in time be made into a Ninja. The Ninja Turtle craze has had a devastating impact on the world's water turtle population as millions of kids demanded their very own Raphael, Leonardo, Donatello, and Michelangelo, and parents who knew nothing about proper turtle care indulged them. Note: no turtle has ever survived on a pizza diet or in the sewer!

Turtles and tortoises just need a leaf of lettuce a day: A lettuce leaf, even lots of lettuce leafs, will starve a turtle or tortoise. Depending on the species, turtles and tortoises eat a wide variety of vegetables, fruits, leafy greens, even hays and grasses. Some water turtles eat invertebrates, fish, and crustaceans; some sea turtles enjoy a meal of jelly fish, seaweed, mollusks, eel grass, and other sea plants and invertebrates. Some tortoises and box turtles enjoy such tasty morsels as snails, slugs and worms.

It's okay to carve your name or other information into a turtle or tortoise shell: Humans can decide for themselves to get tattooed or pierced; turtles and tortoises don't have that choice. Their shells are made of living tissue - bone, skin, blood and nerves - and when you cut into them, it hurts. Cut into the shell and create an opening into the body cavity, and the turtle or tortoise may well die of infection. Since their shells are living tissue, they also should never be painted.

It's okay to poke a hole in a tortoise's shell and chain it so it won't escape from your yard or keep digging holes: It is not okay to do this...tortoises will keep straining and digging, some literally turning their feet into bloody stumps as they keep digging away at the concrete patio or hard earth, trying to do what comes naturally: burrow for protection from the sun and to nap. Chaining them can cause shell fractures, which, left untreated, can cause injury and death. Chaining and preventing them from digging may also cause such stress that they may sicken and die.

Reptiles are easy to care for. They make great pets for young children: Most reptiles available for sale in the United States are wild-caught; most are imported from other countries. Experts estimate that 50% of the animals shipped to the U.S. die before or shortly after arriving here, and that 90% of those who survive and are sold die within their first year in captivity. This high death rate is primarily due to the fact that most people who

sell and buy them do not know what their needs are nor how to care for them properly, and most fail to seek out what information does exist on proper care. Reptiles are easy to care for only if you know what you are doing and what the animal needs.

Pre Visit Activity

Create an Animal

You are a zoologist that just discovered a new species of reptile. As any good scientist does, you will document your exciting findings. Design a fact sheet or your new discovery. Be sure to include the following

- Your reptile's name
- Your reptile's basic needs
- How your reptile's basic needs are met
- Where your reptile lives
- A color illustration of your reptile and its habitat.

Post Visit Activity

Hide and Seek Mural

Objective: Students will create a mural habitat for their reptiles and amphibians cut outs to hide in.

Materials: mural pages (one for each student), crayons, markers

1. Have students color and cut out their reptile Cut Outs before this class meeting. Be sure they have references (books, posters, picture files) for color ideas and are creative with their choices and blending. Talk about the dominant colors and how they can be mixed.
2. Have each child color one of the Mural sheets. Explain that this is a group project and that after it is done, all the pages will be pasted together as one. Some younger children have difficulty with the concept that it is not theirs to keep, and after the Mural is assembled they will want to know which part of it is theirs.
3. During coloring, remind students about the colors of reptiles (the Cut Outs) in nature, and how they blend in with their habitat (the Mural).
4. Before the next session, tape or paste the sheets together in order to create the mural. A glue stick works very well, and you will need a large area to work in.
5. After students see their Mural hung, they will be impressed and excited. One by one, have each student decide where to place his or her animal. Assist each student in attaching it to the mural. Use masking or clear tape rolled up so that is double-sided; this works better than double-sided tape.