

Teaching Activities

for



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Teaching Activities are intended for use at home, in the classroom, and during story-times.
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Questions to ask children before reading the book

- What do you think the book is about by looking at the cover (or one or two of the inside illustrations)? *Sometimes it is easy to tell from the cover, other times it is not.*
- What does the cover illustration show?
- Does the title tell you what the book is about?
- Is there a subtitle to give more information?
- Why do you think the word “Difference” is so important in this title?
- How do you think this book might be related to your math, science, or social studies class?

What do children already know?

- Young children are naturally inquisitive and are sponges for information. The whole purpose of this activity is to help children verify the information they know (or think they know) and to get them thinking “beyond the box” about a particular subject.
- The children should write down their “concepts” (or adults for them if the children are not yet writing) on the provided chart found on the next page.
- Use the questions to get children thinking about what they already know. Feel free to add more questions or thoughts according to the child(ren) involved.

What do children already know—activity chart

Ask children to write down what they think they know before reading the book. If the information is verified while reading the book, they check “yes.” If the information is wrong, they mark “no” and cross it off, then write the correct information. Have the children note how the information was verified.

What do I think I know?	Yes	No	Verified
What does endangered mean?			Text Illustration Info in FCM Other r
What are some animals that are endangered?			Text Illustration Info in FCM Other
What are some reasons that plants or animals might become endangered?			Text Illustration Info in FCM Other
What are some ways that people help endangered animals?			Text Illustration Info in FCM Other
What is a Wildlife Refuge?			Text Illustration Info in FCM Other
How do zoos help some endangered animals?			Text Illustration Info in FCM Other

Use this chart for any other thoughts the children might have.

What do I think I know?	Yes	No	Verified
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other
			Text Illustration Info in FCM Other

After reading the book – writing prompts & thinking it through

- Did the cover “tell” you what the book was about?
- How is the saying “What’s the Difference?” a play on words for this book?
- Draw your own cover.
- Write a song about helping animals.
- Have you even seen any of these animals? If so, describe where you saw them and what they were doing (if you can remember).
- Do you think that prairie dogs really frolic most of the day?

Re-read the book looking for more information

Go back and re-read the book studying each page carefully.

- What facts are mentioned in the text?
- How have or are people helping each of the animals?
- What can be seen or inferred from the illustrations that is not or are not mentioned in the text?
- What, if anything, can be inferred from the text?
 - *Where are the crocodiles sunning?*
 - *Where are the manatees grazing?*
 - *How many prairie dogs are guarding the colony?*
 - *Where is a whooping crane’s home?*
 - *What are otter pups hunting?*
 - *Where were the eaglets sleeping?*
 - *Where are the salmon going?*
 - *What noise do wolves make?*
 - *Where do wolves make their homes?*
 - *Who works to help endangered creatures?*

As you re-read the story, write down any words that relate to the five senses.

Feel	Taste	See	Smell	Hear

What do children already know—activity conclusion

- Do the children have any more questions about endangered or threatened animals? If so, write them down on the chart.
- Identify whether the information was verified and how.
- If the concept is correct, make a note of how the information was confirmed (illustration, in text, or the “For Creative Minds” section)
- If the concept was not correct, what IS the correct information – with confirmation notes as above.
- If the concept was neither confirmed nor denied, look the information up in a reliable source and note where it was confirmed.
- Wrap it all up by adding notes with new information that the children learned either through the reading or the research while looking up something else.

Language Arts

Developing a Vocabulary “Word Wall”

If using the book as a way to introduce a topic or subject, this is also a great way to introduce subject-related vocabulary words. If you don't have the time (or the inclination) to develop the “word wall” by playing the Vocabulary Game (below), we have provided a vocabulary list for you.

Vocabulary words for the “word wall” may be written on index cards, on a poster board, or on a chalk board. If writing on poster board or chalk board, you might want to sort into nouns, verbs, etc. right away to save a step later. Leaving the words posted (even on a refrigerator at home) allows the children to see and think about them frequently.

Vocabulary Game

This activity is designed to get children thinking of vocabulary words that will then be used as the beginning vocabulary list for a science lesson.

Select an illustration and give children a specific length of time (five minutes?) to write down all the words they can think of about the particular subject. If you do not have classroom sets of the book, it is helpful to project an illustration on a white board. Check our website (www.ArbordalePublishing.com) for book “previews” that may be used for this purpose.

The children's word list should include anything and everything that comes to mind, including nouns, verbs, and adjectives. At the end of the time period, have each child take turns reading a word from his/her list. If anyone else has the word, the reader does nothing. If however, the reader is the only one with the word, he/she should circle it. While reading the list, one person should write the word on a flashcard or large index card and post it on a bulletin board or wall.

At the end, the child with the most words circled “wins.” And you have a start to your science vocabulary list. *Note if a child uses an incorrect word, this is a good time to explain the proper word or the proper usage.*

Putting it all together

The following activities may be done all together or over a period of several days.

- Continue to add words to the vocabulary list as children think of them.
- Sort vocabulary words into nouns, verbs, adjectives, etc. and write what they are on the backs of the cards. When the cards are turned over, all you will see is “noun,” etc. (*These can then be used to create silly sentences, below.*)
- Now sort the vocabulary words into more specific categories. For example, nouns can be divided into plants, animals, rocks, minerals, etc. They can be divided into living/non-living, or into habitat-related words.
- Have children create sentences using their vocabulary words. Each sentence could be written on a separate slip of paper.
- Have children (individually or in small groups) sort and put sentences into informative paragraphs or a story.
- Edit and re-write paragraphs into one informative paper or a story.

WHAT'S THE DIFFERENCE?

AN ENDANGERED ANIMAL SUBTRACTION STORY

Suggested Vocabulary List

<u>Part of Speech</u>	<u>word</u>	<u>Definition</u>
adjective	aquatic	an organism that lives in water
adjective	blue	a color
adjective	dominant	the most abundant types of plants or animals that by virtue of abundance or size
adjective	ectothermic	cold-blooded, relating to an organism that regulates its body temperature from the surrounding air or water
adjective	endangered	an animal or plant in danger of extinction within the foreseeable future throughout all or a significant portion of its range
adjective	endothermic	warm-blooded, animals that generate body heat above ambient temperatures through various physiological and anatomical specializations.
adjective	extinct	no longer in existence
adjective	furry	having fur
adjective	graceful	beautiful manner or movement
adjective	interdependence	plants and animals that depend on each other either directly or indirectly for survival in a particular environment
adjective	massive	huge, bulky, heavy
adjective	nonnative	a species of plant or animal which did not originate in its present location
adjective	spotted	having spots
adjective	threatened	a species in trouble--it may become endangered if people don't help
adjective	vulnerable	a species that is at risk because of low or declining numbers
animal-noun	bat	a flying, nocturnal mammal
animal-noun	bowhead whales	a type of whale (marine mammal) living high in the Arctic
animal-noun	butterflies	a type of insect--hundreds of different types

