

4-H NATURE CONNECTIONS



CATCH ME IF YOU CAN

Purpose:

Discuss food chains, roles of predators and prey as well as adaptations. Explore the use of senses.

Location:

Field or classroom (any open area)

Time required:

10–30 minutes

Materials:

- Nature journal (one per participant)
- No other materials needed (but see the “Variations” section)

Background:

A *predator* is an organism that catches and eats other animals. *Prey* is the animal the predator feeds upon. Hundreds of different predator-prey relationships occur in nature. Some examples of predator-prey relationships are bat and moth, fox and rabbit, and bear and salmon. Although many predators exist in the natural world, there are more prey animals than predators in a balanced ecosystem.

Getting Ready :

No set-up is required. You can use this activity as a time-filler or as a stand-alone lesson.

Procedure:

1. Using the background information, introduce the concept of predator-prey relationships.
2. Ask: *Do you think there are more predators or more prey in nature?*
3. Have participants spread out in an open area. Mark the boundaries for the area the game must be played in (the playing field).
4. Select two participants to move around the playing field: one to be the predator, the other to be the prey. Everyone else must pick a spot in the playing field and stay rooted like a tree, rock, or another feature of the environment. Participants can stand alone, or a few people can cluster together to make a bigger object in the environment.
5. The predator and prey are free to move around inside the playing field for the designated time, which can be decided by you or discussed before the game starts. The predator must tag the prey to “eat” and survive. The prey wins if it escapes being tagged before the designated time is up.



6. Replay the game several times so all participants have turns as both predator and prey if they want to. During replay, alter the numbers of predator and prey in action.
7. Consider setting a time limit for game play to keep everyone engaged and allow time to talk about what everyone observed and learned during the game.

Wrap-Up:

- *If you were the predator, what was your strategy to catch the prey? How well did it work?*
- *If you were the prey, what was your strategy to avoid the predator? How well did it work?*
- *How did some:*
 - *Prey avoid being caught?*
 - *Predators have success catching prey?*
- *What happens when:*
 - *Prey numbers are low?*
 - *Predator numbers are high?*
- *What happens when:*
 - *Prey numbers are high?*
 - *Predator numbers are low?*
- *How often do you think predators catch their food in the wild?*

Nature Journal Prompts:

- *How did it make you feel to be:*
 - *The predator?*
 - *The prey?*
- Visit your garden, lawn, or outdoor space, and draw a predator or prey animal.
- *In your garden, lawn, or outdoor space, have you ever observed a predator-prey interaction? What was it?*

Variations:

- Predators and prey have evolved with a variety of adaptations to survive. Try introducing some into this activity to vary how the predators and prey move around the playing field. Choose some of the following ideas, or think of your own based on the animals you are most familiar with or most interested in.
 - Predator adaptations:
 - Use half a pool noodle for longer arms.
 - Move around the playing field on hands and knees.
 - Use a foam ball to throw at prey to tag them.



- Prey adaptations:
 - Use an object that can serve as a shield, like a plate or piece of cardboard, that can deflect the predator's tag.
 - Move around the playing field on hands and knees.
 - Jump around the playing field instead of walking.
- Environmental adaptations:
 - Have a small group of participants form a ring, which could represent a cave, where the prey can be safe.
 - Have some participants be trees. A prey touching a tree is out of reach of the predator.
- Some predators use sound instead of eyesight as their primary sense. In these versions, the predators in the game play with blindfolds (To take healthy precautions, have one blindfold per youth). The following ideas modify this game to focus on sounds:
 - Echolocation: Michigan wildlife such as bats and shrews use echolocation to detect prey. When the participant acting as a predator says its name, for example, "bat," then the prey must respond with its name, "moth" (or shrew, grub, or other prey).
 - Nonecholocation: Play the game without words. The participant acting as the prey must carry a noisemaker throughout gameplay (such as a container of rocks or a small bell). Some youth will quickly discover that shaking the container or bell slowly makes it harder to hear. The predators must listen carefully for the slightest sound to find and tag their prey.

(D'Augustino, 2018; Baumgart, 2015)

References:

- Baumgart, N. (2015, December 7). *Environmental games and activities: Predator-prey relationships*. Michigan State University Extension. https://www.canr.msu.edu/news/environmental_games_and_activities_predator_pre_relationships
- D'Augustino, T. (2018, March 22). *Exploring our world: How do animals use sound?* Michigan State University Extension. https://www.canr.msu.edu/news/exploring_our_world_how_do_animals_use_sound



Resources:

Ballenger, L. (2011). Northern short-tailed shrew, *Blarina brevicauda*. *Biokids*. University of Michigan. http://www.biokids.umich.edu/critters/Blarina_brevicauda/

Cook, B. (2016, April 11). *Food chains*. Michigan State University Extension. https://www.canr.msu.edu/news/food_chains_1

Cornell, J. B. (2015). *Sharing Nature*. Crystal Clarity.

Havens, A. (2006). Little brown bat, *Myotis lucifugus*. *Biokids*. University of Michigan. http://www.biokids.umich.edu/critters/Myotis_lucifugus/

Michigan State University Extension. (2017, March 2). Can you hear better with paper ears? *Teaching Science When You Don't Know Diddly-Squat*. https://www.canr.msu.edu/resources/teaching_science_when_you_dont_know_diddly_squatcan_you_hear_better_with_pa

4-H and MSU Extension Strengthening Michigan's Academic Standards

The Michigan 4-H Nature Connections lessons are intentionally designed to enhance the Michigan Academic Standards from the Michigan Department of Education (<https://www.michigan.gov/mde/0,4615,7-140-28753---.00.html>). These lessons provide an opportunity for youth to engage in and apply Michigan's formal education standards. In doing so, young people develop the skills needed to succeed with critical thinking, collaboration, communication, and additional career-necessary competencies. Youth develop these skills in a real-world setting to experience direct concept application and personal growth. This is accomplished in a way that includes hands-on activities, experiential learning to meet students where they are, and recognition of various ways of synthesizing and applying knowledge.

