

CREATURES GREAT AND SMALL

Purpose

- To identify common animals in Texas and their habitats
- To locate regions of the diverse habitats of the animals
- To determine animals and plants that are adjacent to one another
- To sort animals into categories using scientific classifications of order and class.

<http://www.sheppardsoftware.com/content/animals/kidscorner/games/animalclassgame.htm>

TEKS Standards

Grade 3 Science

(9) Organisms and environments. The student knows that organisms have characteristics that help them survive and can describe patterns, cycles, systems, and relationships within the environments. The student is expected to (A) observe and describe the physical characteristics of environments and how they support populations and communities within an ecosystem.

Grade 4 Social Studies

(7) Geography. The student understands the concept of regions. The student is expected to (A) describe a variety of regions in Texas and the United States such as political, population, and economic regions that result from patterns of human activity;

(B) identify, locate, and compare the geographic regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their landforms, climate, and vegetation.

Grade 4 & 5 Science

(3) The study of elementary science includes planning and safely implementing classroom and outdoor investigations using scientific processes, including inquiry methods, analyzing information, making informed decisions, and using tools to collect and record information, while addressing the major concepts and vocabulary, in the context of physical, earth, and life sciences. Districts are encouraged to facilitate classroom and outdoor investigations for at least 50% of instructional time.

Grades 6 & 7 Science

(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and field investigations. The student is expected to (A) plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology and (C) collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers;

(12) Organisms and environments. The student knows all organisms are classified into Domains and Kingdoms. Organisms within these taxonomic groups share similar characteristics which allow them to interact with the living and nonliving parts of their ecosystem. The student is expected to (C) recognize that the broadest taxonomic classification of living organisms is divided into currently recognized Domains

Grade Levels: 3rd – 7th

Suggested Time: 1-2 class periods

Materials: animal cards (20), card holders, drawing/writing paper, Resource: *Animal Card Information* (end of lesson), see also file *Animal Images and Narratives*.

Instructional Information

To understand the many different kinds of animals on earth, scientists categorized groups of animals with similar characteristics. Scientific information is split into a number of levels: Kingdom, Phylum, Class, Order, Family, Genus, Species (one silly way to remember this is King Phillip, Come Out For Goodness Sake!).

The organization of scientific information about a living thing is called a **Taxonomy**. Even if we do not know much about a particular animal, we can make comparisons to similar animals because of its classification in the **taxonomy**. So, for example, if you're talking about a Trumpeter Swan, we can learn from its taxonomy that it is a *bird* that lives in the water. Here is its scientific classification:

- **Kingdom:** animal (scientific name: Regnum animale)
- **Phylum:** animals with a backbone (scientific name: Chordata)
- **Class:** Bird (scientific name: Aves)
- **Order:** Water fowl (scientific name: Anseriformes)
- **Family:** Anatidae
- **Genus:** *Cygnus*
- **Species:** *buccinators*

Cards (20) : The animals included on the cards are the following: (see separate file Lesson 7: Animal Images and Narratives): javelina, horned lizard, pronghorn, tarantula, mockingbird, roadrunner, coyote, bat, armadillo, bison, prairie dog, rattlesnake, hummingbird, red-tailed hawk, sandhill crane, longhorn, sea turtle, jackrabbit, bighorn sheep, monarch butterfly

Student Activity/Assessment

1. Divide the class into pairs for studying the animals, regions, and classifications. Number each group or have each group draw a number from an envelope with numbers on slips of paper.
2. Pairs then choose their first card. Locate a region of Texas that is a suitable habitat for the animal, based on information on the card and/or personal experience. Students then sit in that region. Read the information on the card and chose one piece of information to share with classmates later in the lesson.
3. Next, identify the scientific classification of the animal on the card. All the examples of Texas animals on the cards belong to the *Animal Kingdom* and the *Chordata Phylum* (animals with backbone). The next level of scientific classification of animals is *Class*. All the animals in this lesson are in one of these five classes: *mammal*, *bird*, *fish*, *reptile*, or *amphibian*. Review the distinctive characteristics of each class. Each student pair will identify the class of the animal on the card they have.
4. Teams will put the animal card in a holder and set it on the map to make it visible to other pairs.

5. Repeat the process with two additional cards for each group.
6. The instructor may demonstrate the process of the Trading Game using one or two animals commonly found in the region where students are located.
7. Next, Team 1 begins the trading game (or the instructor may choose another team). Each team seeks to trade cards with another team that has an animal card with either the **same habitat/different classification** OR the **same classification/different habitat**. Goal of game: Winners have three cards of animals in the same habitat with three different classifications OR three cards in the same classification in three different habitats.
8. The game begins by the first team asking, “Team ___, do you have a creature that lives in a desert region?” or “Team ___, do you have a mammal?” If yes, the second team gives their animal card to the first team. If no, they chose a card from the extras in the set. Then Team 2 asks another team for a card. No team may ask the same team to trade back the same card. As the game continues, a team may seek a trade with any team (except the one they have just traded).

