



ANIMAL ADDRESSES

This animal unit focuses on animal adaptations in relation to the habitat where the animal lives.

This learning unit contains information and activities that will assist in planning and carrying out a variety of activities and an educational field trip to the Caldwell Zoo. Included are suggested activities to do before and after the Zoo visit and a summary of information to be covered during the Zoo class. The Zoo's goals are to:

1. Encourage inquisitiveness about the natural world.
2. Help each child find answers to his/her own questions.
3. Aid development of understanding and factual knowledge of the environment.
4. Improve each child's ability to think rationally.
6. Promote creative and productive imaginations.
8. Provide a fun learning experience.

The Zoo class and enclosed activities will also help to fulfill the following Texas Essential Knowledge and Skills (TEKS):

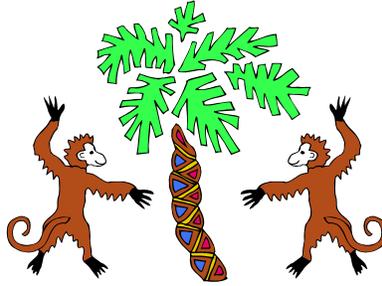
Third Grade 112.14b: **1 A, 9 A&C, 10 A&B**

Fourth Grade I 12.15 b: **1 A, 10 A**

Fifth Grade 112.16b: **1 A, 9 A&C, 10 A**

Additional activities may meet other TEKS.

ANIMAL ADDRESSES



Every living organism has a habitat—a natural home. Each organism has definite needs that must be met by the habitat where that organism lives. Usually the basic needs for most life forms include food, shelter and space. Food requirements may be very specific, i.e. a koala and eucalyptus, or more general, i.e. a shark and whatever meat it can catch. Shelter may be a “home,” i.e. a nest, a crevice or a burrow or it may be the shelter of living in a herd or in the loosest of terms it may even be camouflage. Space is mandatory for all life forms. Each species, plant or animal, requires a certain amount of space—space to find food, for shelter, to reproduce.

Each living species has special characteristics or adaptations that allow that organism to successfully survive in the habitat where it lives. All organisms within any given habitat are interdependent. Each species has a place within the environment and functions to support the whole ecosystem. It is important to have a balanced ecosystem. Not only are low numbers of individual species a concern, but overpopulation of any species can also be a problem.

Habitat destruction or deterioration is the biggest problem for endangered species. Climate helps determine what lives in a certain biome, but what lives in a biome also affects climate. For example, where humans have cleared temperate forests, the climate invariably becomes drier.

Basically, habitats may be divided into terrestrial (land) and aquatic (water) biomes, although some organisms use both the land and water during their lives.

Generally, it is agreed that there are at least six terrestrial biomes:

TUNDRA

- located in the far northern parts of our earth or on the tops of very high mountains
- rain and snow do not fall often, but when snow does fall, it lasts a long time
- trees do not grow; lichens, mosses, grass and small shrubs are the major plants
- soil almost always frozen
- summer lasts only two months
- *tundra animals include birds (“most migrate during coldest months”), reindeer, Arctic fox, wolves, snowy owls, hawks, lemmings, marmots, voles*

TAIGA (also called boreal forest)

- forests located just south of the tundra or on very high mountains
- rain falls more often than in the tundra
- summer lasts longer and temperatures are higher than in the tundra
- trees (mostly evergreens) more than 20 feet tall are common
- many large and small animals live here
- *taiga animals include ducks and geese which migrate, deer, bears, moose, mountain goats, bighorn sheep, rabbits, squirrels, porcupines, small birds*

TEMPERATE FOREST

- four seasons, each lasting about three months
- most trees are deciduous with leaves changing color and falling off in autumn
- weather depends on season
- *temperate forest animals include bear, deer, fox raccoon, squirrels, opossum, insects and birds*

TROPICAL RAIN FOREST

- requires constant source of energy—the sun, constant temperature (average 80°) and minimum of 80 inches rainfall each year
- located near equator
- plants grow well in warm, moist climate
- abundant life forms
- *living organisms include palm trees, tree ferns, vines, fungi, pythons, tree frogs, monkeys, colorful birds, tapir, jaguar*

GRASSLAND

- majority of plants are grasses
- few trees
- today most grasslands used for crops and grazing animals
- also called prairie, steppe, savannah, veldt, pampas
- *grassland animals include antelope, badgers, prairie dogs, hems, bison, hawks, eagles*

DESERT

- dry climate with very little rainfall
- cacti and a few other smallish plants store water in stems and roots
- plants have small leaves or thorns to prevent water loss
- usually very warm during day and very cool at night
- animals generally nocturnal (active during night when cooler)
- very few large animals because large amounts of food and water not available
- *desert animals include snakes, lizards, kangaroo rats, tortoises, jackrabbits*

Scientists recognize several aquatic biomes:

