

Oh Deer!

Overview:

In this game students will learn how the amount of available resources such as food, water and shelter can have an effect on the size of a population of deer with the goal of reinforcing the model idea of 'struggle for existence'. This is an extension to the limited resources simulation activity on NetLogo.

Question: What is it like for an organism when resources are limited?

Time: Will vary depending on the number of rounds they play and length of the discussion. In average should take 20-30min.

Setting up the game and playing:

1. Mark two lines parallel to one another on either side of a large open space.
2. Divide the class into two groups: half will represent deer; the other half will represent resources.
3. Each group will stand on opposite sides of the field with backs to each other.
4. Everyone picks a resource by making the appropriate sign:
 - Food = both hands over belly
 - Water = both hands over mouth
 - Shelter = make a tent over head

They have to display the sign all the time and **cannot change their resource** during each round.

5. On signal (Oh deer!), they will turn and face each other. Deer must find someone showing the same resource on the other side. Each deer can only claim one resource –no sharing of resources.
6. If a deer finds a resource it gets to “reproduce”. The resource caught becomes a deer in the next round.
7. Deer not able to find their resource die and become a resource for the next round.
8. Resources not claimed stay as resource.
9. Play for 10 or more rounds (each round should be pretty quick).

While the class is playing you can record the number of deer at the beginning of the activity and at the end of each round. When done with the game ask students to graph the results.

Post-game discussion:

- Ask students to describe what was happening during the game. What did they noticed and experienced?
- How does this game connect to the finches?
- How does this game contribute to the model?

You can scaffold the discussion with the following questions:

- If there is shortage of resources, what might be affected: survival, reproduction (number born) or both?
- Does it matter what resources are limited? What if there is lots of food and shelter but no water?
- Is there anything the deer can do when they run out of resources?
- How can variation in a trait help members of a population survive?