Alternative Activity for Younger Children

When pairs of students have located the region where the animal lives, each group may act out the way the animal moves. Other teams can guess which animal they are describing. Cards may be placed on the map in holders as the animals are identified. Students then may share one important piece of information about their animal with classmates as an informal, formative assessment activity.

Assessment

As an informal, formative assessment activity, students then may share one important piece of information about their animal with classmates.

Students can draw their favorite Texas animal in its habitat and write 3 sentences about the animal. Older students may describe the habitat and region with particular details. They can explain adaptations of animals that maintain the balance of nature in the region.

Resource: Animal Card Information

Armadillo

The ARMADILLO is the official Texas state small mammal and is found all around the state. Bony plates cover its body like armor. Its name comes from a Spanish word meaning “little armored one”. The hard shell protects it from predators such as coyotes, bobcats, cougars, raccoons, and large hawks. The armadillo first came to Texas from Mexico. It lives in many different kinds of habitats such as grasslands, rain forests, and semi-arid lands. All of those habitats are found in Texas, but armadillos must share the land with people who also live in those areas. When armadillos are scared, they jump straight up. That’s when they are hit by cars and we see them dead along the road. Mostly, armadillos sleep during the day in their burrows. Early morning and evening they hunt for beetles, ants, termites, and other insects. An armadillo can eat 40,000 ants for one meal. They are not able to see very well so they use their sense of smell to find food. They do not like stinky smells, so if you want this odd creature to leave your yard, put moth balls or chili powder around their burrows.

Black-tailed Jackrabbit

Across Texas and most of the West are JACKRABBITS with very large black-tipped ears and long, powerful back legs. These hares are different from cottontail rabbits in the garden. They are bigger (about 24 inches long) and are mostly grey with a small black stripe on their backs. They do not hop; they run. If there is danger, they run across the grassland in a zig zag pattern to escape predators and flash the white underside of their tail as a warning to other jackrabbits. They can run over 30 miles per hour and can swim. They eat different kinds of grasses and shrubs within about a half mile of their home. They sleep during the day in hollowed out places under shrubs. They do not have burrows and they do not hibernate. But, there is no such thing as a jackalope. It is a myth about a critter with a jackrabbit's body and an antelope's antlers. It could turn downright vicious when threatened yet sing a gentle song at night along with the best of the campfire cowboys. The story says two brothers went hunting. When they got home, they tossed a rabbit into the taxidermy shop and it slid right up to a pair of deer antlers. The brothers had an idea. They mounted it on the wall with the horns and the Herrick brothers started the legend of the jackalope.

Bison

The BISON, which is also called a buffalo, is the largest land animal in North America. Large herds of the huge, shaggy animals used to roam all across the Plains from North Dakota to Texas. Today they live in managed herds on protected lands. The Texas Bison Herd is found at Caprock Canyon State Park. They are very powerful animals with big humps over their shoulders and thick fur on most of their bodies. Buffalo may weigh up to 2000 pounds and that is a TON! They have short curved horns on their large heads. The horns can be used to sweep away the snow to eat grasses or as weapons to fight intruders. The loud crashing sound of two buffalo butting heads warns everyone to stay far away. Even if you do not hear them snorting, obey the warning signs. They can run more than 30 miles per hour. Buffalo have adapted to the extreme weather temperatures and fierce storms found on the Great Plains. They live in summer temperatures above 100 degrees and winter temperatures below 10 degrees. Calves are usually born in the spring when the weather is milder.

Coyote

COYOTES are found everywhere in the United States in both rural and urban areas. They may look like 30-pound dogs with German Shepherd type markings, bushy tail, and large ears, but are not pets. They survive by eating almost anything from rabbits, mice, gophers to snakes, fish, vegetables, and even dead animals they find. They get in trouble with ranchers when they attack calves, lambs, and other farm animals. They have strong vision and sense of smell for hunting. They make their home wherever they find a good hiding place except when they have cubs. Then they settle into caves or dens. In many places they have no natural enemies so their population grows and they come a problem to people. Coyotes often appear in stories as very savvy and clever animals. At night their howls can be heard from great distances, especially when several join together howling at the moon.

Desert Bighorn Sheep

DESERT BIGHORN SHEEP almost disappeared entirely from Texas. But, wildlife biologists brought desert bighorns from Arizona and Nevada to start a new herd in the Big Bend/Trans Pecos regions of southwest Texas in the 1990s. Today the spectacular animals have adapted to their new home and the herd is increasing. The males are easily recognized by their large horns that curve back over their ears and down and up past their cheeks into a full circle by the time they are 7-8 years old. The horns (weighing up to 30 pounds) are symbols of power in the herd. Bighorn sheep can run across the arid desert or up steep cliffs easily. They zig zag up the cliffs, jumping from one small ledge only 2 inches wide to another. That sounds scary! Their slightly concave shaped hooves are well adapted to climbing with the sharp edges and the front slightly larger than the back part. They can also use their hooves and horns to remove spines from desert prickly pear cactus to get food and water. Coyotes and mountain lions are a danger, so the sheep usually stay together in groups of 10-20. Some groups are as large as 100 animals. Males may fight each other to get the attention of a particular female by butting heads, sometimes lasting as long as 24 hours. Thanks to wildlife conservation efforts, Texas has desert bighorn sheep.