animal-noun	crocodiles	reptiles found in tropical, swampy waters
animal-noun	eagle	a type of bird of prey
animal-noun	eaglet	a baby eagle
animal-noun	frogs	amphibians
animal-noun	manatee	a plant-eating marine mammal found in some tropical waters
animal-noun	prairie dog	a type of rodent (mammal) found in North America
animal-noun	salmon	a type of fish: lives in the ocean but returns to freshwater rivers to spawn
animal-noun	sea otter	a marine mammal (otter) found in the northern Pacific Ocean
animal-noun	whooping cranes	tallest birds in North America, migrating birds
animal-noun	wolf	a large carnivore, related to dogs
noun	adaptation	a physical or behavioral feature of a plant or animal that allows it to survive in its environment
noun	algae	very small, simple plants that live in water through photosynthesis, algae are the main producers of food and oxygen in water environments
noun	amphibian	a cold-blooded animal with smooth, moist skin, lives in water and then land, breathes through gills and then lungs, e.g. frogs, newts, and salamanders
noun	anadromous	Species that live their adult lives in the ocean but move into freshwater streams to reproduce or spawn (e.g., salmon).
noun	animal	any member of the kingdom Animalia: can move voluntarily, actively acquire food and digest it internally, and responds to stimuli
noun	antennae	the long, thin, jointed projections from an insect's head that inform it about the feel, sound, taste, smell, temperature, and humidity in the world outside of its skeleton
noun	behavior	an organism's actions and responses to its environment and other organisms in that same environment
noun	biodiversity	the number and variety of organisms found within a specified geographic region; and the variability within and between species and within and between ecosystems
noun	biologist	a scientist who studies living organisms

noun	bird	a warm-blooded vertebrate that breathes oxygen with lungs, has a beak, feathers, two wings, two legs, and lays eggs; birds are the ONLY animals that have feathers; not all birds fly
noun	burrow	an animals' hole or excavation in the ground used shelter or habitation
noun	camouflage	physical adaptations that allow organisms to hide in their surroundings
noun	captivity	confined
noun	carnivore	an animal that eats the meat of other animals (consumer)
noun	competition	organisms have a wide variety of strategies that help them gather resources such as water, food, shelter, space, and mates
noun	conservation	the protection, preservation, management, or restoration of wildlife and of natural resources such as forests, soil, and water; to prevent exploitation, destruction or neglect
noun	critical habitat	specific geographic areas that are determined to be essential for the conservation and management of listed species
noun	DDT	a poisonous insecticide harmful to animals and humans, no longer manufactured in North America
noun	difference	a significant change in or effect on a situation
noun	difference	a variation between things of the same class
noun	ecologist	a biologist who studies the relation between organisms and their environment
noun	ecology	the study of the relationships of living organisms to their environment
noun	ecosystem	a community of living organisms and how they relate with their living and non-living environment
noun	egg	the roundish reproductive object produced by bird, reptile, and a few mammal females
noun	environment	all living and nonliving things, (plants, animals, soil, weather, etc.), that affect the existence of organisms in that community

noun	equilibrium	a stable, balanced, or unchanging ecosystem
noun	extinct species	a species no longer in existence
noun	extinction	the complete elimination of a species from the earth.
noun	extirpated species	a species no longer surviving in regions that were once part of their range
noun	first-order consumer	animals that consume plants - herbivores such as deer or mice.
noun	fish	a cold-blooded vertebrate that breathes with gills, is covered with scales, and lives in water
noun	fish ladder	a series of pools arranged like steps by which fish can pass over a dam in going upstream
noun	food	what is eaten to sustain life, provide energy, promote growth, etc.
noun	food chain	a series of plants and animals linked together by their food relationships
noun	food web	a group of interconnected food chains in an ecosystem
noun	fragmentation	the break up of an organism's population and breeding grounds; -- often due to roads or development
noun	gills	body parts that some aquatic animals use obtain oxygen from the water
noun	hatchlings	animal babies that have recently emerged from an egg
noun	herbivore	an animal that eats only plants, a primary consumer
noun	historic range	the geographic areas the species was known or believed to occupy in the past
noun	indicator species	a biological indicator of the well-being or abundance of an environment
noun	insect	a six-legged arthropod usually with a hard exoskeleton and three main body parts
noun	invertebrate	the group of animals without a backbone
noun	kelp	a type of algae, large brown seaweed
noun	listed species	a species, subspecies, or distinct vertebrate population segment that has been added to the Federal lists of Endangered and threatened Wildlife and Plants
noun	lungs	organs to provide an animal with oxygen

noun	mammal	a warm-blooded vertebrate that breathes with lungs and is covered with hair/fur; females produce milk to feed their live offspring
noun	marine mammal	a mammal that lives in the ocean
noun	migration	Many animals move to a different location to find a better place to endure seasonal changes, find food supplies, breed, nurse young, find adequate space, etc. Migrations may be repeated within a species from year-to-year and even from generation-to-generation.
noun	naturalist	a person who appreciates, studies and interprets the natural environment
noun	nest	a place used by birds, insects, fishes, turtles, rabbits, etc., for depositing their eggs or raising young
noun	noise	sounds, especially loud, harsh sounds
noun	omnivore	a consumer (organism) that eats both animals and plants
noun	ornithologist	a scientist who studies birds.
noun	pollutant	any substance introduced into the environment that adversely affects the usefulness of a resource or the health of humans, animals, or ecosystems
noun	pollution	harmful or unwanted waste material that is added to the air, water, or soil
noun	population	all the organisms that constitute a specific group or occur in a specified habitat
noun	population density	number of organisms per unit area
noun	predator	an animal that depends on or preys on other animals for food.
noun	primary consumer	an animal that eats plants, herbivore
noun	producer	an organism that makes its own food through the process of photosynthesis; all green plants are producers
noun	recovered species	when a species no longer requires protection under the Endangered Species Act and is delisted
noun	recovery	the process by which the decline of an endangered or threatened species is arrested or reversed so its long-term survival in nature can be ensured
noun	rehabilitation	the treatment of injured or orphaned wild animals with the goal of releasing them back to the wild