FRESHWATER

lotic—moving water

lentic—still water

- ❖ freshwater found on every continent
- ❖ bodies of freshwater can be as large as the Great Lakes or as small as a pond
- ❖ many plants and protists (one-celled plants and/or animals) live attached to either rocks or the bottom of the body of water
- ❖ some protists, i.e. algae, may float
- ❖ most animals are small
- ❖ animals include fish, crayfish, insects, frogs, muskrats, beavers

MARINE

littoral (shore) zones

coasts

open seas

benthic (bottom) zones

coral reefs

- ❖ salt water covers much of the earth
- ❖ most of the organisms live near the surface since little or no light reaches the bottom (producers need light to make food and consumers depend on producers)
- ❖ organisms may be microscopic to size of whale
- ❖ some swim, some float, some attached to or crawl on ocean floor
- ❖ *animals include whales, dolphins, fish, seals, shrimp, krill, seaweed, jellyfish, sea stars*

Climate is not significant in defining aquatic biomes. Biotic and other environmental characteristics are the main determinants.

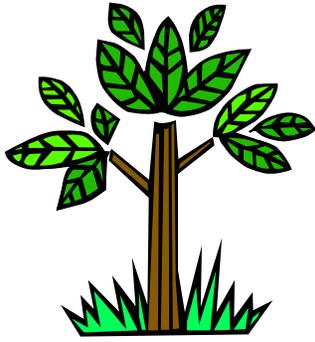
There are also habitat boundaries—areas where one type of habitat gives way to another.



CLASSROOM ACTIVITIES

The activities on the following pages are for use before and/or after your Zoo visit.





ANIMAL ADDRESSES ACTIVITIES

1. Learn foreign words for animal names. Look at foreign money and stamps to see if any have animal pictures or symbols.
2. Write a “what if” story about an animal that has strayed into the wrong habitat. EX. What if a polar bear moved to the desert?
3. Write a conversation between two animals about the habitat where they live or about the habitat where they wished they might live.
4. Pretend you are the first person ever to see a certain habitat and describe that habitat to a friend.
5. Add vocabulary words to the weekly spelling list.
6. Create a “tell me why” story about animal adaptations. EX. Tell me why an elephant has a trunk.
7. Create a mural or diorama depicting a certain habitat. Add appropriate animals to the mural or diorama. Or decorate the classroom so that it looks like a specific habitat.
8. Design new “clothes” for an animal. Remember what habitat that animal lives in so that the clothes match the environment.
9. Draw a picture of your home and a picture of an animal’s home. How are they similar? How are they different?
10. Cut out pictures of animals from magazines or have children draw animal pictures. Place the pictures on maps in the region where the animals live.
11. Think of and draw a design, caption or slogan that would be suitable for a t-shirt. Could you paint a real shirt with your special design? You could also design buttons or bumper stickers with designs and/or slogans.

12. List ways humans change for the seasons and compare to animal adaptations. What are the advantages and/or disadvantages of each?
13. Grow a plant from a specific habitat. EX. cactus from the desert
14. Correlate animal adaptations with human inventions. EX. noseplugs for humans compared to nostrils that close for seals or sunglasses for humans compared to double rows of eyelashes for camels.
15. Create a newsbreak or commercial on behalf of a specific endangered species or endangered habitat. Record your creation on video and share it with other classrooms.
16. Organize a recycling project for your classroom or school. Recycling certainly helps the environment? If money is earned from the project, use the money for a conservation project.
17. Design a fictitious animal to live in today's world. It should be able to be camouflaged, tolerate pollution and adapt to a world heavily populated by people. Be sure to give your animal a name, a definite habitat and specific diet. (This does not have to be on paper. How about a clay model?)
18. Make two-piece puzzles with a habitat and an animal that would live in that habitat.
19. Contrast the life of your pet with the life of an animal in the wild. Consider habitat and adaptations.

VOCABULARY WORDS TO KNOW

ADAPTATION	Use of a feature to enhance survival of an organism. "Characteristic" refers to the feature itself.
AESTIVATION	Prolonged dormant stage that enables an animal to escape hot summer months. Body processes slow down dramatically.
AQUATIC	Growing in, living in or frequenting water.
ARBOREAL	Tree-dwelling.
CAMOUFLAGE	Color and pattern of animal's outer covering that enables it to conceal itself from predators by blending into its surroundings.
CHARACTERISTIC	Feature or trait (structural or physiological) of an organism.
DESERT	Region where average annual rainfall is less than 10 inches and unevenly distributed throughout the year.
ECOLOGY	Study of interrelationships between living things, and of relationships between organisms and their environment.
ECOSYSTEM	Complex system of exchanges of material and energies between living things and their environment, including living and non-living entities.
ENVIRONMENT	The surrounding conditions that affect a living organism.
HABITAT	The natural home of an organism.
HIBERNATION	Prolonged dormant state (torpor) that enables an organism to escape difficulties of survival during cold winters. In true hibernation, body functions are slowed down greatly and the animal cannot be aroused.
MIGRATORY	Periodic mass movements to and from feeding or reproductive/nesting areas.