Javelina

JAVELINA are members of the peccary family. In Texas they are found in the semi-arid parts of the state, especially in the Big Bend area along the Rio Grande. They travel in small family herds. In the hot summer, they mainly move around at night and are considered nocturnal animals. They often eat prickly pear cacti, mesquite beans, and insects. They also like garbage, pet food, and some tulip bulbs found around people's houses. They become a problem when their habitat is too close to humans. They have poor eyesight and when cornered, they defend themselves with sharp canine teeth, or "tusks". They have a reputation of being quite ferocious. They often sleep in caves or cave-like places, but occasionally they settle into crawl spaces under people's homes. They are a problem to landowners because they damage yards and sprinkler systems when they "root" for their food and also may attack pets. People can legally hunt javelinas in Texas.

Mexican Free-Tail Bat

MEXICAN FREE-TAILED BATS are the official Texas state flying mammal. These furry, medium-sized bats are reddish to dark brown in color. The largest number of them in Texas live in a colony in Bracken Cave near San Antonio. The most famous colony lives under the Congress Street Bridge over the Colorado River in Austin. Every spring and summer evening nearly 2 million of these urban-dwelling bats leave the bridge in waves to search for insects. They will eat nearly 20,000 pounds of insects. Thousands of visitors watch them depart each evening. They can even be seen on radar. During the day the bats and babies hang from crevices in caves, or under bridges. These gentle and sophisticated animals help take care of the environment, but they do not like people to touch them.
<https://www.youtube.com/watch?v=KL7RKPhPxAE> o.

Mockingbird

The northern MOCKINGBIRD, the official Texas state bird, enjoys the environment of Texas and Florida. A mockingbird can sing up to 200 songs, often "mocking" or repeating sounds of other birds, insects, or even mechanical sounds. Some can even sound like a barking dog as they sing throughout the day. We often see them around our homes, city parks, along road sides and in farmlands. They like grassy areas with thickets but need taller trees for perching and surveying the landscape. They stay in the same environment year round. They eat insects around the yard such as ants, beetles, bees, and grasshoppers but they also like fruits on bushes and nearby water. Seeds, not so much.

Monarch Butterfly

The beautiful orange and black MONARCH BUTTERFLY is the state insect of Texas. Each spring and fall large clouds of monarchs migrate through Texas on their 3000 mile journey between Canada and Mexico. Shorter days and cooler temperatures spark the autumn migration from the Northern Plains states. Each day they join others traveling southward on the winds. At night they find a tree or bush where they can rest and keep each other warm before continuing south the next day. They may travel 50-100 miles a day in September and October. Then, these 4th generation butterflies go back to the same trees their great, great grandparents left in the spring of the same year. Such an amazing feat! They spend the winter in the El Rosario Sanctuary in particular fir trees in the mountains of Mexico west of Mexico City. In March, the new monarchs begin the trek north again with longer days and warmer temperatures. You can monitor the sites of the nightly roosts in spring and fall with the monarch migration website. New generations of monarchs will hatch from eggs deposited on milkweed plants. The adult summer butterflies have a short life and must escape predators. One defense is their bright orange and black wings that are poisonous. You are likely to see the Monarch Migration in most of Texas, except in the very eastern regions of the state.

Prairie Dog

Black-tailed PRAIRIE DOGS are not really dogs, but rodents like rats, mice, squirrels, and gophers. They live together in large colonies on the grasslands. They live in burrows underground that are connected by a large number of tunnels. These tunnels lead to special "rooms" for the babies, for storage of food, and to escape routes. They build their burrows so that they stay dry, even when it rains. You can easily find a prairie dog town by the mounds of dirt they dig out of the burrows and pile by their front door. They take turns standing on the mounds

watching for danger and bark a warning to others before scampering back inside. That barking sound may be why people named them prairie *dogs*. Their constant digging loosens the soil for the prairie grasses to grow well. They eat the tops of the grass so that sweet tender new grass can grow. That's one of the favorite foods of buffalo.

Pronghorn Antelope

The PRONGHORN ANTELOPE is one of the fastest land animals on Earth, except for the cheetah, and they live on the Great Plains. They can run as fast as 50 miles per hour, but are also great long distance runners at sustained speeds up to 30 miles per hours. They like to eat grassy plants and sagebrush found on the West Texas grasslands and high plains and the Big Bend region of South Texas. These reddish brown animals live together in small herds. Coyotes and wolves attack them, but a greater threat to them is human activities, especially fences keeping them from food. Even though they could jump fences to find food, these 4-5 foot tall animals either stop or try crawl UNDER fences. Then, they lose their best defense of running fast to escape coyotes. They live together in herds and when startled, they raise the hair on their rumps to display a white warning patch that can be seen for miles. Otherwise, they are reddish brown with white stomachs and wide, white stripes on their throats. Their name comes from the shape of the horns. The horns have two "prongs;" one curves forward and the other prong curves backwards. People report pronghorns racing against cars, and winning! Then, they seem to celebrate their victory by running in front of the car and giving a snort and shake of their heads.