noun	reptile	a cold-blooded, air-breathing animal with scales or plates, and a backbone; hatch from eggs (snakes, lizards, turtles, etc.)
noun	reserve	land put aside by the government with the intent to protect a habitat and the wildlife living there
noun	restoration	the act or process of bringing something back to a previous condition or position
noun	scientist	a person who uses observation, experimentation and theory to learn about an area of science (biologists, physicists, chemists, geologists and astronomers)
noun	secondary consumer	an animal that eats plant-eating animals
noun	smolt	salmon young
noun	species	a group of organisms different from all others in that they do not interbreed with any other groups
noun	species of concern	an informal term that refers to those species which might be in need of concentrated conservation actions
noun	tertiary consumer	carnivores that eat other carnivores
noun	vertebrate	having a backbone or spinal column
noun	wetland	an area where the soil is either underwater or water soaked; may be permanent or temporary
noun	wildlife	large wild animals like deer, mice, birds, etc. have not been domesticated for human use
noun	wings	the two forelimbs of most birds and of bats, like arms, that are specialized for flight
verb	bask	to lie in or be exposed to a pleasant warmth (sunshine)
verb	breathe	to take in/absorb oxygen
verb	camouflage	to conceal or hide by disguise or coloring
verb	conserve	to protect, preserve, or restore wildlife and natural resources
verb	delist	removing an animal or plant from the list of Endangered and threatened Wildlife and Plants
verb	disappear	no longer exist, vanish
verb	drain	to remove water from
verb	drift	to be carried by winds and currents, to wander aimlessly
verb	eat	to bite and swallow food as nourishment

verb	extirpate	to remove or destroy totally; do away with; exterminate
verb	frolic	play, have fun
verb	guard	to watch over, keep safe
verb	hatch	to emerge from an egg
verb	hunt	to chase or search for animals for the purpose of catching or killing
verb	interact	to act upon one another
verb	migrate	to travel over a distance with the change of season (or other cycle) or to find food, breed, or nurse young
verb	pollute	to make dirty or impure through the introduction of a harmful or hazardous element
verb	protect	provide for, defend
verb	reclassify	the process of changing a species' official threatened or endangered classification (up or down)
verb	restore	to bring back to a former, original, or normal condition
verb	sleep	to rest, to be dormant
verb	snooze	sleep, doze, nap
verb	subtract	to remove, take away from
verb	survive	to remain alive or in existence

WHAT'S THE DIFFERENCE?

AN ENDANGERED ANIMAL SUBTRACTION STORY

Silly Sentence Structure Activity

This is a fun activity that develops both an understanding of sentence structure and the science subject. Use words from the “word wall” to fill in the blanks. After completing silly sentences for fun, have children try to fill in the proper words by looking for the information in the book. They can make up their own too!

Some animals are endangered, or in danger of _____ing
forever. Animals have been harmed by _____, loss of
_____ and over-_____ing.

verb
noun
noun
verb

Fortunately, many people work hard to help these _____s.
They _____ and _____ habitats, teach people how to
care for the environment and raise some animals in _____!

noun
verb
verb
noun

Once in danger of _____, bald _____s have recovered.

noun
noun

Not all prairie dogs are in danger, but the Utah prairie dogs are
_____ed.

adjective

Whooping cranes lost their homes when _____s were
_____ed for farming and houses. Some of the _____
now learn their migration routes by following small planes!

noun
verb
nouns

Even though _____s have _____, they are mammals,
not birds.

noun
noun

Word Families

Word families are groups of words that have some of the same combinations of letters in them that make them sound alike...or rhyme. For example ad, add, bad, brad (Brad), cad, Chad, clad, dad, fad, gad, glad, grad, had, lad, mad, pad, plaid (silent "i"), sad, shad, and tad all have an "ad" letter combination and rhyme. Find the rhyming words in the poem and see if you can think of more words in the word family.

What are some of the words that rhyme in this book?

_____ and _____

The letters or sounds they have in common are: _____

Some other words with these sounds are:

_____ _____ _____
_____ _____ _____

What are some of the words that rhyme in this book?

_____ and _____

The letters or sounds they have in common are: _____

Some other words with these sounds are:

_____ _____ _____
_____ _____ _____

What are some of the words that rhyme in this book?

_____ and _____

The letters or sounds they have in common are: _____

Some other words with these sounds are:

_____ _____ _____
_____ _____ _____

WHAT'S THE DIFFERENCE?

AN ENDANGERED ANIMAL SUBTRACTION STORY

Write about it!

Imagine that you live on a crocodile farm. Write a story about your adventures.

Imagine you're a prairie dog. Write a story about the kinds of games you might like to play.

If you visited a wetland, what animals would you find? Take a walk through your imagination and write a journal about your journey.

A butterfly must go through many stages before it becomes a butterfly. Write a story about the life cycle of a butterfly. Here's a hint: the caterpillar stage is one part of the cycle.

What if you were whale watching and saw a bowhead whale? Write a story and use your five senses to describe what it would be like to be on a boat in the sea and to see this BIG creature!

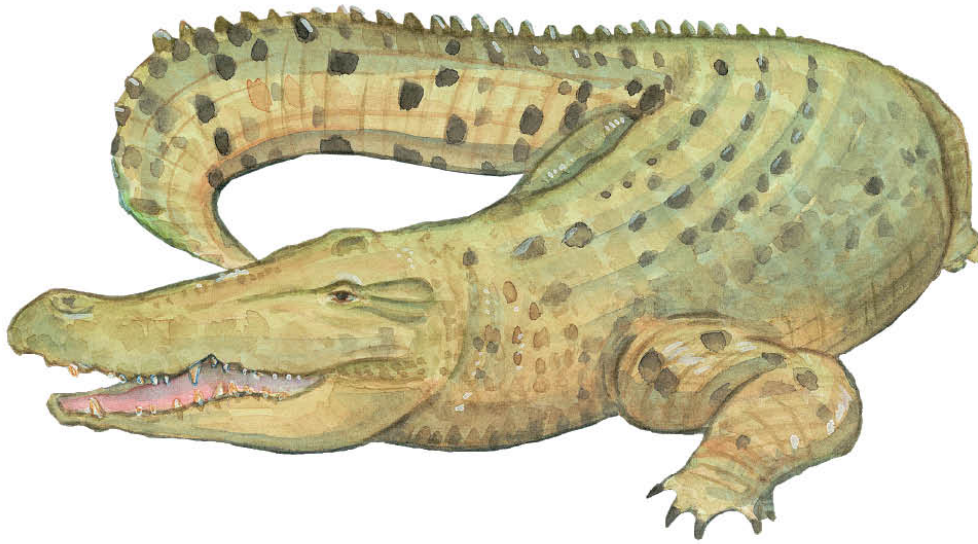
Bats like dark caves. Imagine you're searching for a treasure and you have to go into a deep, dark cave. Write a story about what you find—and don't forget the bats!

Frogs like to leap and hop. Have you seen a frog? What did it look like? Write a funny poem about a frog.

Eaglets live together in nests before they can fly. Write a story about the last eaglet to leave the nest.

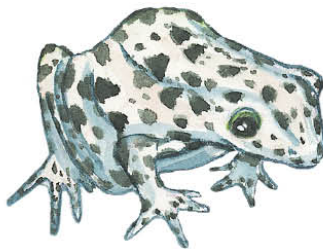
Do you know why wolves howl? Write a story about a wolf that howls at night.

