



FONTENELLE
FOREST

Fontenelle Forest Nature Center
1111 Bellevue Blvd. North
Bellevue, NE 68005-4000
Phone: (402) 731- 3140
www.fontenelleforest.org

Predator or Prey?

Pre- and Post-Trip Activity Suggestions

4th & 5th

Below are pre- and post-visit field trip activities that can be done either indoors or on your school grounds. We encourage you to give serious consideration to one or more of these -- they will enhance your class' field trip experience and are also a lot of fun! *We look forward to your students' arrival and anticipate providing them with a fun and educational experience. If you have any questions, please call us at 402-731-3140.*

The following activities meet NE State Science Standards: SC 5.1.1, 5.3.1.b, 5.3.3, 8.1.1, 8.3.1.e, 8.3.3, & 8.3.4

Language Arts Standards: LA 4.1.6, 4.2.1a, 4.3.1, 4.3.2, 4.3.3b&c, 5.1.6, 5.2.1a, 5.3.1, 5.3.2, 5.3.3b&c

Math Standards: MA 4.4.2, 5.4.2

1) Tooth and Claw

Concept: Both predators and prey must have special tools in order to eat and avoid being eaten. Students will look at pictures of predator and prey animals and discuss their tools and adaptations.

Suggested Timing: Pre-Trip

Time: 30 minutes

Location: Indoors

Materials: Paper; large pictures of all types of animals (predator and prey)

Procedure:

- Split students into groups
- Give each group an animal picture or post it on or near the chalkboard
- Ask each group of students if this is a predator or prey animal.
- Ask the students to list some tools and adaptations their animal might have to keep from being eaten or adaptations to capture and eat other animals. These might include the following:

Predator: Fast legs; sharp teeth; camouflage; large size; claws; sensitive eyesight, smell, hearing, etc.

Prey: Speed, ability to freeze, camouflage, bad-tasting skin, aposematic (warning) coloration/pattern, keen eyesight, good sense of hearing and smelling, spines or armor, claws, etc.

- Discuss the advantages of each of these tools and behaviors
- Now ask the students if humans are predators or prey. Can we be both? What tools do we have?

Writing Extension: Have the students design their own predator or prey animal. What adaptations does their animal have? Why did they choose those adaptations? Have the students write a brief summary of their animal's adaptations and their reasons for selecting those.

2) Neat Teeth

Adapted from *Hands-On Nature*

Concept: Animals must have teeth that are shaped appropriately for their diet. Children will create their own set of teeth for an animal jaw.

Suggested Timing: Pre-Trip

Time: 30 minutes

Location: Indoors

Materials: Cardboard jaws, brass brads, clay, crackers, apples, or carrots etc.

Procedure:

- From cardboard, create a top and bottom jaw that can be linked together with a brass brad at the joint. Cut the jaw out and repeat for each student.
- Ask the students to feel their own teeth with their tongues. How many different kinds of teeth do they feel? Give each child something to eat. How do the different teeth help with eating? (Front incisors bite; back molars chew.) Ask your students to find their canine teeth. Can humans tear raw meat as well as cats and dogs can? Think about the different types of teeth animals have.
- Give each student a small lump of clay and ask him/her to build teeth on the cardboard jaws that would be good for eating a particular type of plant or animal. Carnivores have sharp canines for piercing and sharp incisors for tearing meat. Insectivores have peg-like teeth for crushing; herbivores have flat, ridged molars for grinding.
- After all students have completed their jaws, have them share their clay/cardboard construction by completing the following sentence:
"My favorite food is _____, and I use my _____ teeth to eat it."

3) Thicket

Suggested Timing: Post-Trip

Time: 30 minutes

Location: Outdoors—place where students have the ability to hide: a tall grassy area, or a place where small trees are growing close together. Mark boundaries in this area to give the students enough room to hide, in but not enough to get "lost" in.

