“Oh Deer!” Lab

**BACKGROUND:**

 The most fundamental of life's necessities for any animal are food, water, shelter and space in a suitable arrangement. Without these essential components, animals cannot survive. A variety of factors affect the ability of wildlife to successfully reproduce and to maintain their population over time. Disease, predator/prey relationships, varying impacts of weather conditions from season to season (e.g., early freezing, heavy snows, flooding, drought), accidents, environmental pollution and habitat destruction and degradation are among these factors.

 Wildlife populations are not static. They continuously fluctuate in response to a variety of stimulating and limiting factors. We tend to speak of limiting factors as applying to a single species, although one factor may affect many species. Natural limiting factors, or those modeled after factors in natural systems, tend to maintain populations of species at levels within predictable ranges. This kind of “balance in nature” is more like a teeter-totter than a balance. Some species fluctuate or cycle annually. Quail, for example, may start with a population of 100 pairs in early spring; grow to a population of 1200 birds by late spring; and decline slowly to a winter population of 100 pairs again. This cycle appears to be almost totally controlled by the habitat components of food, water, shelter and space, which are also limiting factors. Habitat components are the most fundamental and thereby the most critical of limiting factors in most natural settings.

Directions for Deer:

1. At the beginning of each round, decide if you need food, water or shelter. Hold up the card that corresponds to the resource you need.
2. WALK over and select a person who is holding up the same resource card you are.
3. Bring the person back to the deer side of the classroom.

Instructions for the resources:

1. At the beginning of each round, decide if you want to be food, water or shelter.
2. Hold up the card of the resource and move from the line ONLY when the deer comes to get you.

Data Table:

|  |  |
| --- | --- |
| Round | # of deer at end |
|  0 |  |
|  1 |  |
|  2 |  |
|  3 |  |
|  4 |  |
|  5 |  |
|  6 |  |
|  7 |  |
|  8 |  |
|  9 |  |
|  10 |  |
|  11 |  |
|  12 |  |

**Results:** Graph the data on graph paper below:



**Analysis Questions: Answer the following questions in COMPLETE sentences!**

1. What did you notice about the deer population as we played the game?
2. What do you think was the carrying capacity of this population?
3. Are wildlife populations static (stay the same), or do they tend to fluctuate (change up and down), as part of an overall" balance of nature”?