Science—Activity or Sorting Cards



American Crocodile
Reptile

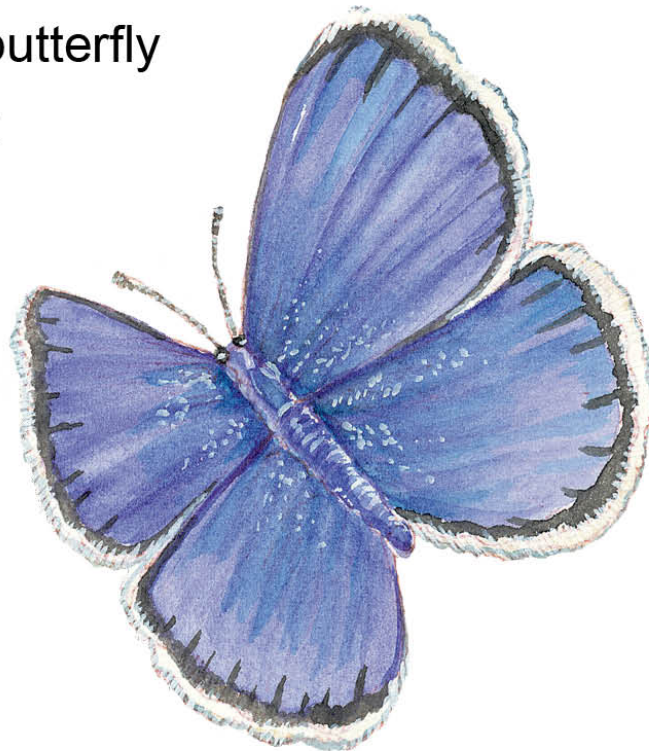
Mississippi gopher frog
Amphibian



Utah prairie dog
Mammal



Karner blue butterfly
Insect





Bald eagle
Bird

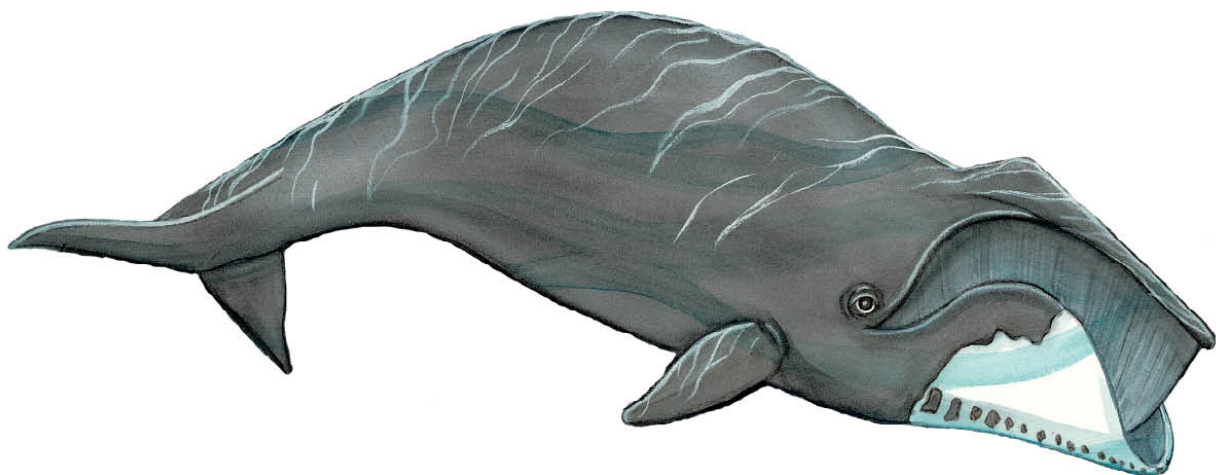


Whooping crane
Bird

Atlantic salmon
Fish



Bowhead whale
Mammal



West Indian manatee
Mammal



Sea otters
Mammal



gray bat
Mammal



red wolf
Mammal



Animal Card Games

Use the cards on the previous pages for any of the following:

Memory Card Game Make two copies of each of the sorting card pages and cut out the cards. Mix them up and place them face down on a table. Taking turns, each player should turn over two cards so that everyone can see. If the cards match, he or she keeps the pair and takes another turn. If they do not match, the player should turn the cards back over and it is another player's turn. The player with the most pairs at the end of the game wins.

Who Am I? Copy or download the cards. Poke a hole through each card and tie onto a piece of yarn. Each child should put on a "card necklace" so that the card is on his/her back. Children should ask "yes/no" questions to guess the animals.

Go Fish Make two copies of the cards to play "Go Fish." Deal four cards to two players or three cards to three or four players. Instead of asking for the animal by name, the child must ask for the card using some kind of animal description, such as "Do you have an endangered mammal that sleeps in a cave?" The other player verifies the animal with "do you want a gray bat?" before giving away the card. If the person does not have a match, they say "go fish" and the first child draws a card from the pile. A match is set down and the child continues with his/her turn until he/she has no more matches and the play goes to the next child. The first child to get rid of all his/her cards, wins.

Sorting Use the cards to sort into piles according to animal classification or according to how they move, their habitat or any other sortable property.

Adaptations: Physical and Behavioral

Adaptations help animals to live in their habitat: to get food and water, to protect themselves from predators, to survive weather, and even to help them make their homes. The following is not a complete list by any means, but should help.

- Physical Adaptations:
 - body parts
 - teeth – depend on type of food it eats
 - feet, flippers, fins – ability to move
 - placement of eyes
 - how does it get oxygen (gills, lungs, osmosis)
 - body covering & insulation
 - hair
 - feathers
 - fur
 - scales
 - blubber
 - Camouflage
 - color of skin or pattern to blend into background.
 - mimicry: pretending to be something else to fool predators
- Behaviors
 - instinct: behaviors or traits that the animals are born with
 - learned behavior: traits that animals learn to improve their chances of survival or to make their life easier
 - social groups versus solitary living
 - communication with other animals
 - defense/camouflage
 - reaction to cycles (day/night, seasons, tides, etc.)
 - migration: the seasonal movement of animals from one location to another
 - hibernation: a long, deep sleep in which the animal's breathing and heartbeat are slower than usual.

Try to answer the adaptation questions for each animal on the following pages.



