

## On Thin Ice Activities Gr 6-8

**Calculate Your Carbon!** – Carbon dioxide emissions can be a challenging concept for students. It can be even more challenging since you can't "see" the emissions, but sometimes it helps to associate a number with the amount of CO<sub>2</sub> emissions we are giving off. Encourage your students to sit down with their parents and go through this simple carbon calculator for their family: <http://green.yahoo.com/calculator> Have them talk with their families about some of the small changes they can make in their households that will help.

### **Incredible Shrinking Habitat (from Climate Change: Wildlife and Wildlands)**

**Region:** Gulf Coast

**Grade Level(s):** 4-7

**Time Required:** 30-45 minutes

**Focus Question:**

- What is the impact of development and habitat loss on wildlife populations?

**Learning Objectives:**

- The students will be able to describe the impact of development on wildlife populations.
- The students will be able to recognize that habitat loss is a critical issue facing wildlife populations.

**Materials:**

This activity can be done indoors or out. Suggested minimum size to begin: about half a basketball court per 20-30 students.

- 5 hula hoops (one hula hoop will be designated as a "panther den;" make it a different color or mark it somehow)
- 2 pieces of rope long enough to divide the playing field in half (for a "road")
- 4 orange traffic cones for boundary markers
- Stopwatch or timer
- Poker chips for deer food (20-22 for every 10 students)
- Deer, panther and car pictures/symbols or jerseys to identify players (6-8 deer and 2-4 panthers for every 10 students. Optional: 2 cars for second round of play)

**Background:**

• The Florida panther has succumbed to numerous pressures, including loss of suitable habitat, to become a highly endangered species. A viable population needs large tracts of undeveloped land to sustain an adequate prey base and territory for young to disperse. Access into wilderness areas by road building for drainage canals, and increased development for ranching, logging, agriculture, mining, oil and gas drilling, housing and recreation all impact the panther habitat and the viability of the population.

**Procedures/Instructional Strategies:**

(Important Reminder: In this activity, students will be playing a version of "tag." For safety concerns, remind students to gently "tag" their prey, being careful not to push another player so that he/she may fall.)

**1.** Prior to the game, have students discuss what they know about limiting factors in a habitat. (Students could make large K-W-L charts in small groups, and then share with the larger group. An example of a K-W-L chart is provided at the end of this Activity.)

2. Define playing area with traffic cones and place hula-hoops randomly within it.
3. Divide students; for every 10 you should have 6 deer, 2 panthers, and 2 in reserve to become panther and deer young. Attach pictures/symbols to players to distinguish deer from panthers.
4. Scatter food chips at random throughout playing field.
5. Tell the students that:
  - Each deer must get 4 foods per 90 seconds in order to survive.
  - Each panther must catch (tag) one deer that has at least 3 food chips per 3 minutes (two 90-second periods), in order to survive.
  - Four of the hula-hoops are “safety zones” for deer. If two deer are in a safety zone together, they can increase their population (reproduce) and two of the reserve deer can enter the safety zone with them. All must continue finding food chips to survive.
  - The remaining hula-hoop is a panther den. Two panthers in the den site together can increase their population (reproduce), so that the two panthers in reserve can join them in the den site. All must continue to tag deer for food to survive.
  - Whoever dies (deer or panthers) leaves the game to become part of the reserves.
6. Play for a few minutes or until all the prey (deer) have been eaten. After each 90 second interval, shout “freeze!” Any deer without 4 chips have “died” and are out of the game. Panthers have to ‘eat’ one deer (with 3 chips in hand) every two periods.
7. Ask students about the limiting factors on the panther population. (Did the habitat provide enough food for the panthers? For the deer? What if there weren’t enough food for the deer? How would that affect the panther?)
8. Play again, but shrink the boundaries (because of increased development). Also, lay two ropes about a foot apart and parallel to each other (a road) down the middle of the habitat. Spread a reduced number of food chips in the habitat on both sides of the “road” to show the loss of resources from road construction.
9. Choose two students to be cars on the road. The cars must stay within the ropes, but can tag any wildlife that comes close enough (roadkill).
10. Now play another round.
11. Have students discuss the limiting factors on the panther population again. How were these factors similar to the first game? How were they different from the first game?

**Extensions:**

- Have students research other animals and determine the limiting factors on their populations.