

Educator's Guide to Black Bears



*Developed by the East Texas Black
Bear Task Force*



Black Bears of East Texas

Black bears (*Ursus americanus*) are a part of the heritage of Texas. Historically, black bears were widely distributed throughout all major eco-regions in Texas prior to Anglo-American colonization in 1820, but by the 1950s, the last native east Texas bear was believed to have been killed in Polk County. Today, black bears are returning to their historic range in Texas. Since 1977, the Texas Parks and Wildlife Department has documented black bear sightings and mortalities in Texas. Observations in the 1990s indicate the return of a few black bears, primarily transient solitary males, to the remote forests of east Texas. Black bears are listed as threatened by the state of Texas and the Louisiana black bear, *Ursus americanus luteolus*, formerly resident in eastern Texas, is federally listed as threatened under the Endangered Species Act.






Mission Statement

The mission of the East Texas Black Bear Task Force (ETBBTF) is to promote the restoration of the black bear in its historic range of east Texas through education, research and habitat management as outlined in the *East Texas Black Bear Conservation and Management Plan (2005-2015)*. The ETBBTF will strive to accomplish its mission through partnerships among stakeholders, credible science-driven management, cooperation and a genuine commitment to bear restoration.

Educator's Guide

The *Educator's Guide to Black Bears* was designed for use in the classroom, and each lesson is aligned with the TEKS. Students in grades K-5 will engage in cross-curricular activities that will allow them to learn information about black bears as well as help them to discover ways they can become bear aware.

Materials enclosed within this guide include:

-  Background information on black bears
-  Curriculum lessons
-  Glossary
-  Resources
-  Supplemental activities

Black Bear Facts

Bears are one of the world's most adaptable carnivores. Their reasoning ability, long-term memory, omnivorous food habits, dexterity, speed, strength, sense of smell, and elusive behavior contribute to their success.

Black bears in Texas are generally black with a brown muzzle, and some have a distinct white "blaze" on their chest. Adult males generally weigh from 150 to 350 pounds, and adult females range from 120 to over 250 pounds. Body length of adults, nose to tail, ranges up to 6 feet. Female black bears become sexually mature at 3 to 5 years of age and have 1 to 5 cubs every other year. The young remain with their

mother the first year, den with her the following winter, and search for their own territory in their second summer. Females often establish home ranges close to their mothers.

Black bears are very intelligent, shy and secretive animals, and generally work hard at avoiding contact with humans. Although, once a bear acquires human food, it often loses its fear of people and can become habituated and sometimes problematic. Problems vary from the simple presence of a bear, perceived as dangerous, to actual property damage or possible safety threats. The best advice is for humans to avoid close bear encounters.

Habitat

In east Texas, black bears are primarily found in areas dominated by bottomland hardwoods and floodplain forests, but can also be found in upland hardwoods, mixed pine/hardwoods, coastal flatwoods and marshes. In general, black bears may range from 10 to 250 square miles. Adult males occupy the largest areas, while females usually establish a significantly smaller home range closer to their mother or natal area.

The black bear's habitat requirements include food, cover and water. Additionally, they require suitable denning sites and relatively large blocks of land, preferably with minimum human disturbance. Garner and Willis (1998) found the most suitable habitat in East Texas to be the Middle Neches River Corridor because it has suitable food and cover, as well as low levels of human/bear conflict zones and relatively low open road density. Frequently traveled roads are hazardous to bears, but smaller, less traveled roads are much more tolerable.



Curriculum Lessons

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Physical Characteristics of the Louisiana Black Bear

By utilizing everyday objects, students will learn to identify the physical characteristics of the Louisiana black bear.

East Texas Black Bear Habitat and Ecosystem

Through the study of food chains and webs, uncover the important ecological role a black bear plays in its habitat.

Knowing Your Neigh-BEARS: Living In or Near Black Bear Habitat

Gain an understanding about problems that arise when black bears and people occupy the same space and discover ways that we can coexist.

The Bear Area: Black Bear Range in East Texas

Learn about the Louisiana black bear's current and historic ranges in Texas and how these ranges affect ongoing conservation efforts.

East Texas Black Bear Behavior

Uncover what really goes on before and during hibernation by constructing a black bear den.

Bears in History

Discover the roles bears have played in cultures around the world through research and development of an advertising slogan.







Physical Characteristics of the Louisiana Black Bear

Grades

K-5

Objectives

Students will be able to:

-  Identify the basic physical characteristics of an American black bear
-  Recognize the black bear is a mammal
-  List different habitat needs of the black bear
-  Estimate the size and/or weight of a black bear using various comparison activities

TEKS

Kindergarten

§110.2.b.14A; §111.12.b.K.10D; §111.12.b.K.12B; §111.12.b.K.13A; §111.b.12.K.14;
§112.2.b.5A; §112.2.b.6C

Grade 1

§110.3.b.17; §110.3.b.21; §112.3.b.6B; §111.13.b.1.12; §117.5.b.2A

Grade 2

§110.4.b.15; §110.1.b.18; §111.14.b.2.3A; §111.14.b.2.3B; §111.14.b.2.13; §112.4.b.6D;
§112.4.b.9; §112.4.b.10; §113.4.b.7; §113.4.b.18B; §113.4.b.19; §117.8.b.1A

Grade 3

§110.5.b.18; §111.15.b.3.3A; §111.15.b.3.14; §111.15.b.3.15; §112.5.b.8A; §112.5.b.8B;
§112.5.b.8C; §111.15.b.9

Grade 4

§110.6.b.15; §110.6.b.16; §110.6.b.17C; §110.6.b.17D; §110.6.b.18; §110.6.b.19;
§111.16.b.4.3A; §111.16.b.4.15; §112.6.b.8A; §117.14.b.2B

Grade 5

§110.7.b.15; §110.7.b.16; §110.7.b.17; §110.7.b.18; §110.7.b.19; §111.17.b.5.3A;
§111.17.b.5.14A; §111.17.b.5.15; §112.7.b.9

Vocabulary

Claw – a sharp, curved, horny structure at the end of the toe of an animal

Cub – the young of certain carnivorous animals such as the bear, wolf, or lion

Endangered – threatened with extinction

Mammal – an animal that has a backbone, warm blood, hair or fur, gives birth to live young, and nurses their young with milk

Muzzle – the forward, projecting part of the head of certain animals; including mouth, nose, and jaws

Paw – the foot of a four legged animal that has claws

Tail – the posterior part of an animal, especially when elongated

Background

As their name suggests, black bears have long black fur, with variations of brown, blonde, and much less commonly, white. The Louisiana subspecies (*Ursus americanus luteolus*) of the bear is usually black, with an occasional patch of white hair near the chest. Their muzzle, or the area where their nose is (similar to a snout), is a light brown or tan color. Their tail is short and almost stubby. Females can weigh anywhere from 120 to 400 pounds, while males are a little larger, weighing about 200-650 pounds on average. Of the three bear species that occur in North America (grizzly, black, and polar), the black bear is considered the smallest. The famous Smokey Bear and Yogi Bear are also black bears.

Once common in Eastern Texas, the Louisiana black bear is now considered rare and endangered throughout the east Texas area. The decline of this species is mainly attributed to over-harvesting, loss of habitat, and habitat fragmentation by humans. However, other subspecies of American black bear are considered to have stable populations. People will only protect what they know and are aware of, especially if that animal is important to the surrounding ecosystem. So first, we must make sure people are properly able to identify a black bear. This way, we may be able to conserve the areas in which they are found.