Red-tailed Hawk

RED-TAILED HAWKS soar high above the deserts, grasslands, farm fields, pastures, and woodlands of North America during the day. Their keen eyesight lets them find mice and other small rodents scampering through the grass. Hawks swoop down to snatch them for dinner using their powerful talons. These birds of prey also eat some other birds, reptiles, insects, or fish as part of the balance of nature. They build nests in high places where they can see great distances. You might see a hawk's nest in a tree or on the edge of a cliff or even at the top of a tall cactus. Some balance their 3-foot wide nests on tops of power poles. That could be dangerous in storms or if they had to fight off an invading owl. When the young ones hatch, both parents care for them at first. But in 6-7 weeks, the chicks are practicing flying and hunting on their own. Soon their tail feathers will become copper-colored and their wings will spread nearly 4 feet. They may live for 12 years or more in the wild.

Ridley Sea Turtle

The state sea turtle is a Kemp's RIDLEY SEA TURTLE. It has a top shell that is 24-28 inches across and weighs about a 100 pounds. Biologists say that makes it one of the smallest marine turtles, but 100 is as big as the tire on my car! An unusual activity of these sea turtles is the way they lay their eggs. During a particular day (that they decide somehow) at a particular beach, thousands of females come out of the shallow, sandy ocean in organized waves to bury about 100 eggs each. It is called *arribada* that means *arrival* in Spanish. Then the females go back to the ocean. In about 55 days, the hatchlings dig their way out of the shells and head for the ocean at night. Not all of them survive. Those that do survive are often accidentally caught in fishing nets. Others are prey for other creatures. Most the sea turtles lay eggs on particular beaches in Mexico, but some choose Padre Island. One of their favorite foods is crabs. These grey-green shelled sea turtles use their powerful jaws to crunch the shells of crabs. They also like clams and jellyfish. They are an endangered species but environmentalists are working with people from the United States and Mexico to protect them.

Roadrunner

The greater ROADRUNNER is a rather odd bird that mostly runs on the ground even though it can fly for very short distances. It lives in desert and semi-arid areas and eats insects, mice, spiders, lizards, birds, and even rattlesnakes. They have a special way to catch rattlesnakes, using their wings like a bullfighter uses his red cape to attract the snake. When the snake tries to strike, the roadrunner grabs the tail and whips it around and around, hitting it on the ground until it is dead. The roadrunner makes its nest in shrubs and has an unusual idea about home decorating. Its nest is often made of sticks and grasses with added décor such as feathers, snake skins, and even dry manure. They can run nearly 20 miles per hour, but they do not really call out "beep beep" when chased by a coyote.

Ruby Throated Hummingbird

The small RUBY-THROATED HUMMINGBIRDS often found in Texas, are only about 3 inches long, and weigh less than a nickel. They mostly live near edges of forests or orchards or meadows, but can live near backyard gardens or wooded parks. Their long beaks let them reach into flowers to drink the rich nectar with their fringed, forked tongues. Hummingbirds have a keen eyesight for their favorite colors of red and orange. People often plant special flowers like hollyhocks, geraniums, lupines, and petunias that have red or orange blossoms to attract hummingbirds. They also may have hummingbird feeders filled with a mixture of sugar and water for the little birds. Hummingbirds seem to like the sound and sight of gently moving water for their baths. They can also eat insects when flowers are not blooming. They may be tiny, but they are also mighty. They can keep larger birds away from their territory. Amazingly, these tiny birds migrate more than 20 hours non-stop across the Gulf of Mexico to the Texas coast and then to Mexico. Some breeds travel all the way from Mexico to Canada. They can travel 25-30 miles per hour with 50-80 wing flaps per second. That takes 250 breaths per minute! No wonder they are hungry enough to eat 8 times every hour.

Sandhill Crane

SANDHILL CRANES may be the oldest known bird species in North America and they migrate to Texas in the winter. The birds have bodies that are about 40 inches long birds and a wingspan of 5-6 feet. They migrate from Canada and Alaska to the Southwest each with more than 1/2 million of them traveling to the wetlands around Muleshoe in West Texas. In the past, large groups have stayed in the Anahuac National Wildlife Refuge east of Houston. Sandhill cranes are usually gray with a crimson red crown on their heads. They eat whatever they find in the freshwater around them – plants, grains, mice, insects, or even tubers buried in the soft mud. They may spread the mud on their feathers as they groom themselves creating a kind of mud bath. When they look for a mate, they often turn back their heads and sing a duet in a passionate coordinated song. Cranes also dance, run, leap high in the air and otherwise cavort around—not only during mating but all year long. <https://www.youtube.com/watch?v=api8-lqqrPc>

Tarantula

A TARANTULA is actually a kind of spider that has been around for millions of years. The species is probably as old as the dinosaurs. These big, hairy spiders live everywhere in Texas and can be seen walking around slowly on sidewalks and roadsides or in the grass around dawn or dusk. They do not spin webs, but live in burrows and grab their prey with their 8 legs. Mostly they eat insects, such as crickets and beetles, and occasional frogs or mice. What makes them so scary is not their bite, but how big and hairy they are. They can be as big as a plate (9-10 inches) and so people can see them walking on the road ahead of a car. Sometimes large groups of males join together and will almost cover the road for several miles as they search for a girlfriend.

