

**ANIMAL ADVENTURES
ANIMAL ADAPTATIONS**

PROGRAMS 



GREENBURGH NATURE CENTER

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GENERAL

Our naturalists gear each program to the grade level of your students and will accommodate any competency level if notified in advance. Our programs stress **hands-on and direct involvement learning**. *All school groups should meet their naturalist in the visitors parking lot.*

ANIMAL ADVENTURE (Grades Pre-K - 2nd, 1 Hour)

Our live animal museum provides the opportunity for children to get up close and personal with residents who may be two legged, four legged, no legged, furry, feathered, bristled or scaled. It's the perfect setting to introduce them to the basic differences between mammals, reptiles and amphibians. A visit to our outdoor animal exhibits is included in the program.

ANIMAL ADAPTATIONS (Grades 3rd - 7th, 90 Minutes)

Using animals from our live animal museum, students investigate the strategies animals have devised in order to adapt to their environment. An outdoor hike provides an opportunity for students to deduce how local wildlife use physical and behavioral adaptations to survive in the natural world. This program can be adapted to teachers' specifications upon request if done far enough in advance.



Examples of possible animals used:

Mammals
guinea pig
ferret
chinchilla

Reptiles
king snake
box turtle
iguana

Birds
ring-necked dove
quail
turkey

Amphibians
tree frog
giant toad

Please note: We cannot guarantee specific animals because of illness, injury or use in other programs.

There are many types of adaptations in the animal kingdom; some for gathering and eating food, some for reproduction and caring for offspring, and some for protection and defense.

Some examples of adaptations often discussed:

RING-NECKED DOVE - Wings, feathers, hollow bones, all of which allow for flight.

EASTERN BOX TURTLE - Hard "hinged" plastron (bottom shell) for protection from predators, scaly skin, color vision, hibernator.

KING SNAKE - Forked tongue and **Jacobsons organ** for "smelling" and detecting prey, detachable jaws and flexible skin for swallowing food whole.

TREE FROG - Special feet with toe pads for climbing, nocturnal, large pupils for night vision, permeable skin.

GREAT HORNED OWL - Large pupils for night vision, asymmetrical ears for locating prey, excellent hearing, beak and talons for grabbing and eating prey, silent feathers.

FERRET - Long body and flexible backbone for movement within narrow spaces like burrows.

CHINCHILLA - Fur for insulation from cold (and heat), long tail for balance, chisel-like teeth.
nocturnal - whiskers, large eyes, and dark fur.

HEDGEHOG - Spines protect hedgehog from predators/cushion the animal if it falls, nocturnal, good hearing but excellent sense of smell, resistant to insect toxins, chemical poisons and snake venom.





Note - Teachers should adapt this material to the grade level of their students.

Ideas for Pre-trip Activities:

- Discuss adaptations (**physical characteristics that helps an animal or plant to survive**) that animals have (fur, gills, webbed feet, feathers, talons, large eyes, etc.) and *why* they may need them.
- Make up a list of questions about animal adaptations to ask the naturalist when you arrive.
- Go over different characteristics (behavioral or physical) that some animals have.
 - mammals** - fur, warm blooded, give young milk (*it does a body good*) etc.
 - reptiles** - scales, cold blooded, from eggs
 - amphibians** - return to water for reproduction, egg layers in water/moist areas, metamorphosis, cold blooded, "breathable skin", etc.,
 - birds** - feathers, hollow bones, eggs incubation, wings, large eyes, etc.
- Discuss: predator/prey relationships, camouflage, food webs/chains, animal **behavior**
- Look around your school for **wildlife signs** such as feathers, burrows, chewed seeds etc., and record on a chart.

Some Ideas For Post-trip Activities

- Make up a food web.
- Have students do library research about some of the animals you saw while at the nature center.
- Find an animal that lives around your school (squirrel, pigeon, chipmunk, ant, etc.) and closely study its behavior and record this information on a chart over time.

Some Vocabulary Words:

migration — The movement of an animal or group of animals in search of better environmental conditions. Migration is an inherited genetic behavior in many animals.

camouflage — The ability of some animals to blend in with their environment.

environment — All the conditions that surround an animal living in a particular place. These conditions include landscape, food sources, climate and other organisms.

adaptations — Inherited physical features or behaviors that enable an animal to survive in its environment.

behavior — How an animal acts or reacts.

predator/prey — Animals that hunt/animals that are hunted.

habitat — Place where an animal lives.

niche — The function or "job" an animal has in its' habitat.

cold/warm blooded — Cold blooded animals body temperature changes with the air temperature.



Bibliography/Suggested Reading:

- √ *Readers Digest North American Wildlife*, Pleasantville, New York, 1982, ISBN 0-89577-102-0.
- √ *A Field Guide to Forests Coloring Book*, Kricher, John and Bennett, Sara Houghton Mifflin Company, Boston, MA. 1983, ISBN 0-395-34676-2.
- √ *Outstanding Outsides*, Machotka, Hana, Morrow Junior Books, New York, 1993, ISBN 0-688-11752-X.
- √ *When The Woods Hum*, Ryder, Joanne, Frederick Warne & Co., New York, 1991, ISBN 0-688-07058-2
- √ *The Snail's Spell*, Ryder Joanne, Morrow Junior Books, New York, 1991, ISBN 0-7232-6197-0

Some Helpful Web Links:

- **Enchanted Learning Software** - Local animal information and printouts - www.enchantedlearning.com/biomes/tempdecid/tempdecid.shtml
- **www.activities guide** - List of examples of adaptations. Click on the science link to find adaptation - www.uen.org/activities/html/www_activities.html
- **Scholastic.com** - <http://teacher.scholastic.com/dirtrep/animal/>
- **TeacherVision.Com** - Animal adaptations unit - www.teachervision.com/lesson-plans/lesson-6989.html
- **Creature World** - www.pbs.org/kratts/world/content.html
- **School.Discovery.com** - <http://school.discovery.com/lessonplans/programs/animaladaptations/>