Materials

- Felt board
- Felt shapes of different daily objects (car, sofa, chair, person, etc.)
- Laminated black bear parts (body shape, head, paws, claws, muzzle, tail, ears)
- Laminated parts from other bears (grizzly and polar)
- Large sheets of butcher paper
- Markers or paint
- Measuring tape
- Pencils

Activities

Build-A-Bear

This activity will teach students about the different parts of a black bear, and how some of those parts correspond to parts that humans have.

1. Separate the students into groups of two or three. Make sure that each group has enough bear parts to complete an entire black bear, as well as some extra pieces to make it more challenging.
2. Give the students sometime to create their own American black bear using the parts provided. After they are finished, go around the room and have some of the groups share what they came up with. Did most groups place the parts in the correct place? Or did the pieces from the other bears throw them off? Show them a completed black bear and as a class, talk more in depth about each different aspect of the bear and what the function/purpose of each part is (ie: What do black bears use their claws for?)
3. Now that the students have learned what a black bear looks like and how large they can be, have them compare those characteristics to humans. Using large sheets of butcher paper have students make black bear paw prints to compare to their own feet. They can use paint or stencils, and then they can trace their barefoot or shoe to make a comparison. Bare hands work well too.
4. Have them measure their black bear paw and their foot/hand and write those numbers down next to each tracing. This activity can also be extended to height, where students can mark on a sheet their height and then compare it to the height of a black bear. If possible, this activity could be conducted outside so that students may spread out.

What's It Like to Be a Bear?

This activity brings together writing skills, creativity, and more black bear basics. It is a good introduction to what a habitat is and what it would be like if we were not humans, but animals!

1. Tell students to imagine that they are a black bear. What would they spend their day doing? Have them write down ideas of things that black bears do on a daily basis (forage for food, travel, sleep, etc).
2. In their daily activities, what are some things that black bears need in order to survive? What makes an area a good place for a black bear to live? Have students write a story in which they pretend that they are a black bear. This can be as imaginative as they want.
3. Ask students to try and think what it would be like to have large paws; is it harder to do things?
4. Additionally, after they have written their story, they can create a diorama to illustrate some of things they wrote about in their story, or they can simply create a black bear habitat.

Bears Weigh How Much?

This activity introduces students to estimation and observation.

1. Show students felt pieces of the three different species of North American bear. Which one do they think is the tallest, smallest, weighs the most, has the largest paw, etc.?
2. As a group, have them place them in order using these different criteria. This gives them an idea of how to look at an object and compare it to another object in terms of size and weight.
3. Once students know how much each bear species weighs on average, have them come up with comparisons for those weights using different felt pieces of everyday objects. (Ex: A female black bear can weigh up to 400 pounds. That's about the same weight as 4 sofas! Or, a male black bear can weigh around 500 pounds, that's about as much as two 150 lb. people, ten 10 lb. chairs, and 6 16 lb. bowling balls!) Make your 'object' choices creative. The point of the activity is to relate it to the students and have them think about size and weight on a daily basis, and every time they see some of these items they will be reminded of black bears.







East Texas Black Bear Habitat and Ecosystem

Grades

K-5

Objectives

Students will be able to:

-  Identify the basic components of a food chain
-  Construct a food chain and web given a subset of species
-  Understand how animal species in the forest ecosystem of east Texas interact and depend on each other for survival
-  Explain how the black bear fits into the food chain of the forest ecosystem

TEKS

Kindergarten

§110.2.b.12, §110.2.b.16.B, §111.2.b.K.5, §111.2.b.K.12, §112.2.b.5.b

Grade 1

§110.3.b.10.B, §110.3.b.11, §110.3.b.15, §111.13.b.1.3.B, §111.13.b.1.7.D, §112.3.b.7.D, §112.3.b.9

Grade 2

§111.14.b.2.2, §111.14.b.2.14, §112.4.b.2, §112.4.b.3, §112.4.b.6, §112.4.b.9, §113.4.b.8

Grade 3

§110.5.b.10.B, §111.15.b. §111.15.b.3.15, §112.5.b.8, §113.5.b.4, §111.15.b.7

Grade 4

§111.16.b.4.2, §111.16.b.4.3, §111.16.b.4.4, §111.16.b.4.13, §111.16.b.4.15, §112.6.b.2, §112.6.b.5, §112.6.b.8, §113.6.b.7, §113.6.b.9

Grade 5

§111.15.b.5, §111.15.b.9, §111.17.b.5.3, §111.17.b.5.5, §112.7.b.5, §111.17.b.9

Vocabulary

Biome – a major type of ecological community

Carnivore – a flesh-eating animal

Consumer – a plant or animal that requires complex organic compounds for food which it obtains by preying on other living things or eating particles of organic matter

Deciduous trees – a tree in which the leaves fall off at the end of a growing period or stage of development

Extirpated – destroyed completely

Food chain – a series of organisms in which each uses the next usually lower member of the series as a food source

Habitat – the place or type of place where a plant or animal naturally or normally lives or grows

Herbivore – a plant-eating animal

Niche – a habitat that contains the things necessary for a particular plant or animal to live; the part that a particular living thing plays in an ecological community

Omnivore – a flesh and plant-eating animal

Predator – an animal that lives by killing and eating other animals

Prey – an animal hunted or killed by another animal for food

Producer – living thing (as a green plant) that makes its food from simple inorganic substances (as carbon dioxide and nitrogen) and many of which are food sources for other organisms

Background

The east Texas black bear is finally returning to the piney wood forests along the Louisiana, Texas border after being extirpated from the area for nearly 35 years due to human encroachment and over hunting. This is very exciting news considering that black bears used to roam freely throughout the region.

Black bears are peaceful, usually shy forest dwelling animals. They thrive in deciduous forests where plenty of food, shelter and space exist for them to successfully thrive. Due to recent habitat and species protection legislation this fragile habitat is once again able to support populations of many different native species, one of which is the black bear.

Black bears are opportunistic omnivores, animals that eat both plants and meat, and they will consume everything from nuts, berries, insects, and small mammals. In eight days bears typically eat 20 pounds of plant material (25% of diet), 24 pounds of nuts (30% of diet), 20 pounds of berries (25% of diet), 12 pounds of insects (15% of diet), and 4 pounds of meat (5% of diet). In order for a bear to find enough food to support itself the surrounding ecosystem must be healthy.

Since black bears are omnivores they enter the food chain at a number of different levels consuming both producers and other consumers. Within the food chain a great deal of energy is lost within each level of consumption. Only about 10% of the energy from one level is transferred to the next. The remaining 90% is lost as heat to the environment. For example, a producer, an organism such as a plant that uses energy from the sun to grow, will create a certain amount of energy before it is eaten by a predator in its habitat. The predator will only absorb 10% of the energy from the plant material, forcing it to consume much more than its predecessor on the food chain. This relationship is usually described as a pyramid, with the largest consumers at the top and small producers at the bottom. Although the pyramid is very useful in describing the direct connection between a small set of organisms, these organisms do not live in isolation. Therefore, it takes many overlapping food pyramids which are best illustrated using a food web, to create an accurate portrayal of an ecosystem. Multiple food webs can be used to illustrate a biome in which all organisms rely on each other for their survival.

Black bears are large animals at the top of their food chain and as such, they have a tremendous effect on their surrounding environment. Because they require so many resources in the form of space, food and shelter for their survival many aspects of an ecosystem relies on and is influenced by a bear's existence. Black bears are specialized animals that occupy a very unique niche within a habitat and can not only control their own populations but also those of many other species through competition for limited resources of food and space, an especially important facet in places where bears are returning to live after years of being absent.