Texas Horned Lizard

TEXAS HORNED LIZARDS are the official state reptile and are often called horny toads. They look fearsome with two large horns on their heads, dagger-like spikes and rows of spiky scales on the side of their body. They live all over Texas, especially in dry and semi-arid landscapes with cactus, bunched grass, and loose soil where they can bury themselves to escape the Texas summer heat. One of their favorite foods is red ants! Often they will be found near the red ant mound with the loose soil. Both the red ants, also called harvester ants, and the “horny toad” love temperatures over 90 degrees. They are usually grey or brown with darker spots along the small body, 3.5 to 5 inches long. Texas Horned Lizards have some amazing defenses! Its horny appearance and color helps it to blend into the dry environment. Its horns may make it less tasty for predators. It can also inflate itself to a look much larger. But the weirdest defense is its ability to shoot a stream of blood from its eye (actually, its eyelid). Don't mess with horny toads!

Texas Longhorn

Texas designated the iconic longhorn as the official state large mammal in 1995. The mere sight of a longhorn brings to mind the old west, especially on the Great Plains. Longhorn cattle are hardy animals that can go long distances without water and live on the sparse, tough grasses they find on the plains or whatever is available

around them. They can swim rivers and tolerate desert sun and winter snow. The horns are typically about 5 feet across, but some bulls have horns more than 7 feet across. Longhorns are surprisingly gentle creatures for ranchers to manage, if they are treated well. They also regularly produce healthy calves that helps the rancher increase the herd. By the 1920's, the Texas longhorn was on its way to extinction. Due to efforts by Texas Forest Service personnel collecting small herds and placing them in Texas state parks, this unique breed was preserved.

Western Diamond-Back Rattlesnake

DIAMONDBACK RATTLESNAKES live in all kinds of habitats – grasslands, deserts, forests, and along the coast. They have a thick body and a triangular shaped head with a diamond pattern on their skins. On hot summer days, this reptile may be coiled in a shady spot under trees, brush, or rocks so it does not get too hot. On cool days, it looks for warm rocks and roads. It also may hide in burrows made by other animals, such as prairie dogs. It does not like to be disturbed. Its defense is to rattle its tail and strike with its fangs. The venom from the fangs causes swelling and pain to people, horses, and cattle. Listen for the warning sound of the rattle that shakes as many as 60 times in one second. The rattle is made up of a protein called keratin, just like your fingernails. A new segment is added each time a rattlesnake sheds its skin. Snakes shed their skins as they grow and these snakes can grow up to 7 feet long. A western diamondback rattlesnake eats small animals like rabbits, mice, lizards, or gophers. Larger animals such as hawks or coyotes eat snakes.

Armadillo



<http://tpwd.texas.gov/huntwild/wild/images/mammals/armadillo.jpg>

The ARMADILLO is the official Texas state small mammal and is found all around the state. Bony plates cover its body like armor. Its name comes from a Spanish word meaning “little armored one”. The hard shell protects it from predators such as coyotes, bobcats, cougars, raccoons, and large hawks. The armadillo first came to Texas from Mexico. It lives in many different kinds of habitats such as grasslands, rain forests, and semi-arid lands. All of those habitats are found in Texas, but armadillos must share the land with people who also live in those areas. When armadillos are scared, they jump straight up. That’s when they are hit by cars and we see them dead along the road. Mostly, armadillos sleep during the day in their burrows. Early morning and evening they hunt for beetles, ants, termites, and other insects. An armadillo can eat 40,000 ants for one meal. They are not able to see very well so they use their sense of smell to find food. They do not like stinky smells, so if you want this odd creature to leave your yard, put moth balls or chili powder around their burrows.

Mexican Free-Tailed Bat



http://www.tpwmagazine.com/archive/2015/jan/images/articles/F_Bats/8432303.jpg

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<https://youtu.be/ZGnzm6A8Dnk>

Bison



<https://upload.wikimedia.org/wikipedia/commons/thumb/5/57/Bis%C3%B3 de bosc.jpg/220px-Bis%C3%B3 de bosc.jpg>

The BISON, which is also called a buffalo, is the largest land animal in North America. Large herds of the huge, shaggy animals used to roam all across the Plains from North Dakota to Texas. Today they live in managed herds on protected lands. The Texas Bison Herd is found at Caprock Canyon State Park. They are very powerful animals with big humps over their shoulders and thick fur on most of their bodies. Buffalo may weigh up to 2000 pounds and that is a TON! They have short curved horns on their large heads. The horns can be used to sweep away the snow to eat grasses or as weapons to fight intruders. The loud crashing sound of two buffalo butting heads warns everyone to stay far away. Even if you do not hear them snorting, obey the warning signs. They can run more than 30 miles per hour. Buffalo have adapted to the extreme weather temperatures and fierce storms found on the Great Plains. They live in summer temperatures above 100 degrees and winter temperatures below 10 degrees. Calves are usually born in the spring when the weather is milder.