Atlantic salmon

Have you ever seen one of these animals in real life? yes no

If so, where did you see it? _____

What are the babies called? _____

How are the animals born? hatched from eggs born alive

How many brothers and sisters might be born at the same time? _____

How big is the baby (length, height, weight, etc.) when born? _____

Who raises the young: both parents mother only father only

neither parent – the baby survives on pure instinct

What does the baby eat and for how long? _____

How long will the babies stay with the parent (if parents are involved)? _____

When is the “baby” considered an adult? _____

How will it find a mate and have babies? _____

Who prepares the nest/den/burrow and how (if applicable)? _____

Some animals are only born at specific times of the year (to coincide with food availability). This baby

is born: anytime of the year or usually in the month of _____ or

the season of _____

In what type of habitat and ecosystem does this animal live? _____

How does it move and what parts of its body does it use to move? _____

What are some of the behaviors that were discussed in the story? _____

How does it see? _____

How does it hear? _____

What does it eat? _____

How does it get its food? _____

How does it protect itself from predators? _____

Where does the animal live and does it make a "house?" (burrow, nest, etc.) _____

Does it live alone or with a group? _____

How does it "communicate" with others of its kind? _____

How does it sleep? _____

When does it sleep? _____

Is food easily available all year? _____

How does the animal deal with seasonal changes (if applicable)? _____



Whooping crane

Have you ever seen one of these animals in real life? yes no

If so, where did you see it? _____

What are the babies called? _____

How are the animals born? hatched from eggs born alive

How many brothers and sisters might be born at the same time? _____

How big is the baby (length, height, weight, etc.) when born? _____

Who raises the young: both parents mother only father only

neither parent – the baby survives on pure instinct

What does the baby eat and for how long? _____

How long will the babies stay with the parent (if parents are involved)? _____

When is the “baby” considered an adult? _____

How will it find a mate and have babies? _____

Who prepares the nest/den/burrow and how (if applicable)? _____

Some animals are only born at specific times of the year (to coincide with food availability). This baby is born: anytime of the year or usually in the month of _____ or the season of _____

In what type of habitat and ecosystem does this animal live? _____

How does it move and what parts of its body does it use to move? _____

What are some of the behaviors that were discussed in the story? _____

How does it see? _____

How does it hear? _____

What does it eat? _____

How does it get its food? _____

How does it protect itself from predators? _____

Where does the animal live and does it make a "house?" (burrow, nest, etc.) _____

Does it live alone or with a group? _____

How does it "communicate" with others of its kind? _____

How does it sleep? _____

When does it sleep? _____

Is food easily available all year? _____

How does the animal deal with seasonal changes (if applicable)? _____



Bald eagle

Have you ever seen one of these animals in real life? yes no

If so, where did you see it? _____

What are the babies called? _____

How are the animals born? hatched from eggs born alive

How many brothers and sisters might be born at the same time? _____

How big is the baby (length, height, weight, etc.) when born? _____

Who raises the young: both parents mother only father only

neither parent – the baby survives on pure instinct

What does the baby eat and for how long? _____

How long will the babies stay with the parent (if parents are involved)? _____

When is the “baby” considered an adult? _____

How will it find a mate and have babies? _____

Who prepares the nest/den/burrow and how (if applicable)? _____

Some animals are only born at specific times of the year (to coincide with food availability). This baby is born: anytime of the year or usually in the month of _____ or the season of _____

In what type of habitat and ecosystem does this animal live? _____

How does it move and what parts of its body does it use to move? _____

What are some of the behaviors that were discussed in the story? _____

How does it see? _____

How does it hear? _____

What does it eat? _____

How does it get its food? _____

How does it protect itself from predators? _____

Where does the animal live and does it make a "house?" (burrow, nest, etc.) _____

Does it live alone or with a group? _____

How does it "communicate" with others of its kind? _____

How does it sleep? _____

When does it sleep? _____

Is food easily available all year? _____

How does the animal deal with seasonal changes (if applicable)? _____



Mississippi gopher frog

Animal Name Here

Have you ever seen one of these animals in real life? yes no

If so, where did you see it? _____

What are the babies called? _____

How are the animals born? hatched from eggs born alive

How many brothers and sisters might be born at the same time? _____

How big is the baby (length, height, weight, etc.) when born? _____

Who raises the young: both parents mother only father only

neither parent – the baby survives on pure instinct

What does the baby eat and for how long? _____

How long will the babies stay with the parent (if parents are involved)? _____

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How will it find a mate and have babies? _____

Who prepares the nest/den/burrow and how (if applicable)? _____

Some animals are only born at specific times of the year (to coincide with food availability). This baby

is born: _____ anytime of the year or _____ usually in the month of _____ or

the season of _____

In what type of habitat and ecosystem does this animal live? _____

How does it move and what parts of its body does it use to move? _____

What are some of the behaviors that were discussed in the story? _____

How does it see? _____

How does it hear? _____

What does it eat? _____

How does it get its food? _____

How does it protect itself from predators? _____

Where does the animal live and does it make a "house?" (burrow, nest, etc.) _____

Does it live alone or with a group? _____

How does it "communicate" with others of its kind? _____

How does it sleep? _____

When does it sleep? _____

Is food easily available all year? _____

How does the animal deal with seasonal changes (if applicable)? _____



Gray bat

Have you ever seen one of these animals in real life? yes no

If so, where did you see it? _____

What are the babies called? _____

How are the animals born? hatched from eggs born alive

How many brothers and sisters might be born at the same time? _____

How big is the baby (length, height, weight, etc.) when born? _____

Who raises the young: both parents mother only father only

neither parent – the baby survives on pure instinct

What does the baby eat and for how long? _____

How long will the babies stay with the parent (if parents are involved)? _____

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How does it hear? _____

What does it eat? _____

How does it get its food? _____

How does it protect itself from predators? _____

Where does the animal live and does it make a "house?" (burrow, nest, etc.) _____

Does it live alone or with a group? _____

How does it "communicate" with others of its kind? _____

How does it sleep? _____

When does it sleep? _____

Is food easily available all year? _____

How does the animal deal with seasonal changes (if applicable)? _____



West Indian manatee

Have you ever seen one of these animals in real life? yes no

If so, where did you see it? _____

What are the babies called? _____

How are the animals born? hatched from eggs born alive

How many brothers and sisters might be born at the same time? _____

How big is the baby (length, height, weight, etc.) when born? _____

Who raises the young: both parents mother only father only

neither parent – the baby survives on pure instinct

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What does it eat? _____

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How does it protect itself from predators? _____

Where does the animal live and does it make a "house?" (burrow, nest, etc.) _____

Does it live alone or with a group? _____

How does it "communicate" with others of its kind? _____

How does it sleep? _____

When does it sleep? _____

Is food easily available all year? _____

How does the animal deal with seasonal changes (if applicable)? _____



Sea otters

Have you ever seen one of these animals in real life? yes no

If so, where did you see it? _____

What are the babies called? _____

How are the animals born? hatched from eggs born alive

How many brothers and sisters might be born at the same time? _____

How big is the baby (length, height, weight, etc.) when born? _____

Who raises the young: both parents mother only father only

neither parent – the baby survives on pure instinct

What does the baby eat and for how long? _____

How long will the babies stay with the parent (if parents are involved)? _____

When is the “baby” considered an adult? _____

How will it find a mate and have babies? _____

Who prepares the nest/den/burrow and how (if applicable)? _____

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How does it move and what parts of its body does it use to move? _____