Materials

- Bear coloring sheet
- Fruity Pebble/ Berry Crunch cereal
- Goldfish crackers
- Variety of nuts

Activities

Boy My Belly Is Full

To learn what bears like to eat, and visualize how much a bear needs to eat to become full and get enough energy to be active.

1. Give each child a coloring sheet and a mixture of the above "food" items.
2. Have the children place the food inside the bear to see how much food fits inside of a bear.
3. Discuss the variety of foods a bear might eat, where they would find it, and at what time of year they might be able to find those kinds of food.
4. Give children different amounts of food, explaining that what a bear eats is based on availability. When smaller amounts of food are available, explain that the bear does not have as much energy and may become much less active and may even be able to go to sleep for a long period of time to conserve energy.

Extension for older children:

1. A create a bar graph based on the kind of food placed inside the bears belly, the number of berry cereal pieces, goldfish, nuts etc. each students graph should look slightly different but then can compare it to a standard graph of what a bear eats 35%berries etc.
2. Try creating different graphs for different times of the year to illustrate how their diet changes with the seasons.

Mathematical Food

1. Create an energy pyramid showing how much energy is in each level of the food chain if there are 4 levels; from plants, to an herbivore, to a small carnivore, to a bear.
2. If there are 3000 plants consumed then how much energy will the bear receive through this pathway? Can you think of any better way for the bear to consume more energy?






Knowing Your Neigh-BEARS: Living In or Near Black Bear Habitat

Grades

K-5

Objectives

Students will be able to:

-  Define habitat loss
-  Identify problems human presence presents to black bears
-  List three ways people can help coexist with bears

TEKS

Kindergarten

§112.2; §113.2; §115.2; §117.2

Grade 1

§111.13.b.1.7; §112.3; §113.3; §115.3; §117.3

Grade 2

§112.4; §113.4; §115.4; §117.4

Grade 3

§112.5; §113.5; §115.5; §117.5

Grade 4

§112.6; §113.6; §115.6; §117.6

Grade 5

§112.7; §113.7; §115.7; §117.7

Vocabulary

Coexist – to live in the same space as another organism without interfering with the other’s way or life or harming the other

Habitat – place or type of place in which an animal normally lives

Habitat fragmentation – the division of habitat area needed for black bears mainly due to human development

Scavenger – an animal that collects food by searching for it rather than hunting or grazing

Background

Black bears are omnivorous. This means that they eat plants as well as animals. In fact, most of their food comes from plants. Bears will eat many kinds of food, including honey, berries, even bird seed or dog food. Bears are very intelligent. Once a bear finds food, he or she will remember that place and come back to it. Even if you relocate a bear, it may find its way back.

In Texas, black bears are endangered meaning there aren’t very many of them left in the wild. One reason black bears are endangered is because of habitat loss. A habitat is a certain kind of home in which an

animal lives. Black bears need a lot of trees to live because they make their homes, called dens, in and around trees. Black bears in Texas are losing their habitat as people move into the areas in which they make their homes. People build houses, roads, and shopping centers in what was once black bear habitat. People also enter bear habitat for fun: we go camping, biking, hiking, even picnic in and around bear habitat.

As people move in, bear habitat becomes fragmented. Habitat fragmentation occurs when bears don't have enough space in one area to live. Bears need a lot of space for food and raising families, and the less space they have, the more they have to travel to find an area to meet their needs. For example, a community may be built that cuts black bear habitat in half. Instead of having enough space to eat and live, the bear now has to travel through the community to get to the other area of habitat. Some bears get hit by cars and killed as they cross through the neighborhoods. Bear deaths by car could be reduced in several ways. In some cases, special passages have been made under or over existing roads that allow bears to cross safely. Sometimes just knowing that bears like to cross the road at a particular point can prevent these collisions. Posting "Bear Crossing" signs and reducing the speed limit will significantly reduce the number of bears killed by cars.

Although black bears are considered omnivorous, they are also scavengers. A scavenger will go from place to place in search of food. Because black bears are smart and excellent scavengers, they will often find people's garbage an excellent meal. Bears will knock over trashcans and even jump on dumpsters to open them and get the food inside. Once bears find food, they will return repeatedly to the same place because they know food can be found there. When bears continue to find food near people, they start losing their fear of people. This allows the bears to become braver, looking for food closer and closer to where people live, even damaging property. These bears become "nuisance bears" and they usually have to be put to sleep to prevent them from posing a danger to people.

By leaving your trash cans unsecured or by not using bear proof trash cans, people encourage black bears to return to the neighborhoods and even houses to eat. People can keep bears away by being smart with trash. Trash cans with food items in them should be stored in a home, garage or storage shed. Trash cans that are outside should be equipped with bear proof devices such as special lids bears can't open. Dumpsters should have secure metal covers and landfills should have a bear proof fence around them. These things will help keep bears away from neighborhoods and prevent them from becoming a problem.

Black bears don't have a lot of habitat left, and the habitat they do have, people use for fun or recreation. People go to state parks or wooded areas to hike, mountain bike, picnic, fish, and camp. When people enter the black bears' home, they need to be respectful of the bears. Campers often bring food such as trail mix, cereal, fruit, and even fish to the campsite to eat. These kinds of food attract black bears. A black bear can easily enter a tent, get into a picnic basket, and even break car windows if it smells food. Some items like deodorant or toothpaste that possess a strong odor will also attract black bears. Just like with garbage cans, bears will return to campsites in search of food which may cause the bear to be put down.

Campsites can be bear proofed to keep black bears from entering them. The first step is to make sure that all food items or strongly scented toiletries are put in a bag or container that is airtight and contains no odor. Plastic jugs or coolers with a screw-top lid are helpful, but make sure the lid fits tightly and that the plastic is strong. A bear can easily claw or chew open plastic or cloth bags and flimsy Tupperware containers. A metal locker or box with a lock also works. Food items should then be suspended at least 10 feet off the ground and 4 feet away from a tree (bears are good climbers) to make sure the bear will not get into the container. This should be hung away from your sleeping area. Any items used for cooking

should be thoroughly cleaned and also sealed away. Again, all trash should be placed in a bear proof trashcan, or stored in an airtight container until you can throw out the trash away from bear country. The most important thing to remember when camping: don't litter! By leaving trash, you create a trail for the bear to follow, right back to your tent. Dispose of your trash wisely and keep your food items stored correctly.

By providing bears food, intentionally or not, humans teach bears to not fear them. This causes bears to become a threat. There may be items around your home that attract bears. If you have pets that live outside, bring the pet food in each night. Bird feeders are great for looking at birds, but the seed also brings hungry bears right to your door! Don't put out food for birds, squirrels, or deer because this food will look pretty tasty to the bears, too. Many people plant vegetable gardens, berry bushes, and fruit trees in their backyards to enjoy the tasty treats. These items can also bring bears to your yard. If you choose to grow food, plant it as far away from your house as possible and fence it in with an electric fence or inside a greenhouse. This will keep bears away from the food and away from your house. And if you do see a bear, don't feed it. Instead enjoy these animals from a distance and appreciate that we can coexist with them; that is, we can live peacefully alongside the black bear.