Bighorn Sheep



http://tpwd.texas.gov/landwater/land/habitats/trans_pecos/images/mammals/bigHornSheep.jpg

DESERT BIGHORN SHEEP almost disappeared entirely from Texas. But, wildlife biologists brought desert bighorns from Arizona and Nevada to start a new herd in the Big Bend/Trans Pecos regions of southwest Texas in the 1990s. Today the spectacular animals have adapted to their new home and the herd is increasing. The males are easily recognized by their large horns that curve back over their ears and down and up past their cheeks into a full circle by the time they are 7-8 years old. The horns (weighing up to 30 pounds) are symbols of power in the herd. Bighorn sheep can run across the arid desert or up steep cliffs easily. They zig zag up the cliffs, jumping from one small ledge only 2 inches wide to another. That sounds scary! Their slightly concave shaped hooves are well adapted to climbing with the sharp edges and the front slightly larger than the back part. They can also use their hooves and horns to remove spines from desert prickly pear cactus to get food and water. Coyotes and mountain lions are a danger, so the sheep usually stay together in groups of 10-20. Some groups are as large as 100 animals. Males may fight each other to get the attention of a particular female by butting heads, sometimes lasting as long as 24 hours. Thanks to wildlife conservation efforts, Texas has desert bighorn sheep.

Coyote



https://tpwd.texas.gov/calendar/galveston-island/images/coyote_nonTPWD_small.JPG

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Hawk – Red Tailed



<https://tpwd.texas.gov/calendar/galveston-island/images/Sky.PNG>

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Horned Lizard



http://tpwd.texas.gov/huntwild/wild/images/reptiles/horned_lizardlarge.jpg

TEXAS HORNED LIZARDS are the official state reptile and are often called horny toads. They look fearsome with two large horns on their heads, dagger-like spikes and rows of spiky scales on the side of their body. They live all over Texas, especially in dry and semi-arid landscapes with cactus, bunched grass, and loose soil where they can bury themselves to escape the Texas summer heat. One of their favorite foods is red ants! Often they will be found near the red ant mound with the loose soil. Both the red ants, also called harvester ants, and the “horny toad” love temperatures over 90 degrees. They are usually grey or brown with darker spots along the small body, 3.5 to 5 inches long. Texas Horned Lizards have some amazing defenses! Its horny appearance and color helps it to blend into the dry environment. Its horns may make it less tasty for predators. It can also inflate itself to a look much larger. But the weirdest defense is its ability to shoot a stream of blood from its eye (actually, its eyelid). Don’t mess with horny toads!

Hummingbird, Ruby-Throated



<http://static.inaturalist.org/photos/2379300/medium.JPG?1442173065>

The small RUBY-THROATED HUMMINGBIRDS often found in Texas, are only about 3 inches long, and weigh less than a nickel. They mostly live near edges of forests or orchards or meadows, but can live near backyard gardens or wooded parks. Their long beaks let them reach into flowers to drink the rich nectar with their fringed, forked tongues. Hummingbirds have a keen eyesight for their favorite colors of red and orange. People often plant special flowers like hollyhocks, geraniums, lupines, and petunias that have red or orange blossoms to attract hummingbirds. They also may have hummingbird feeders filled with a mixture of sugar and water for the little birds. Hummingbirds seem to like the sound and sight of gently moving water for their baths. They can also eat insects when flowers are not blooming. They may be tiny, but they are also mighty. They can keep larger birds away from their territory. Amazingly, these tiny birds migrate more than 20 hours non-stop across the Gulf of Mexico to the Texas coast and then to Mexico. Some breeds travel all the way from Mexico to Canada. They can travel 25-30 miles per hour with 50-80 wing flaps per second. That takes 250 breaths per minute! No wonder they are hungry enough to eat 8 times every hour.

Jackrabbit



http://tpwd.texas.gov/publications/nonpwdpubs/introducing_mammals/images/pg_42_jackrabbit.jpg

Across Texas and most of the West are JACKRABBITS with very large black-tipped ears and long, powerful back legs. These hares are different from cottontail rabbits in the garden. They are bigger (about 24 inches long) and are mostly grey with a small black stripe on their backs. They do not hop; they run. If there is danger, they run across the grassland in a zig zag pattern to escape predators and flash the white underside of their tail as a warning to other jackrabbits. They can run over 30 miles per hour and can swim. They eat different kinds of grasses and shrubs within about a half mile of their home. They sleep during the day in hollowed out places under shrubs. They do not have burrows and they do not hibernate. But, there is no such thing as a jackalope. It is a myth about a critter with a jackrabbit's body and an antelope's antlers. It could turn downright vicious when threatened yet sing a gentle song at night along with the best of the campfire cowboys. The story says two brothers went hunting. When they got home, they tossed a rabbit into the taxidermy shop and it slid right up to a pair of deer antlers. The brothers had an idea. They mounted it on the wall with the horns and the Herrick brothers started the legend of the jackalope.

