

Name: _____ Date: _____ Hour: _____

Population Study Lab and Graphing Activity

In this lab you will be participating in a study of how populations of an organism, in this case the whitetail deer, can vary from year to year. You will participate in an activity in class and be given the data from your results. With that data, complete the following questions and construct a line graph to show the data. As with all graphs, be sure to include a title, variables and units, and be sure the graph is neat and readable.

Whitetail Population Study for Ge-emess National Forest

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Population																					

Notes: Be sure to list any important notes about the information above here.

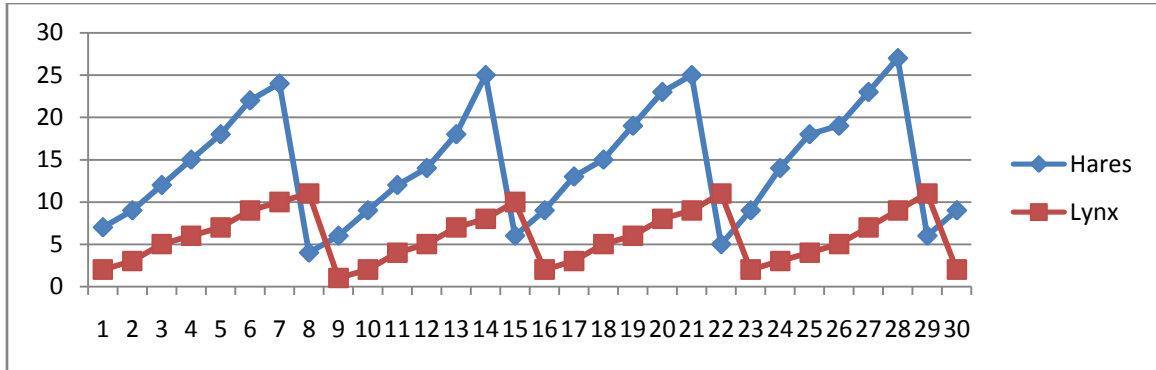
Answer the following questions:

1. What three requirements were needed for survival of the whitetail deer in this exercise?
2. What did you notice about the deer population over the “years” of this study? Why do you think this occurred?
3. Would you consider this population balanced? Why or why not?
4. What do you think the ideal number of whitetail deer would be in this ecosystem? Why?
5. What are some ways you could keep the population of deer balanced?

An interesting phenomenon was discovered by trappers in the early part of the 19th century. These trappers trapped both snowshoe hares and the lynx that preyed upon them. Trappers learned that the hare population was cyclical, in other words, it went up and down. The hare population would rise for about 7 years, then plummet. Likewise, the lynx population would do the same, but about one year behind the hares. If you looked at a graph of the populations, it would look something like the graph on the other side of this sheet.

Look at the graph and answer the following questions.

Hare and Lynx Population Comparison



6. Which animal here is the predator? Which is the prey?

7. Is the predator population controlling the prey population, or is it the other way around? Explain.

8. Why do you think the hare population crashes? What about the lynx population?

Here is another interesting piece of information that was learned about this example. It was discovered that the primary winter food source of the snowshoe hare is a willow shrub. When this plant is “hedged” or eaten on by animals to the point it could die, the plant produces a toxin that keeps animals, including the hare from eating it. Once the plants are healthy again, the toxin disappears and animals can once again eat it.

9. Now that you have this information, can you piece together the whole story of what happens to the populations of snowshoe hares and lynx?