Materials

- Construction paper
- Crayons or markers
- Glue
- Map of recorded sightings and historic ranges:
http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_pl_w7000_1046.pdf
- Measuring tape
- Paper
- Pencils
- Pictures of various items (fruit, garbage cans, honey, birdseed, etc.)
- Satellite map of your city or area: <http://maps.google.com>
- Scissors
- Shoe boxes

Activities

Scavenger Hunt

Students will have to "scavenge" for food the way a black bear would. After the activity, explain to students how bears do not have all of their food in one place and have to search for it. This can lead them to easy sources such as trash. Example: would you (students) rather go outside every morning and pick berries for breakfast, hoping they are in season and available, or would you rather go to the grocery store where you know you can buy berries? Bears view human habitat especially garbage as their grocery stores where food is always available.

1. Create a maze with at least a few of the following: berries, garbage can, beehive, birdseed. Students will have to wind their way through the maze to find the food.
2. Hide items (plastic fruit, garbage can, honey, birdseed, etc) in various locations around the classroom or outside on school grounds. Give students a list of their dinner and a 5-10 minute time limit to find all items.

Habitat Map

Students will map out bear habitat to demonstrate the fragmented space available. A satellite image is excellent for showing not just the forest but the major interstates that run through it. After the activity,

discuss fragmented population and ways the city growth may affect the bear populations if the bears' home is found on one side of the highway and its food on another.

1. Print a satellite map of your city or area.
2. Have students circle, highlight, or color areas of bear habitat (treed areas) to demonstrate fragmented habitat.
3. Compare this map to recorded sightings and historic range maps found in the Texas Parks and Wildlife Department's *East Texas Black Bear Management Plan 2005-2015*.

Create a Bear Friendly Campsite

Students will be able to demonstrate knowledge of what a bear-safe campsite looks like through the use of visual duplication.

1. Have students draw a bear friendly campsite.
2. Label trash receptacles, food storage, and tent.
3. Construct a diorama of a bear friendly campsite. Make sure they include the campsite, bear friendly trash cans, and proper food storage.
4. Construct an actual bear friendly campsite either in the classroom or outside. Offer options of food storage such as Tupperware, plastic bags, and metal containers and have students choose the appropriate one. Also measure out the appropriate heights and distances for suspending food items.

Bear Proof Your Home

Students will think about his/her house and outline steps to make it bear proof. Students will then list, draw, or model their bear proofed house.

1. Ask the students to visualize their house.
2. Ask the following questions: Do you have pets that live outside? Does their food stay outside? Do you have a bird or squirrel feeder? Do you have fruit or berries growing in your yard? Do you have trash cans in a garage, or on the driveway? Are the lids secured?
3. Students will then list changes they can make to their homes to bear-proof them.







The Bear Area: Black Bear Range in East Texas

Grades

K-5

Objectives

Students will be able to:

-  Identify the states in which the Louisiana black bear was historically found
-  Identify the states in which the Louisiana black bear is currently found
-  Describe the reasons why the Louisiana black bear has suffered habitat loss
-  Give examples of conservation efforts in the historical range of the Louisiana black bear

TEKS

Kindergarten

§111.12.b.K.2; §111.12.b.K.3; §111.12.b.K.10; §111.12.b.K.11; §111.12.b.K.12; §112.2.b.5; §112.2.b.7; §112.2.b.9; §113.2.b.4

Grade 1

§111.13.b.1.7; §111.13.b.1.9; §111.13.b.1.10; §112.3.b.5.B; §112.3.b.9; §113.3.b.3; §113.3.b.4.A; §113.3.b.5

Grade 2

§111.14.b.2.6.C; §111.14.b.2.9; §111.14.b.2.11; §112.4.b.5; §112.4.b.6; §112.4.b.9; §113.4.b.5; §113.4.b.6; §113.4.b.8

Grade 3

§111.15.b.3.11; §111.15.b.3.13; §112.5.b.8; §112.5.b.9; §113.5.b.3; §113.5.b.4; §113.5.b.16

Grade 4

§111.16.b.4.11; §111.16.b.4.14; §112.6.b.8; §112.6.b.10.A; §113.6.b.4; §113.6.b.5; §113.6.b.6; §113.6.b.7; §113.6.b.8; §113.6.b.9

Grade 5

§111.17.b.5.5; §111.17.b.5.8; §111.17.b.5.9; §111.17.b.5.10; §111.17.b.5.13; §112.7.b.9; §113.7.b.6

Vocabulary

Adaptation (Adaptable) – modification of an organism or its parts that makes it more fit for existence under the conditions of its environment

Conservation – a careful preservation and protection of something

County – the largest territorial division for local government within a state of the United States

Forest – an area covered with trees, preserving some or all of its primitive wildness and usually having game or wild animals in it

Home range – the area to which an animal usually confines its daily activities

Shelter – something that covers or provides protection

Background

The American black bear can be found in 41 of 50 U.S. states. In east Texas a recognized subspecies of the American black bear, the Louisiana black bear, can be found. The current range of the Louisiana black bear includes Louisiana, Mississippi, and some experts believe Arkansas. However, this range is limited compared to the bear's historic range. Have students look at a United States map. Locate the states where the Louisiana black bear can be found today. Show students Figure 1.

Insert figure 1

Have students identify the states in which the Louisiana black bear was historically found. The American black bear was widely distributed throughout the entire yellow region on Figure 1 as far back as 1820. The Louisiana black bear was historically found throughout the green region on Figure 1.

Historically, the Louisiana black bear was found in over forty counties in Texas. Currently, there are 22 counties where the black bear has been spotted from 1977 to 2003. The current counties can be seen below in Figure 2. The historic range for the Louisiana black bear included all Texas counties east of and including Cass, Marion, Harrison, Upshur, Rusk, Cherokee, Anderson, Leon, Robertson, Bureson, Washington, Lavaca, Victoria, Refugio and Aransas.



Figure 2.
Counties in east Texas with confirmed black bear sightings. 1977 – 2003.

Black bears prefer forest to live in where they can find plenty of food, water and denning sites. They are adaptable in these wooded areas, able to adjust to their surroundings. The black bears have large home ranges so need a large space to move around. A home range is an area within the bear's territory that they frequently use. This area can change as food, water, and shelter sources change.

Many forests in the historic black bear territory have been cut down for towns, roads and farming. The black bear now has limited space where they can roam and usually have no way to safely cross over into another area due to a man-made obstruction. Ask students what a man-made obstruction could be. Man-made obstructions include roads, fences and buildings. It is dangerous for both humans and bears to roam into cities and towns. Bears will associate human with food and will destroy property to find food. This puts the bear in danger from humans and humans in close contact with a wild animal. Also, it is thought that black bear are vicious animals, when unless cornered, threatened or hurt black bear rarely attack. When fences block the way for bears to roam their area, they lose the ability to roam to find the food and shelter they need. They also lose the chance to find potential mates. Roads and highways are another way in which the black bear loses its habitat. These roads work in the same way as agricultural fences by fragmenting the black bears home ranges and territories. Take another look at the U.S. map. What major cities are found in the historical bear range? Do you think that these cities have caused a problem with bears in their home range?

Ask students how reporting bear sightings help the Louisiana black bear. By recording sightings of bears, scientist and conservationist start to know where bear ranges are. We now know through sightings that bears have started to reappear in east Texas. Ask students why they think bears have been sighted in Texas.

The Texas Parks and Wildlife Department has created the East Texas Black Bear Task Force which has developed a plan for the conservation of the Louisiana black bear in Texas. The task force has developed a management plan to help educate about bears and their conservation. They have used media campaigns to inform others on what to do if you come in contact with a bear, what kind of habitat a bear needs, and hunter education. The task force has also worked with private land owners to communicate the importance of land corridors. These land corridors would allow the movement of the black bear to find, food, water, shelter, and potential mates. The corridors are a vital part in the conservation and reintroduction of black bears into east Texas.