What are some of the behaviors that were discussed in the story? _____

How does it see? _____

How does it hear? _____

What does it eat? _____

How does it get its food? _____

How does it protect itself from predators? _____

Where does the animal live and does it make a "house?" (burrow, nest, etc.) _____

Does it live alone or with a group? _____

How does it "communicate" with others of its kind? _____

How does it sleep? _____

When does it sleep? _____

Is food easily available all year? _____

How does the animal deal with seasonal changes (if applicable)? _____



red wolf

Have you ever seen one of these animals in real life? yes no

If so, where did you see it? _____

What are the babies called? _____

How are the animals born? hatched from eggs born alive

How many brothers and sisters might be born at the same time? _____

How big is the baby (length, height, weight, etc.) when born? _____

Who raises the young: both parents mother only father only

neither parent – the baby survives on pure instinct

What does the baby eat and for how long? _____

How long will the babies stay with the parent (if parents are involved)? _____

When is the “baby” considered an adult? _____

How will it find a mate and have babies? _____

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What does it eat? _____

How does it get its food? _____

How does it protect itself from predators? _____

Where does the animal live and does it make a "house?" (burrow, nest, etc.) _____

Does it live alone or with a group? _____

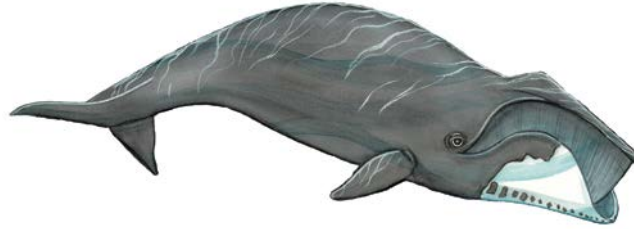
How does it "communicate" with others of its kind? _____

How does it sleep? _____

When does it sleep? _____

Is food easily available all year? _____

How does the animal deal with seasonal changes (if applicable)? _____



Bowhead whale

Have you ever seen one of these animals in real life? yes no

If so, where did you see it? _____

What are the babies called? _____

How are the animals born? hatched from eggs born alive

How many brothers and sisters might be born at the same time? _____

How big is the baby (length, height, weight, etc.) when born? _____

Who raises the young: both parents mother only father only

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How does it "communicate" with others of its kind? _____

How does it sleep? _____

When does it sleep? _____

Is food easily available all year? _____

How does the animal deal with seasonal changes (if applicable)? _____

In Danger!

Endangered A plant or animal that is in danger of becoming extinct.

Extinct No longer found anywhere on Earth; completely disappeared.

Threatened A plant or animal that may become endangered in the near future.

Species of Concern or Monitored A species that is being watched for possible listing. There is no legal protection for this level.

State protected an individual state's declaration of protection

Sustainable able to sustain a population

Watch List a species being observed for possible listing as threatened or endangered

Federal versus State All statuses mentioned in the book refer to the Federal listing. Animals may have different listings on a state level. For example, it is possible that an animal be considered threatened on a federal level but endangered on a state level (or vice versa). And, there may be some animals listed at a state level, but not at a federal level.

Check the animals listed as endangered or threatened in your state here:

http://ecos.fws.gov/tess_public/StateListing.do?state=all

Causes of plants and animals in danger:

- Changing habitat
 - habitat destruction due to development, roads, agriculture, etc.
 - fragmentation (breaking up) of habitat, making it difficult for animals to get to food, water, or nesting areas
 - loss of nesting areas
- Over fishing or hunting
 - Advanced technology allows fishermen to see where the fish are, increasing their catch—sometimes beyond what is sustainable
 - Some animals were hunted on purpose, due to fear – such as wolves
- Pollution
 - including fertilizer and chemicals
 - run-off from construction and development
 - animals may eat garbage “thinking” that it is food (i.e. plastic bags being mistaken for jellyfish)
 - animals get trapped in garbage
- Missing link in the food chain due to another extinction

Science Journal

Have children draw a picture to define the vocabulary word or concept.

endangered

threatened

extinct

Difference

Subtraction















Wildlife Refuge

Math Reading Charts

From the US Fish & Wildlife Endangered Bulletin, Fall 2009
http://www.fws.gov/endangered/bulletin/2009/bulletin_fall2009.pdf

BOX SCORE

Listings and Recovery Plans
as of October 2, 2009

GROUP	ENDANGERED		THREATENED		TOTAL LISTINGS	U.S. SPECIES W/ PLANS
	U.S.	FOREIGN	U.S.	FOREIGN		
 MAMMALS	70	255	15	20	360	59
 BIRDS	75	182	15	6	278	85
 REPTILES	13	66	24	16	119	38
 AMPHIBIANS	14	8	11	1	34	17
 FISHES	74	11	65	1	151	102
 SNAILS	24	1	11	0	36	30
 CLAMS	62	2	8	0	72	70
 CRUSTACEANS	19	0	3	0	22	18
 INSECTS	47	4	10	0	61	40
 ARACHNIDS	12	0	0	0	12	12
 CORALS	0	0	2	0	2	0
ANIMAL SUBTOTAL	410	529	164	44	1,147	471
 FLOWERING PLANTS	573	1	143	0	717	633
 CONIFERS	2	0	1	2	5	3
 FERNS AND OTHERS	26	0	2	0	28	28
PLANTS SUBTOTAL	600	1	146	2	749	664
GRAND TOTAL	1,011	530	310	46	1,897*	1,135

TOTAL U.S. ENDANGERED: 1,011 (411 animals, 600 plants)
 TOTAL U.S. THREATENED: 310 (164 animals, 146 plants)
 TOTAL U.S. LISTED: 1,321 (575 animals**, 746 plants)

* Separate populations of a species listed both as Endangered and Threatened are tallied once, for the endangered population only. These species are the sigali chimpanzee, leopard, Steller sea lion, gray wolf, piping plover, roseate spoonbill, green sea turtle, saltwater crocodile, and olive ridley sea turtle. For the purposes of the Endangered Species Act, the term "species" can mean a species, subspecies, or distinct vertebrate population. Several entries also represent entire genera or even families.
 ** Eleven U.S. animal species and five foreign species have dual status.

According to the chart from the US Fish & Wildlife Endangered Bulletin as of October 2, 2009:

1. What class of animals in the US are most endangered, how many?
2. What class of animals out of the US are most endangered, how many?
3. What class of animals in the US are most threatened, how many?
4. What class of animals out of the US are most threatened, how many?
5. What class of animals in the entire world are most endangered, how many?
6. What class of plants in the US are most endangered, how many?
7. What class of plants out of the US are most endangered, how many?
8. What class of plants in the US are most threatened, how many?
9. What class of plants out of the US are most threatened, how many?
10. What class of plants in the entire world are most endangered, how many?