Javelina



http://tpwd.texas.gov/landwater/land/habitats/trans_pecos/big_game/javelina/images/javelina_1.jpg

JAVELINA are members of the peccary family. In Texas they are found in the semi-arid parts of the state, especially in the Big Bend area along the Rio Grande. They travel in small family herds. In the hot summer, they mainly move around at night and are considered nocturnal animals. They often eat prickly pear cacti, mesquite beans, and insects. They also like garbage, pet food, and some tulip bulbs found around people's houses. They become a problem when their habitat is too close to humans. They have poor eyesight and when cornered, they defend themselves with sharp canine teeth, or "tusks". They have a reputation of being quite ferocious. They often sleep in caves or cave-like places, but occasionally they settle into crawl spaces under people's homes. They are a problem to landowners because they damage yards and sprinkler systems when they "root" for their food and also may attack pets. People can legally hunt javelinas in Texas.

Longhorn Cattle



<http://tpwd.texas.gov/state-parks/park-information/official-state-longhorn/images/longhorn-pic-fortgriffin>

Texas designated the iconic LONGHORN as the official state large mammal in 1995. The mere sight of a longhorn brings to mind the old west, especially on the Great Plains. Longhorn cattle are hardy animals that can go long distances without water and live on the sparse, tough grasses they find on the plains or whatever is available around them. They can swim rivers and tolerate desert sun and winter snow. The horns are typically about 5 feet across, but some bulls have horns more than 7 feet across. Longhorns are surprisingly gentle creatures for ranchers to manage, if they are treated well. They also regularly produce healthy calves that helps the rancher increase the herd. By the 1920's, the Texas longhorn was on its way to extinction. Due to efforts by Texas Forest Service personnel collecting small herds and placing them in Texas state parks, this unique breed was preserved.

Mockingbird



http://tpwd.texas.gov/publications/nonpwdpubs/introducing_birds/images/pg_53_n_mockingbird.jpg

The northern MOCKINGBIRD, the official Texas state bird, enjoys the environment of Texas and Florida. A mockingbird can sing up to 200 songs, often “mocking” or repeating sounds of other birds, insects, or even mechanical sounds. Some can even sound like a barking dog as they sing throughout the day. We often see them around our homes, city parks, along road sides, and in farmlands. They like grassy areas with thickets but need taller trees for perching and surveying the landscape. They stay in the same environment year round. They eat insects around the yard such as ants, beetles, bees, and grasshoppers but they also like fruits on bushes and nearby water.

Monarch Butterfly



http://tpwd.texas.gov/huntwild/wild/wildlife_diversity/texas_nature_trackers/monarch/images/butterfly-habitats.png

The beautiful orange and black MONARCH BUTTERFLY is the state insect of Texas. Each spring and fall large clouds of monarchs migrate through Texas on their 3000 mile journey between Canada and Mexico. Shorter days and cooler temperatures spark the autumn migration from the Northern Plains states. Each day they join others traveling southward on the winds. At night they find a tree or bush where they can rest and keep each other warm before continuing south the next day. They may travel 50-100 miles a day in September and October. Then, these 4th generation butterflies go back to the same trees their great, great grandparents left in the spring of the same year. Such an amazing feat! They spend the winter in the El Rosario Sanctuary in particular fir trees in the mountains of Mexico west of Mexico City. In March, the new monarchs begin the trek north again with longer days and warmer temperatures. You can monitor the sites of the nightly roosts in spring and fall with the monarch migration website. New generations of monarchs will hatch from eggs deposited on milkweed plants. The adult summer butterflies have a short life and must escape predators. One defense is their bright orange and black wings that are poisonous. You are likely to see the Monarch Migration in most of Texas, except in the very eastern regions of the state.

Prairie Dog



<http://tpwd.texas.gov/huntwild/wild/images/mammals/praridog.jpg>

Black-tailed PRAIRIE DOGS are not really dogs, but rodents like rats, mice, squirrels, and gophers. They live together in large colonies on the grasslands. They live in burrows underground that are connected by a large number of tunnels. These tunnels lead to special “rooms” for the babies, for storage of food, and to escape routes. They build their burrows so that they stay dry, even when it rains. You can easily find a prairie dog town by the mounds of dirt they dig out of the burrows and pile by their front door. They take turns standing on the mounds watching for danger and bark a warning to others before scampering back inside. That barking sound may be why people named them prairie *dogs*. Their constant digging loosens the soil for the prairie grasses to grow well. They eat the tops of the grass so that sweet tender new grass can grow. That’s one of the favorite foods of buffalo.

Pronghorn Antelope



<https://tpwd.texas.gov/regulations/outdoor-annual/regs/animals/pronghorn>

The PRONGHORN ANTELOPE is one of the fastest land animals on Earth, except for the cheetah, and they live on the Great Plains. They can run as fast as 50 miles per hour, but are also great long distance runners at sustained speeds up to 30 miles per hours. They like to eat grassy plants and sagebrush found on the West Texas grasslands and high plains and the Big Bend region of South Texas. These reddish brown animals live together in small herds. Coyotes and wolves attack them, but a greater threat to them is human activities, especially fences keeping them from food. Even though they could jump fences to find food, these 4-5 foot tall animals either stop or try crawl UNDER fences. Then, they lose their best defense of running fast to escape coyotes. The live together in herds and when startled, they raise the hair on their rumps to display a white warning patch that can be seen for miles. Otherwise, they are reddish brown with white stomachs and wide, white stripes on their throats. Their name comes from the shape of the horns. The horns have two “prongs;” one curves forward and the other prong curves backwards. People report pronghorns racing against cars, and winning! Then, they seem to celebrate their victory by running in front of the car and giving a snort and shake of their heads.