Materials

- Colored pencils
- Construction paper
- Ecoregions of Texas map:
http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_mp_e0100_1070t_34.pdf
- Glue
- Major Texas waterways map:
http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_mp_e0100_1070f_34.pdf
- Markers
- Scissors
- Texas counties map:
http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_mp_e0100_1070b_34.pdf
- Texas counties outline map:
http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_mp_e0100_1070c_34.pdf

Activities

Historic Home Range

1. Using a Texas counties map from the Texas Parks and Wildlife Department website, have the students color with a light color the historic counties where the black bear was found.
2. Mark with a pencil, pen or marker the counties which the black bear has been sighted (use Figure 2). Ask students why they think that the black bears are only found in 22 counties and not in all the historic counties.
3. Mark major cities and highways on this map. (You can have them put this aside for the next two activities)

A-MAZE-ing Bears

1. Create a maze with cars, buildings and fences...how does a bear get from point A to point B.
2. Using the information of historic ranges and current ranges have the students create a game by drawing and coloring cars, buildings, fences, bears, rivers and roads.
3. Now create two forest areas with a city in the middle. Place two bears in one forest and put an important habitat item (food, water, shelter) in the other forest. Ask students how the bears are to get to the second forest. Is crossing through the city a safe passage for the bear or humans?
4. You can also do this activity as a class using a large sheet of paper and hang on wall that all students could contribute to.

Habitat Connections

1. Print off the county outline map.
2. Color in counties green to represent current forested area in which bears live.
3. Color areas blue for water sources.
4. Why do you think that the bears are found in blue/green places? This is another opportunity to show where major cities and highways are found and how these two factors have impacted bear populations.







East Texas Black Bear Behavior

Grades

K-5

Objectives

Students will be able to:

-  Describe the seasonal feeding habits of the east Texas black bear and how this affects their activity levels throughout the year
-  Understand what really happens to a bear during “hibernation”
-  Explain the physical impacts of “hibernation” and why they sleep so much
-  List the elements that compose a good bear den

TEKS

Kindergarten

§110.2.b.2, §110.2.b.4.C, §110.2.b.12.C, §110.2.b.13, §110.2.b.16.B, §111.12.a, §111.12.b.K.1.B, §111.12.b.K.11, §111.12.b.K.12.B, §111.12.b.K.13, §112.2.a.4, §112.2.b.3.C, §112.2.b.7.D, §112.2.b.9, §113.2.a.1, §112.3.b.5, §112.3.b.12, §112.3.b.16, §115.2.b.1, §115.2.b.7.A

Grade 1

§110.3.b.2, §110.3.b.3.D, §110.3.b.15, §110.3.b.16, §113.3.b.8.C, §113.3.b.19, §115.3.b.8

Grade 2

§110.4.b.2.B, §110.4.b.8.A, §110.4.b.12.A, §110.4.b.14.A, §111.14.a.2, §111.14.b.2.4, §111.14.b.2.11.A, §112.4.b.7.D, §112.4.b.9.A, §113.4.b.7, §113.4.b.8, §113.4.b.19.A, §115.4.b.3.B, §115.4.b.11.A

Grade 3

§110.5.b.10.B, §110.5.b.12, §110.5.b.13, §111.15.b.3.13, §111.15.b.9, §111.15.b.10, §111.15.b.4, §111.15.b.16

Grade 4

§110.6.b.5.E, §110.6.b.14.C, §110.6.b.15.B, §111.16.b.4.11

Grade 5

§110.7.b.4, §111.15.b.5, §111.15.b.13.D, §111.15.b.14, §111.15.b.15, §111.17.b.6, §113.7.b.8

Vocabulary

Den – the shelter or resting place of a wild animal

Dormant – having growth or other biological activity much reduced or suspended

Hibernation – to pass the winter in a sleeping or resting state

Background

Driven by their need to find large stretches of forest where food and shelter is readily available, black bears are returning to the state of Texas.

Bears are opportunistic eaters who consume everything from nuts, berries, insects, and small mammals. In eight days bears will typically eat 20 pounds of plant materials (25% of diet), 24 pounds of nuts (30% of diet), 20 pounds of berries (25% of diet), 12 pounds of insects (15% of diet), and 4 pounds of meat (5% of diet). Bears will eat nearly anything, and quickly learn where good sources of food can be found, readily returning to areas where they have found food in the past. This can pose problems when bears travel into populated areas, because they can become dependant on human food sources such as trash cans and camp sites. When food is readily available during the summer and fall months throughout their natural habitat bears are very active, putting on weight and reserving energy for periods of the year when food is no longer available to them. During the colder months in winter, when food is not as readily available, black bears in Texas will usually slow their activities and “hibernate” for a period of time from anywhere between a few hours and a few months.

“Hibernation” is a common word used to describe the period of time when black bears den during the winter months, but does not accurately describe what they really do. Hibernation is defined as passing the winter in a sleeping or resting state. Texas black bears enter a period in which their metabolism slows, causing them to go into a deep sleep. This seasonal lethargy causes their heart rate to slow, resulting in an absence of eating, urination, defecation, and physical activity. Their body temperature may drop to 88 degrees during this period, 12 degrees lower than their body temperature during the summer months.

Preparations for over-wintering begin in the summer, when bears gorge on carbohydrate-rich berries and other foods to put on weight. During this period, they can gain as much as 30 pounds per week. In early autumn, a bear (and its cubs, if any) will rake leaves, twigs, and other plant materials into the den to form a nest. Throughout the fall its activity level steadily drops until it ends completely when the bear enters its den.

For some bears, usually males, winter inactivity may be nothing more than bedding for a few days or weeks in one area before moving to new bedding sites. Pregnant females, the first to seek den sites, usually choose sites that are more secure and inaccessible than those typically selected by males. Females prefer large, hollow trees, as these provide dry, secure, and well-insulated cover, but will also den in brush piles and thickets.

During the winter denning months, female bears give birth. Mating is generally during the summer months, from mid-June to mid-August with some variation depending on latitude. Bears undergo embryonic diapause (delayed implantation) so the embryos do not begin to develop until the mother dens in the fall. Because of this delay, gestation can be 7 to 8 months, but actual development takes about 60 days. However, if food is scarce and the mother has not gained enough fat to sustain herself during hibernation as well as produce and feed cubs, the embryos do not develop.

Materials

- Assorted materials for a diorama
- Book *Bear Snores On* (optional)
- Construction paper
- Glue
- Paper
- Pencil
- Ruler
- Scissors
- Shoeboxes

Activities

The Best Bed

1. Discuss the importance of and reasoning behind bears denning during the winter months. There are many things that a bear looks for in a den, especially when cubs are involved.
2. Create a den diorama, drawing, or life sized den out of boxes and anything else you might have around that might make a cozy den.

Home Sweet Home

1. Everyone has their favorite things about home, whether it's a favorite food, favorite toy, or favorite activity.
2. Write a story or an essay about what you like about your home, what a bear might like to have and why a bear might want some of your favorite things too.

Sell This Den

1. Write a persuasive essay as if you were a nice warm denning site trying to sell yourself to a pregnant female bear looking for a nice den for the winter to have her cubs.
2. Try to make the den sound as appealing as possible so the bear will want to den there.
3. Make sure to include direct measurements of the indoor space, perhaps even include a scaled drawing of the den itself.