Discussion questions:

How might the data not represent reality?

Why is the “as of date” important?

Note to parents and teachers from Donna German: I am the person behind the scenes when it comes to the For Creative Minds sections and the Teaching Activities. As part of my research and preparing for this, I read The Atlas of Endangered Species by Richard Mackay. In his book, he points out that endangered and threatened plants and animals know no political borders—either by state or country. When looking at numbers on charts like the above, it might appear that the US has a huge proportion of endangered species relative to the rest of the world. He points out that not all countries have the resources to monitor endangered species. We need to acknowledge that the number charts like the one above, can only reflect the data input. Depending on the age of the children with whom you are working, this could be a great way to open discussions about where data comes from and how we “read the numbers.”

Graph it!

Using the information in the previous chart, graph the US Endangered or Threatened Animals

75					
70					
65					
60					
55					
50					
45					
40					
35					
30					
25					
20					
15					
10					
5					
0					
	<u>Mammals</u>	<u>Birds</u>	<u>Reptiles</u>	<u>Amphibians</u>	<u>Fishes</u>

WHAT'S THE DIFFERENCE?

AN ENDANGERED ANIMAL SUBTRACTION STORY

Math Games

Use the cards on the following pages for the following math games. It may be helpful to print onto a card stock for longer durability.










Tens Make Friends Memory Game










This is a variation of a memory game combined with an adding game.

- Mix up the cards and place them face down on a table.
- Taking turns, each player should turn over two cards so that everyone can see.
- If the animal numbers add up to ten, he or she keeps the pair and takes another turn.
- If they do not add up to ten, the player should turn the cards back over and it is another player's turn.
- The player should give the fact family statements (addition and subtraction) for the cards to take. The player with the most pairs at the end of the game wins.

Go Fish for Fact Families

- Shuffle cards and deal five cards to each player.
- Put the remaining cards face down in a draw pile.
- The youngest person plays first.
- If the player has three cards that make a fact family, he/she places it on the table and recites the four facts related to the family. For example, if someone has a 2, 3, & 5; the facts are:
 - $2 + 3 = 5$
 - $3 + 2 = 5$
 - $5 - 2 = 3$
 - $5 - 3 = 2$
- The player then asks another player for a specific card rank. For example: "Sue, please give me a 6."
- If the other player has the requested card, she must give the person her card.
- If the person asked doesn't have that card, they say, "Go fish."
- The player then draws the top card from the draw pile.
- If he/she happens to draw the requested card, he/she shows it to the other players and can put the fact family on the table. Otherwise, play goes to the next person.
- Play continues until either someone has no cards left in their hand or the draw pile runs out. The winner is the player who then has the most sets of fact families.

<p>1</p> 	<p>2</p> 
<p>3</p> 	<p>4</p> 
<p>5</p> 	<p>6</p> 
<p>7</p> 	<p>8</p> 
<p>9</p> 	

<p>1</p> 	<p>2</p> 
<p>3</p> 	<p>4</p> 
<p>5</p> 	<p>6</p> 
<p>7</p> 	<p>8</p> 
<p>9</p> 	

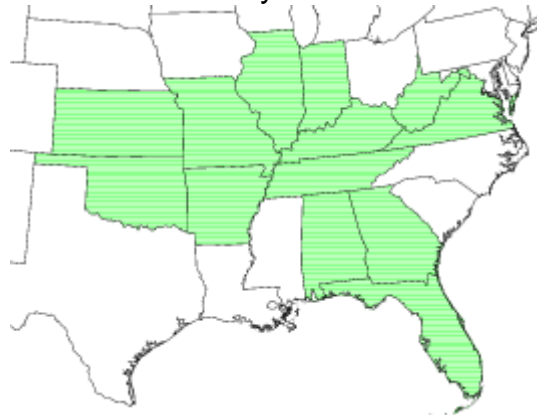
Geography

Looking at the maps on the next few pages, color the areas where the different animals live. What animals live close to you?



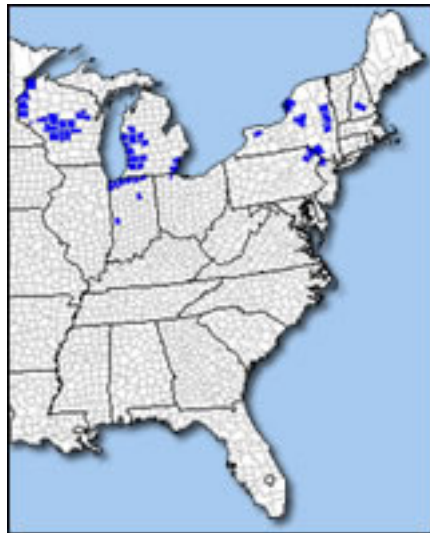
What's the Difference Animal Range and Distribution Maps
For more information, click on the location from which the maps were copied, just below
each map.

Gray bats



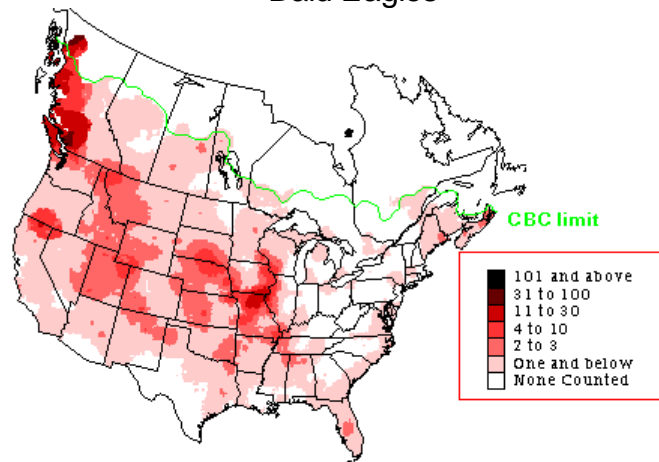
<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=A04J>

