



Science Essential Standards:

- 4.L.1.1, 4.L.1.2, 4.L.1.3 (animal adaptations)
- 5.L.2.1, 5.L.2.2, 5.L.2.3 (ecosystems)

Time:

15 minutes

Audience:

4th or 5th grade

Learning Objective:

Describe a food chain involving a fox and the adaptations they have to survive.

Materials (optional):

- Pictures of a fox and prey animals of a fox
- Picture of a forest ecosystem

Vocabulary:

Habitat, omnivore, adaptations

Preparation:

- ✓ Find an area where you can have the whole group make a tight circle.
- ✓ Familiarize yourself with the area in which you will be teaching. Check for poison ivy, jagged rocks & other safety concerns.
- ✓ Know how many students are in your group.

Background:

North Carolina is home to both red foxes and gray foxes. Recent [research](#) shows that most red foxes found in NC are from expansion of their **habitat** from northern and western regions of their native range in North America. Some red foxes may have been brought over from Europe. They have slightly different habitat preferences which influence their preferred prey. [Red foxes](#) prefer a mix of meadows, fields, and the edges of forests. Red foxes are more common in suburban and urban areas than gray foxes. [Gray foxes](#) show more of a preference to forest habitats but can be found in fields and meadows. Gray foxes are unique in that they can climb trees.

Both types of foxes are **omnivores**, eating a wide variety of plants and animals. Foxes eat mainly mice, rats, voles, and rabbits, but also eat insects, birds, eggs, fruit, and berries. Foxes have **adaptations** such as a keen sense of smell and hearing to help them find their food. Foxes can run, pounce, and dig to help them catch their prey. Gray foxes can climb trees to eat eggs and fruit.

Overview:

Students standing in a circle represent a fox's prey. One student stands in the middle of the circle and is the fox. The fox tries to catch its prey by tagging a student in the circle after their name is called. Students can avoid being caught by the fox by saying another student's name, sending the fox after that person. If the prey is caught (tagged), that student becomes the fox.

Instructions:

1. **The class stands in a large circle** about elbow distance away from each other.
2. Start off standing in the center of the circle to explain the game.
3. **The "fox" stands in the middle.** You are the first fox, as you explain the rules and provide a quick demo. Note, you could introduce adaptations of foxes at this point.
4. **Everyone in the circle is something a fox would eat.**
5. **Ask the class to name something a fox eats.**

6. Decide how many answers you want to accept and how much **discussion of a fox's food web** you want to have.
7. You can decide if you want students in the circle to all be the same type of prey, such as mice, or if they get to choose different types of prey.
8. **The "fox" is trying to catch its "prey" but can only catch the "prey" whose name has been called.**
9. The students in the circle hold up their fists in front of them like tiny paws to give the "fox" a target to tag.
10. If students don't know everyone's names yet, go around the circle having everyone say their name aloud.
11. You start the game by calling out the name of a student in the circle.
12. **The student whose name has been called can escape being caught by calling another student's name before the "fox" tags their "paws".**
13. **If the "prey" gets tagged before saying a name**, then they become the "fox" and the former "fox" joins the circle of "prey".
14. **If the "prey" calls out a name before getting tagged**, then that student must call out another name before being tagged.
15. The circle of "prey" should stand still while the "fox" is moving around the circle toward the person whose name was just called.
16. You may choose to include the rule that you can't say the name of the person who said your name to prevent being stuck in a back-and-forth between friends.
17. If students don't know each other's names yet, you can have the "prey" whose name has been called make their animal's call, such as a squeak for mice, to give the "fox" a hint as to who to try to catch.
18. The **end of the game** is determined by the teacher. For instance, you may choose to play until everyone's name has been called, a set number of students have been the "fox", or a set amount of time has passed.
19. You can play the game again using different animals as long as you have a predator for the center and prey for the circle.



Red Fox



Gray Fox

Behavior Management Tips:

- ◆ **Model appropriate behavior** for the students to demonstrate how you expect them to behave.
 - Students are more likely to meet expectations if they have been clearly demonstrated.
 - Having the students then model the behavior for you reinforces the behavior.
- ◆ The more **excited** you are, the more excited they will be.
- ◆ Remind students to remain elbow distance away from each other so everyone can see and hear.

References & More Information:

North Carolina Wildlife Resources Commission. (2018). Grey Fox. Retrieved from https://www.ncwildlife.org/Portals/0/Learning/documents/Profiles/Mammals/Gray_Fox_Wildlife_Profile_FINAL_10_0418.pdf

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Statham, M. J., B. N. Sacks, K. B. Aubry, J. D. Perrine, and S. M. Wisely. 2012. The origin of recently established red fox populations in the United States: translocations or natural range expansions?. *Journal of Mammalogy* 93(1):52-65.

Credits:

Illustrations by Cindie Brunner.

Header photo of gray fox by Doug Lequire at Pettigrew State Park. Retrieved from

<https://auth1.dpr.ncparks.gov/photos/fromNRID.php?sciName=Urocyon%20cinereoargenteus&pid=3245&source=pub&page=1>

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