Suggested Reading

Wilson, K. (2002). *Bear snores on*. New York: Margaret K. McElderry Books.






Bears in History

Grades

3-5

Objectives

Students will be able to:

-  Understand the roles of bears in human cultures
-  Appreciate the importance of legends and myths in explaining nature and the elements
-  Develop reading, writing, and art skills by creating an advertisement

TEKS

Grade 3

§110.5.b.1, §110.5.b.2, §110.5.b.3, §110.5.b.4, §110.5.b.12.C, §110.5.b.12.H, §110.5.b.13, §112.5.b.3.D, §113.5.b.13, §113.5.b.14, §113.5.b.16, §113.5.b.17, §117.11.b.3.C, §117.11.b.4.B

Grade 4

§110.6.b.1, §110.6.b.4, §110.6.b.5, §110.6.b.13, §110.6.b.14, §110.6.b.24, §110.6.b.25, §113.6.b.17, §113.6.b.20, §113.6.b.23, §117.14.b.2, §117.14.b.4

Grade 5

§110.7.b.1, §110.7.b.2, §110.7.b.3, §110.7.b.4, §110.7.b.5, §110.7.b.13, §110.7.b.14, §110.7.b.24, §110.7.b.25, §113.7.b.18, §113.7.b.22, §113.7.b.23, §113.7.b.25, §113.7.b.25, §113.7.b.26, §117.17.b.3, §117.17.b.4

Vocabulary

Civilization – an advanced stage (as in art, science, and government) of social development

Culture – the beliefs, social practices, and characteristics of a racial, religious, or social group; the characteristic features of everyday life shared by people in a particular place or time

Ecosystem – a system made up of an ecological community of living things interacting with their environment especially under natural conditions

Legend – a story coming down from the past whose truth is popularly accepted but cannot be checked

Myth – a story often describing the adventures of superhuman beings that attempts to describe the origin of a people's customs or beliefs or to explain mysterious events (as the changing of the seasons)

Symbol – something that stands for something else

Background

Historically, myths and legends about bears have been used to explain natural events or occurrences, as well as represent human characteristics in a variety of cultures around the world. Many civilizations believed bears possessed magical powers and worshipped them or used their body parts in traditional medicinal rituals. Ancient Greeks and Romans even named constellations, Ursa Major and Ursa Minor, for bears. Others have portrayed the bear as a symbol representing power and intelligence through works of art such as pottery, blankets, necklaces, and other crafts.

Bears continue to be predominantly featured as symbols of power today, including the use of bear depictions and representations on city and state flags, coat of arms, names of cities, people, and sports teams, storybooks, television stars, and figures of speech. In addition to being the state animal for Louisiana, New Mexico, and West Virginia, black bears also influenced the creation of teddy bears, Smokey Bear, and Winnie the Pooh.

Not only do bears play an important cultural role, but they play an important ecological role as well. Bears act as a keystone species, providing sources of food and... for all living things in the ecosystem. In addition, research on bears has provided us with more insight into the scientific study of ailments such as kidney failure and bone deterioration. This information can be used to provide better medical care and new treatments for patients.

Materials

- Crayons or markers
- Internet (optional)
- Newspapers (local, state, or national)
- Poster board or paper

Activities

Bears in Advertising

1. Show a picture of a black bear. Ask students to think of words that represent or illustrate the bear and write these on the board.
2. Circle words that are anthropomorphic (words that give human characteristics to animals). Are these words positive, negative, or neutral words?
3. Discuss with the class why they think we use these words to describe bears. Talk about the history of bears in human cultures, how they were represented in the past, and how they are represented in today's world.
4. Split the class into pairs or groups of three. Using the newspaper and/or internet, have each group select a company or product. Create an advertisement and slogan for this company or product that incorporates the black bear using poster board or paper. Illustrate the advertisement and write a description (2-4 paragraphs) explaining why the black bear would make the marketing of the product successful.
5. If time allows, have each group present their advertising campaign to the class. Class members should offer positive feedback about whether or not they feel the advertisement would be effective.



Glossary

NOTE: All terms were defined using Miriam-Webster's Word Central Dictionary.

Adaptation (Adaptable) – adjustment to environmental conditions; change in an organism or its parts that fits it better for the conditions of its environment; a structure resulting from this change

Biome – a major type of ecological community

Carnivore – a flesh-eating animal

Civilization – an advanced stage (as in art, science, and government) of social development

Claw – a sharp usually slender and curved nail on the toe of an animal (as a cat or bird)

Coexist – to exist together or at the same time; to live in peace with each other

Conservation – a careful preservation and protection of something; planned management of a natural resource to prevent exploitation, pollution, destruction, or neglect

Consumer – a plant or animal that requires complex organic compounds for food which it obtains by preying on other living things or eating particles of organic matter

County – a division of a state or of a country for local government

Cub – a young flesh-eating mammal

Culture – the beliefs, social practices, and characteristics of a racial, religious, or social group; the characteristic features of everyday life shared by people in a particular place or time

Deciduous trees – a tree in which the leaves fall off at the end of a growing period or stage of development

Den – the shelter or resting place of a wild animal

Dormant – having growth or other biological activity much reduced or suspended

Ecosystem – a system made up of an ecological community of living things interacting with their environment especially under natural conditions

Endangered – threatened with extinction

Extirpated – destroyed completely

Food chain – a series of organisms in which each uses the next usually lower member of the series as a food source

Forest – a dense growth of trees and underbrush covering a large area

Habitat – the place or type of place where a plant or animal naturally or normally lives or grows

Habitat fragmentation – broken off or incomplete habitat

Herbivore – a plant-eating animal

Hibernation – to pass the winter in a sleeping or resting state

Home range – the place where a certain kind of animal or plant naturally lives on a daily basis

Legend – a story coming down from the past whose truth is popularly accepted but cannot be checked

Mammal – an animal that has a backbone, warm blood, hair or fur, gives birth to live young, and nurses their young with milk

Muzzle – the nose and jaws of an animal

Myth – a story often describing the adventures of superhuman beings that attempts to describe the origin of a people's customs or beliefs or to explain mysterious events (as the changing of the seasons)

Niche – a habitat that contains the things necessary for a particular plant or animal to live; the part that a particular living thing plays in an ecological community

Omnivore – a flesh and plant-eating animal

Paw – the foot of a four-footed animal (as a lion or dog) having claws; the foot of an animal

Predator – an animal that lives by killing and eating other animals

Prey – an animal hunted or killed by another animal for food

Producer – living thing (as a green plant) that makes its food from simple inorganic substances (as carbon dioxide and nitrogen) and many of which are food sources for other organisms

Scavenger – an organism (as a vulture or hyena) that usually feeds on dead or decaying matter

Shelter – something that covers or protects

Symbol – something that stands for something else

Tail – the rear end or a lengthened growth from the rear end of the body of an animal



Resources

Black Bear Conservation Committee (2005). *Black bear management handbook for Louisiana, Mississippi, southern Arkansas, and east Texas*. Baton Rouge, LA: Black Bear Conservation Committee.

Conservation Education Section and Project WILD of the New Mexico Department of Game and Fish (2006). *WILD about bears: An educator's guide to New Mexico's black bears*. Santa Fe, NM: State of New Mexico.

Cooper, S.K. (2001). *Bears: Educator's guide*. Reston, VA: National Wildlife Federation.

Cronin-Jones, L. (n.d.). *The Florida black bear curriculum guide*. Tallahassee, FL: Florida Fish and Wildlife Conservation Commission.

