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Oh, Deer (population dynamics using Excel)

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Paul M. Geary
Final Project for CMST Teacher Participants
Level 1

Subject: Living Environment
Unit: The ecosystem
Topic: population dynamics, limiting factors, and carrying capacities

New York State Standards being addressed:

1.1b) An ecosystem is shaped by the nonliving environment as well as its interacting species. The world contains a wide diversity of physical conditions, which creates a variety of environments.

1.1c) In all environments, organisms compete for vital resources. The linked and changing interaction of populations and the environment compose the total ecosystem.

1.1d) The interdependence of organisms in an established ecosystem often results in approximate stability over hundreds and thousand of years.

1.1e) Ecosystems, like many other complex systems, tend to show cyclic changes around a state of approximate equilibrium.

Objective:

The learner will be able to identify the carrying capacity, and population trends of an animal population. The learner will be able to understand the interaction of one population is dependent upon another in an ecosystem and see how non living factors play a vital role in that ecosystem. The learner will demonstrate their proficiency in their understanding in these things by participating in and completing the “Oh Deer” lab.

Lesson:

Students continue to study population dynamics in the ecosystem.

1. Introduction of the lab “Oh Deer”
2. Students participate in the lab experiment
3. Students record the data that was obtained from the experiment
4. Students graph and print out the data using an Excel spreadsheet
5. Students answer the questions based on the experiment, data, and graph

Grading:

Students will be graded by the following items

1. Participation in the experiment
2. Completion and accuracy of the graphing of the data using Excel
3. Completion and accuracy of the questions on the lab