

Resource Roadblock Activity

Roadways create barriers between habitat patches, putting anteaters in danger of being hit by cars. Roadways, however, are not the only ways habitats become fragmented. Cities, agricultural fields, and fencing present other barriers, or roadblocks, to wildlife. Below is an activity to help illustrate this concept for students.

Outcome: After this activity, students will understand how habitat barriers, or roadblocks, can affect wildlife populations.

Materials you will need:

- 3 total tokens, one in each color, for each student
 - The colors represent important resources such as food, water, and shelter
- Ropes, cones, or some other way to separate out habitat patches
- A timer or stopwatch

Outside Activity (or other large space where students can run):

- Part 1: One large contiguous habitat
 - Place each color of token in a different spot in the habitat space (i.e. all red tokens which represent food in one area, all blue tokens (water) in another, and all white tokens (shelter) in another). Tell students they will have 1 minute to collect all three resources they need (one token of each color).
 - Set the timer for 1 minute and send the students to find their resources.
 - **Discussion:** Did anyone have trouble finding all the resources they needed? Why or why not? (Everyone should have gotten their resources since there were no barriers to their movement)
- Part 2: Fragmented habitat
 - Use some sort of markers (cones, ropes, etc.) to separate the large area into 3 habitat patches with open space in between them. The open space represents barriers such as roads, farms, or cities.
 - Place each token color in a different habitat patch (i.e. red in one patch, blue in another, etc.)
 - Choose approximately 5 students to be taggers. They will represent the negative effects of the barriers such as cars, human conflict, or predators.
 - Tell the remaining students that they again have 1 minute to collect the three resources (each color token), but the chosen taggers will be trying to tag them whenever they are in the open space between habitat patches. If they are tagged, they are out.
 - Set the timer for 1 minute and send the students to find their resources.
 - **Discussion:** Did any of the students get tagged out? Did any of them not find all three resources within the time limit? Was it harder to get to the resources they needed to survive? How did the addition of barriers affect the population of the classroom? How might it affect wildlife populations? What are some things the students can think of to reduce the negative impacts of barriers on wildlife and their habitats? (Even small changes, such as lowering speed limits or posting signs along roadways can help).

Modification for in the classroom: Place each color of token in different parts of the classroom, but use chairs or desks as barriers between the resources in Part 2 and shorten the time limit to 30 seconds. You may also choose not to allow running.

Conservation Connection:

Reid Park Zoo supports the Anteaters and Highways Conservation project working to protect anteaters in Brazil's Cerrado habitat. Agriculture in the Cerrado (a tropical savanna in central South America) has increased, leading to more roads in the area where giant anteaters live. Wildlife Scientists are using GPS tracking collars and wildlife cameras to try to learn why and where anteaters are crossing roads. Wildlife scientists hope to use this information to inform road managers on where to avoid placing roads, such as locations where anteaters may frequently cross. They are also identifying where to place fences along roads and other ways to protect anteaters and other animals such as over or under passes across the roads. Education is also an important part of protecting anteaters. By educating local communities about anteaters, wildlife scientists hope to teach people how to coexist with them.

Activity Extension:

In small groups have your class explore possible ways to protect anteaters from crossing the road. Have them create a plan/prototype of their ideas to share with the class. On the following page are mitigation measures that are currently in place globally and locally as inspiration.

Wildlife Crossings



Many animals around the world, not just anteaters, sometimes need to cross roads to find the resources they need, or to travel along important migration routes. When an animal crosses a road, it's not just the animal that can be hurt; humans driving along the road can also be injured.

Signs along roadways warn drivers of the danger posed by animal crossings, but signs, unfortunately, do not have the same effect on the animals. That's why it's important for wildlife researchers to work with road managers to find ways to allow animals to cross roads without endangering animals or people. One way to do this is to build wildlife crossings over (or under) roadways.



Wildlife overpasses, like this one in Banff National Park, provide important wildlife corridors across the Trans-Canada Highway. Over 200,000 animals have been reported to use the overpasses and underpasses in the area and they have reduced wildlife collisions by 80%.



Photo courtesy of pima.gov



Photo courtesy of Arizona Game and Fish Dept

Wildlife overpass and underpass connecting the Santa Catalina Mountains with the Tortolita Mountains over AZ-77/Oracle Road in Pima County, Arizona.