Discovery Education (2007). *Discovery Education's puzzlemaker*. Retrieved March 13, 2008, from <http://puzzlemaker.discoveryeducation.com>.

Merriam-Webster, Inc. (2007). *Word central dictionary*. Retrieved March 12, 2008, from <http://www.wordcentral.com>.

Northwest Trek Wildlife Park (1993). *Northwest Trek's intro to bears*. Tacoma, Washington: Northwest Trek Wildlife Park, Division of Metropolitan Park District of Tacoma.

Project WILD, California Department of Fish and Game (n.d.). *Be bear aware! Curriculum guide*. Retrieved March 3, 2008, from <http://www.dfg.ca.gov/projectwild/bear.html>.

School Services Division of The Science Museum of Minnesota (1990). *Bears: Imagination and reality*. St. Paul, MN: The Science Museum of Minnesota.

Texas Parks and Wildlife Department (n.d.). *Texas rivers, reservoirs, and major bays*. Retrieved March 3, 2008, from http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_mp_e0100_1070f_34.pdf.

Texas Parks and Wildlife Department (2005). *East Texas black bear management plan 2005-2015*. Retrieved March 3, 2008, from http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_pl_w7000_1046.pdf.

Texas Parks and Wildlife Department (2008). *Texas Parks and Wildlife*. Retrieved January 16, 2008, from <http://www.tpwd.state.tx.us>.

Texas Parks and Wildlife Department GIS Lab (2000). *Texas counties*. Retrieved March 3, 2008, from http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_mp_e0100_1070c_34.pdf.

Texas Parks and Wildlife Department GIS Lab (2000). *Texas counties* (with names). Retrieved March 3, 2008, from http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_mp_e0100_1070b_34.pdf.

Texas Parks and Wildlife Department GIS Lab (2006). *Natural regions of Texas*. Retrieved March 3, 2008, from http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_mp_e0100_1070t_34.pdf.

Texas Parks and Wildlife Department Wildlife Division (2003). *Black bears in Texas* [Brochure]. Austin, TX: Texas State Publications Clearinghouse.

Wikipedia. (2008). *American black bear*. Retrieved January 29, 2008, from http://en.wikipedia.org/wiki/American_Black_Bear.

Wilson, K. (2002). *Bear snores on*. New York: Margaret K. McElderry Books.



Supplemental Activities

The following activities have been created for classroom use. Materials may be re-printed for educational purposes for use in the classroom only. Copyright East Texas Black Bear Task Force, 2008.



American Black Bears

j n g g x m t s w s t x h a x c o y r m s s w d l
s l u f v c x q q x b r v s l l r m d w t a z h a
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m e f q n y f r p k a u z e l f o l n y a k n l m
c x i p u n u l x n g x h k s q c w n p n y d b a
w a k m h a s p b q m u e e b o n k d l w t a a m
b s b u c o l c s z f t b o a c z u h p z t n x h
i q j q d t y s z m h e g x k z r g o c x y g q o
m p x r c l e m m z c w r r h v o y b h g x e d a
g s s e z b l l v x z a k k y a b q v u r r p x
r t a t i b a h z s g v w u l b w y r o x l e q r
b x c f v k g y d z d e d h d i k f f u c e d i g
j r c n c g m h n c u u z p m d c h n r m g n p h
g o z b n d l k s y b m u c p y u i k h p m k i c
f r u i t d h t v s o m r q u d t h p h h s b n g
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b s f z n e v n b m f l f l f c n u o b y z a u o
z t t p l t p p e w t u p s f y v a k g t i p k h

claws

endangered

habitat

paws

cubs

fish

mammal

Texas

hibernate

fruit

muzzle

trees

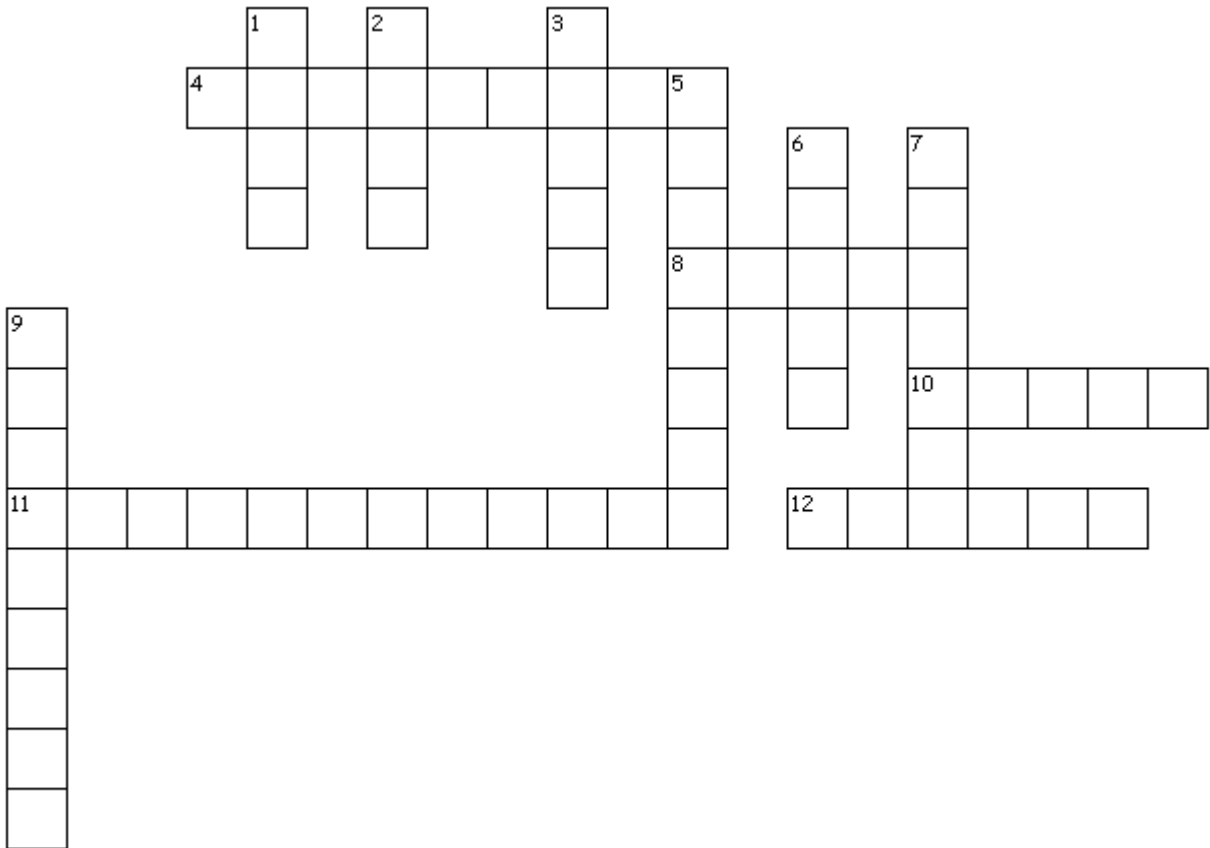
Created by [Puzzlemaker](#) at [DiscoveryEducation.com](#)



American Black Bears Solution

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+ E + + + + + + + + + + E + F + L + + + + N + M
+ X + + + + + + + + + + S + C + + + + + D + A
+ A + + + + + + + + + + + + + + + + + + A + M
+ S B U C + + + + + + + + + + + + + + + + N + +
+ G + +
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Black Bear Crossword