Procedure: Before going outside discuss with the students what makes a rabbit successful at avoiding predators? The ability to freeze, camouflage, ears and eyes to hear and see if a

predator is approaching, and speed although we won't be using this trait today. Select one student as the coyote and the other students are rabbits. Show the rabbits where their boundaries are and remind them that one of rabbits most important abilities is to be still and silent; rabbits must keep at least one eye on the coyote at all times—no matter where they hide within the “thicket”. The coyote should be stationed on one side of the “thicket”; he/she is stationary and cannot move from this location. Have coyote turn his/her back so that the rabbits can select their hiding places. Coyote's job is to find as many rabbits as possible. This is accomplished by pointing at the rabbit and describing as much of the rabbit as is visible (avoid using names). For example, the coyote points to a rabbit and says: “I see a rabbit wearing blue jeans and a pink shirt and a striped hat”. That rabbit is caught and moves to the outside of the boundaries—usually behind the coyote. Dead rabbits are not allowed to assist coyote in any way. If coyote is having problems locating rabbits, have him/her turn around and have all of the surviving rabbits find a new hiding spot 5 steps closer to coyote.

*The goal of this game is not to be the rabbit farthest away from coyote, but to be the rabbit closest to coyote with the best hiding spot, utilizing their quiet and still skills. This also works well in the winter as the students are ingenious at finding/creating hiding spots.

4) Fox & Mouse

Adapted from MnSTEP: Predator-Prey Relationships—to help students understand how predator/prey relationships affect population sizes.

Suggested Timing: Post-Trip

Time: 60 minutes

Location: Indoors

Materials: Tape or a sheet of posterboard, 50 5”x5” square foxes and 150 2.5”x2.5” square rabbits per group, a data table, and graph paper

Preparation: The foxes and rabbits need to be cut from pieces of paper

Alternate: it is possible to use small rings (5” diameter) and small objects for the rabbits instead of squares

Background:

- The meadow should be taped off as 20”x20” or the sheet of posterboard
- Each fox must “catch” at least one rabbit to survive, and three rabbits to reproduce—for each set of 3 rabbits the fox produces one offspring, ie. 6 rabbits caught=2 baby foxes.
- If the fox does not catch any rabbits, it dies and a new fox migrates to the meadow.
- Each surviving rabbit produces one offspring.
- If all of the rabbits are caught then three new rabbits will migrate to the meadow.
- Each round is 1 year—record each years starting and surviving populations.

Ex.

Y1	Fox starting pop.	Rabbit starting pop.	Fox offspring	Rabbit offspring
Y2				
Y3				

Procedure:

Start by distributing three rabbits in the meadow and record your starting population (3 rabbits and 1 fox) on your chart. Drop the fox from a height of about 6”. Any rabbits touched by the fox are caught and removed (the fox is not allowed to skid/slide). Record the number of

surviving rabbits and foxes. Add the appropriate number of rabbits to the meadow and drop the fox again. Repeat this process. Remember that the number of offspring each fox produces is dependent on the number of rabbits it caught.

Repeat this process for a total of 20 years and then predict what the population will look like in 25. Graph the results for the fox population and the rabbit population on the same graph.

What does the graph look like? Why does it look like this? Are predators the only influence on a prey population? Run the simulation again but this time add natural factors such as drought—lack of food leading none of the rabbits reproducing, or a good year with excess food where each surviving rabbit produces two offspring, or a disease such as mange decreasing the fox population to the point where there are no foxes to migrate to the meadow. Or add a new predator such as an owl or a snake—what happens to the rabbit population with two predators?

5) Pick a Predator

Adapted from Everybody's Somebody's Lunch Teacher's Guide: Compare Two Predators

Suggested timing: Post-trip

Time: 60 min.

Location: Indoors

Materials: library books, internet, pencils, paper, colored pencils

Procedure: Have each student pick a predator to research. (Try not to have many repeats.) Make a list or chart of the information that they find. For example: predator name, size, habitat, range, usual prey, how it kills prey, adaptations, etc. When they are done gathering this information, they can compare their predator to some of the other predators. Students will find that even very similar predators have some unique differences.

Suggested Source:

Acorn Naturalists: Resources for the Trail and Classroom. To order this educational resource catalogue for environmental and science education, call 1-800-422-8886. To look at these resources online, visit <http://www.acornnaturalists.com>.

Mason, Cherie. Everybody's Somebody's Lunch, A Teacher's Guide. Gardiner, Maine: Tilbury House Publishers, 1998

This book goes along with a story that tells of a girl who is shocked and confused by the death of her cat. Through this she learns the roles of predator and prey in the balance of nature, and why some animals kill and eat others in order to live.

The teacher's guide contains many activities that can be incorporated into wildlife and nature study programs.