Rattlesnake – Western Diamondback



https://tpwd.texas.gov/education/hunter-education/online-course/images-prep/WesternDiamondback684_20.png

DIAMONDBACK RATTLESNAKES live in all kinds of habitats – grasslands, deserts, forests, and along the coast. They have a thick body and a triangular shaped head with a diamond pattern on their skins. On hot summer days, this reptile may be coiled in a shady spot under trees, brush, or rocks so it does not get too hot. On cool days, it looks for warm rocks and roads. It also may hide in burrows made by other animals, such as prairie dogs. It does not like to be disturbed. Its defense is to rattle its tail and strike with its fangs. The venom from the fangs causes swelling and pain to people, horses, and cattle. Listen for the warning sound of the rattle that shakes as many as 60 times in one second. The rattle is made up of a protein called keratin, just like your fingernails. A new segment is added each time a rattlesnake sheds its skin. Snakes shed their skins as they grow and these snakes can grow up to 7 feet long. A western diamondback rattlesnake eats small animals like rabbits, mice, lizards, or gophers. Larger animals such as hawks or coyotes eat snakes.

Roadrunner



<http://tpwd.texas.gov/huntwild/wildlife/wildlife-trails/resources/heart-of-texas-east/roadrunner.jpg>

The greater ROADRUNNER is a rather odd bird that mostly runs on the ground even though it can fly for very short distances. It lives in desert and semi-arid areas and eats insects, mice, spiders, lizards, birds, and even rattlesnakes. They have a special way to catch rattlesnakes, using their wings like a bullfighter uses his red cape to attract the snake. When the snake tries to strike, the roadrunner grabs the tail and whips it around and around, hitting it on the ground until it is dead. The roadrunner makes its nest in shrubs and has an unusual idea about home decorating. Its nest is often made of sticks and grasses with added décor such as feathers, snake skins, and even dry manure. They can run nearly 20 miles per hour, but they do not really call out “beep beep” when chased by a coyote.

Sandhill Crane



http://tpwd.texas.gov/huntwild/wild/wildlife_diversity/texas_nature_trackers/whooper-watch/images/sandhill1a.jpg

SANDHILL CRANES may be the oldest known bird species in North America and they migrate to Texas in the winter. The birds have bodies that are about 40 inches long birds and a wingspan of 5-6 feet. They migrate from Canada and Alaska to the Southwest each with more than 1/2 million of them traveling to the wetlands around Muleshoe in West Texas. In the past, large groups have stayed in the Anahuac National Wildlife Refuge east of Houston. Sandhill cranes are usually gray with a crimson red crown on their heads. They eat whatever they find in the freshwater around them – plants, grains, mice, insects, or even tubers buried in the soft mud. They may spread the mud on their feathers as they groom themselves creating a kind of mud bath. When they look for a mate, they often through back their heads and sing a duet in a passionate coordinated song. Cranes also dance, run, leap high in the air and otherwise cavort around—not only during mating but all year long.

<https://www.youtube.com/watch?v=api8-lqqrPc>

Ridley Sea Turtle



<http://tpwd.texas.gov/huntwild/wild/images/reptiles/kempsrid.jpg>

The state sea turtle is a Kemp's RIDLEY SEA TURTLE. It has a top shell that is 24-28 inches across and weighs about a 100 pounds. Biologists say that makes it one of the smallest marine turtles, but 100 is as big as the tire on my car! An unusual activity of these sea turtles is the way they lay their eggs. During a particular day (that they decide somehow) at a particular beach, thousands of females come out of the shallow, sandy ocean in organized waves to bury about 100 eggs each. It is called *arribada* that means *arrival* in Spanish. Then the females go back to the ocean. In about 55 days, the hatchlings dig their way out of the shells and head for the ocean at night. Not all of them survive. Those that do survive are often accidentally caught in fishing nets. Others are prey for other creatures. Most sea turtles lay eggs on particular beaches in Mexico, but some choose Padre Island. One of their favorite foods is crabs. These grey-green shelled sea turtles use their powerful jaws to crunch the shells of crabs. They also like clams and jellyfish. They are an endangered species but environmentalists are working with people from the United States and Mexico to protect them.

Tarantula



<https://tpwd.texas.gov/calendar/ray-roberts-lake-johnson-branch-unit/tarantula.jpg/image>

A TARANTULA is actually a kind of spider that has been around for millions of years. The species is probably as old as the dinosaurs. These big, hairy spiders live everywhere in Texas and can be seen walking around slowly on sidewalks and roadsides or in the grass around dawn or dusk. They do not spin webs, but live in burrows and grab their prey with their 8 legs. Mostly they eat insects, such as crickets and beetles, and occasional frogs or mice. What makes them so scary is not their bite, but how big and hairy they are. They can be as big as a plate (9-10 inches) and so people can see them walking on the road ahead of a car. Sometimes large groups of males join together and will almost cover the road for several miles as they search for a girlfriend.