Karner blue butterflies



<http://www.nhptv.org/wild/karner.asp>

Bald Eagles

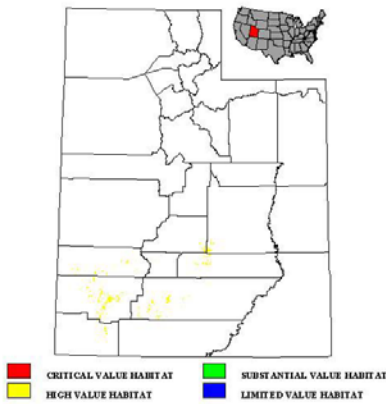


Wintering map

<http://www.mbr-pwrc.usgs.gov/bbs/htm96/cbc622/ra3520.html>

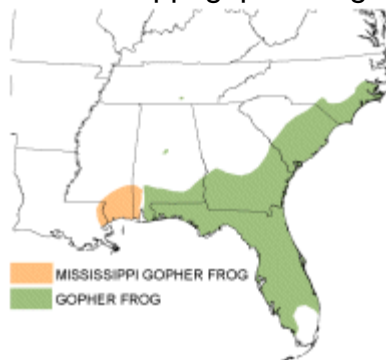
Utah prairie dog

UTAH GAP ANALYSIS - PREDICTED HABITAT Utah Prairie-Dog



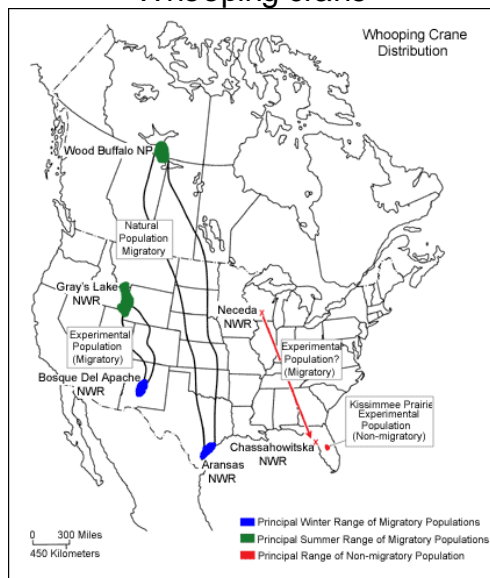
<http://dwrcdc.nr.utah.gov/rsgis2/Search/Map.asp?Id=470>

Mississippi gopher frog



<http://www.conservationsetheast.com/infofgf.htm>

Whooping crane



http://www.birds.cornell.edu/AllAboutBirds/conservation/success/whooping_crane

Sea Otters



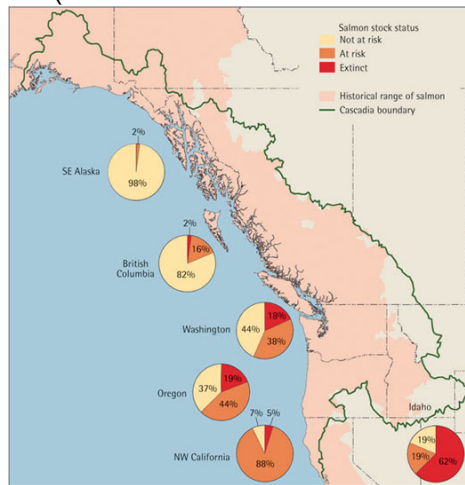
Map from Friends of the Sea Otters, found at:
<http://www.werc.usgs.gov/otters/rangemaps.html>

Atlantic salmon



<http://www.nmfs.noaa.gov/pr/species/fish/atlanticsalmon.htm>

Pacific salmon (also has areas of risks for same reasons)



<http://www.sightline.org/maps/maps/Wildlife-Salmon-CS06m>

Bowhead whales

Bowhead Whale Range



<http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/bowheadwhale.htm>

West Indian manatees



<http://www.iucnredlist.org/apps/redlist/details/22103/0>

Red Wolves
Historic range:



http://www.discoverlife.org/nh/tx/Vertebrata/Mammalia/Canidae/Canis/rufus/images/Canis_rufus_map.320.jpg.html

Current range in North Carolina



Map Generated Oct. 22 2003

<http://www.fws.gov/nc-es/mammal/redwolf.html>

Answers

Silly Sentence Structure Activity

Some animals are endangered, or in danger of disappearing forever.

Animals have been harmed by pollution, loss of habitat and over-hunting.

Fortunately, many people work hard to help these animals. They restore and protect habitats, teach people how to care for the environment and raise some animals in captivity!

Once in danger of extinction, bald eagles have recovered.

Not all prairie dogs are in danger, but the Utah prairie dogs are threatened.

Whooping cranes lost their homes when wetlands were drained for farming and houses. Some of the birds now learn their migration routes by following small planes!

Even though bats have wings, they are mammals, not birds.

World Families

ace	ace, brace, face, grace, lace, mace, pace, place , race , space, trace
ate	ate, bait, celebrate , crate, date, eight, fate, freight, gate, grate, great, hate, Kate, late , mate, plate, rate, skate, slate, state, straight, trait, wait, weight
ave	behave, brave , cave , crave, deprave, gave, grave, knave, pave, rave, save, shave, they've, waive, wave
ay	away , bay, bray, bay , clay, day , flay, gay, gray, grey, hay, hey, jay, Kay, lay, lei, may, nay, pay, play , pray, prey, ray, say, sleigh, spray, stay, sway, they, tray, way, weigh
ed	bed , bled, bread, dead, dread, Ed, fed, fled, head, instead , lead, led, Ned, read, red, said, shed, shred, sled, spread, Ted, thread, tread, wed,
ee	be, bee, flea, flee, free , glee, he, key, knee, Lee, pea, plea, sea , see, ski, tea, three, tree, we
est	best, blessed, breast, chest, crest, dressed, guessed, guest, jest, nest , pest, pressed, quest, rest , stressed, test, vest, west, zest
eye	buy, bye, cry, die, dry, fly, fry, guy, hi, high , I, lie, lye, my, pie, rye, shy, sigh, sky , sly, spy, thigh, tie, try, why
ight	bite, blight, bright, bright, byte, cite, delight, fight, fight, flight, flight, fright, fright, height, kite, knight, light, light, lite, might, might, mite, moonlight , night , nite, plight, quite, right, right, rite, sight, sight, site, sleight, slight, slight, spite, sprite, tight, tight, tonight, trite, white, write,
ohm	chrome, comb, dome, foam, home , ohm, roam , rome, tome
op	bop, chop, cop, crop, drop, flop, hop , mop, plop, pop, prop, shop, slop, swap, stop, top
un	bun, fun, done, gun, nun, one, pun, run , shun, stun, sun , ton,

According to the chart from the US Fish & Wildlife Endangered Bulletin as of October 2, 2009:

Animals:

1. US most endangered: Birds (75)
2. non-US most endangered Mammals (255)
3. US most threatened Fishes (65)
4. non-US most threatened Mammals (20)
5. Worldwide most endangered Mammals (360)

Plants:

6. US most endangered: Flowering Plants (573)
7. non-US most endangered Flowering Plants (1)
8. US most threatened Flowering Plants (143)
9. non-US most threatened Conifers (2)
10. Worldwide most endangered Flowering Plants (717)

Other—Coloring Pages



WHAT'S THE DIFFERENCE?
AN ENDANGERED ANIMAL SUBTRACTION STORY





WHAT'S THE DIFFERENCE?
AN ENDANGERED ANIMAL SUBTRACTION STORY