Across

4. a state that borders Texas
8. an area that a bear spends most of its time in
10. this is the state we live in
11. the act of helping to protect an animal for the future
12. a place with lots of trees

Down

1. this is what we call the things animals eat
2. a place with tall buildings and many roads
3. most of the world is covered in this
5. the Louisiana black bear is a subspecies of this kind of bear
6. a border that goes around a yard
7. a place a bear can stay dry from the rain
9. a large animal found in east Texas

Black Bear Crossword Solution

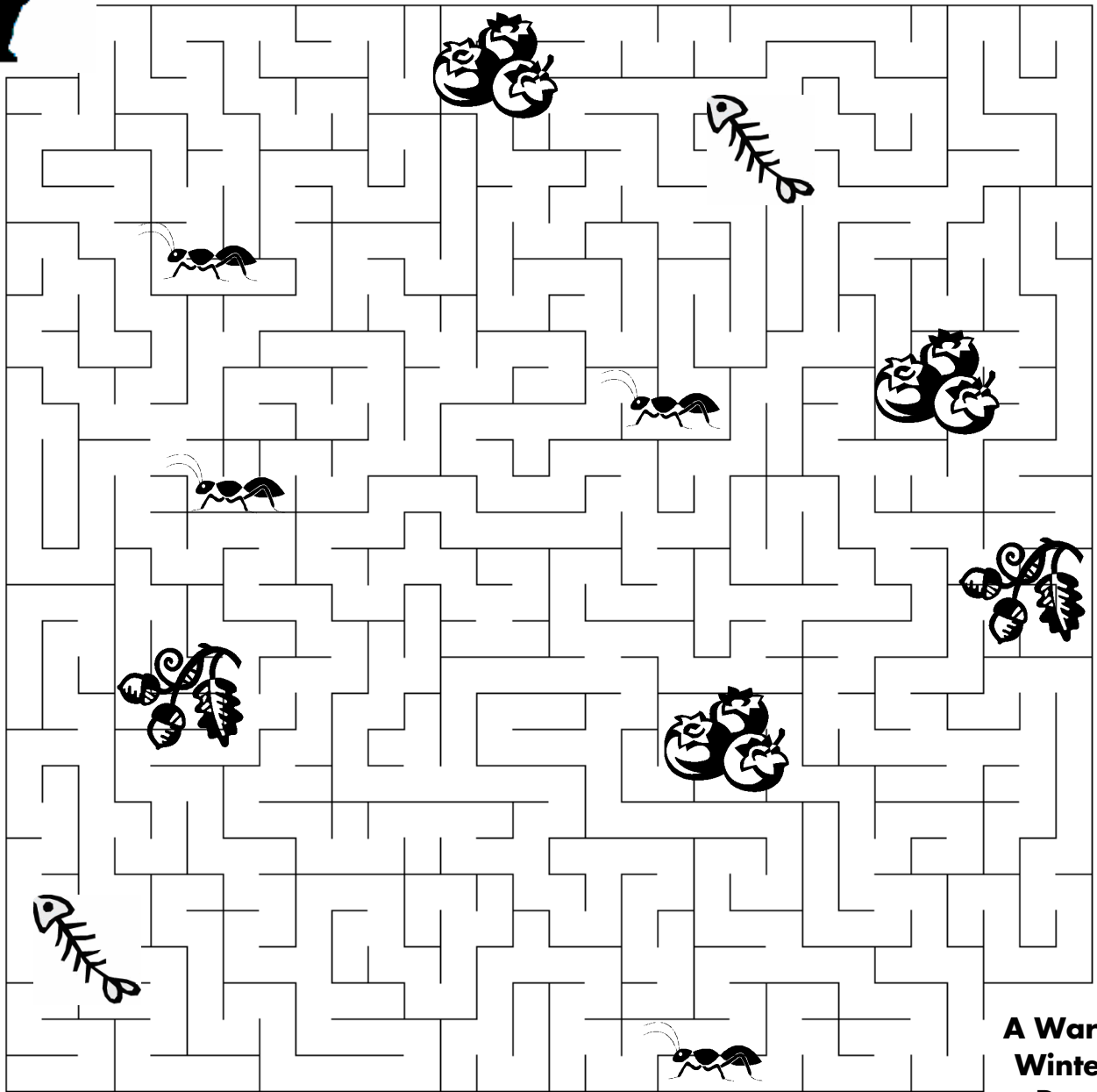
Across

4. a state that borders Texas - *Louisiana*
8. an area that a bear spends most of its time in - *range*
10. this is the state we live in - *Texas*
11. the act of helping to protect an animal for the future - *conservation*
12. a place with lots of trees - *forest*

Down

1. this is what we call the things animals eat - *food*
2. a place with tall buildings and many roads - *city*
3. most of the world is covered in this - *water*
5. the Louisiana black bear is a subspecies of this kind of bear – *American*
6. a border that goes around a yard - *fence*
7. a place a bear can stay dry from the rain - *shelter*
9. a large animal found in east Texas – *black bear*

Created by [Puzzlemaker](#) at [DiscoveryEducation.com](#).



**A Warm
Winter
Den**

Help the black bear get past all the food to its warm winter den.

Created by Puzzlemaker at DiscoveryEducation.com

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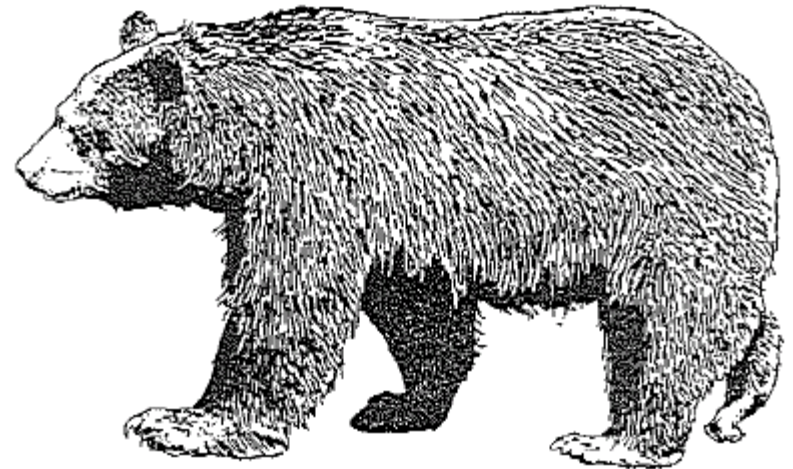
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Unscramble the words about black bears to solve the message at the bottom of the page!



1 2 3 4 5 were historically 11 12 13 14 15 in 16 17 18 19 20

| | |
|------------------------|-------------------------------|
| lckba ersba | <u>Black bears</u> |
| astxe | <u>Texas</u> |
| gtisihsgn | <u>Sightings</u> |
| reoftss | <u>Forests</u> |
| treatheend | <u>Threatened</u> |
| riseontora | <u>Restoration</u> |
| datiuneoc | <u>Education</u> |
| chrsearc | <u>Research</u> |
| oncevatiorn | <u>Conservation</u> |
| nvreoimo | <u>Omnivore</u> |
| subc | <u>Cubs</u> |
| rortyreit | <u>Territory</u> |
| oehm gear | <u>Home range</u> |
| thaabit | <u>Habitat</u> |
| bitaht nmeageatnme | <u>Habitat management</u> |
| ignnedn ties | <u>Denning site</u> |
| grendadene cpieses tca | <u>Endangered species act</u> |

Unscramble the words about black bears to solve the message at the bottom of the page!



Black bears were historically found in Texas.