Name:_____ **Date:** _____ **Class:** _____ **#:** _____

Population Dynamics - Deer Predation or Starvation

In 1970 the deer population of an island forest reserve about 518 square kilometers in size was about 2000 animals. Although the island had excellent vegetation for feeding, the food supply obviously had limits. Thus, the forest management personnel feared that overgrazing might lead to mass starvation. Since the area was too remote for hunters, the wildlife service decided to bring in natural predators to control the deer population. It was hoped that natural predation would keep the deer population from becoming too large and also increase the deer quality (or health), as predators often eliminate the weaker members of the herd. In 1971, ten wolves were flown into the island.

LT: I can analyze data in order to describe how the changing population of one species affects the population of another. 4.6.1

Materials: -Calculator -Multiple colors for graphing

Procedure

1. The data collected during this program are shown in the following table.
2. The Population Change is the number of deer born minus the number of deer that died during that year. Fill in the last column for each year. The first has been calculated for you.
3. Graph the deer and wolf populations on the graph below.
4. Use one color to show deer populations and another color to show wolf populations.

Data Table: _____

Year	*Wolf Population*	*Number of Deer Offspring*	*Predation*	*Starvation*	*Deer Population change*	*Deer Population*
1971	10	800	350	100	+350	2350
1972	12	910	490	240		
1973	16	1050	640	500		
1974	22	954	880	180		
1975	27	996	1120	26		
1976	23	836	960	2		
1977	21	785	840	0		
1978	18	756	720	0		
1979	19	785	760	0		
1980	19	797	760	0		

	3	2	1
Data Tables	Tables include a title, units and numbers rounded to the nearest tenth. All data is calculated and recorded thoroughly and accurately. There are no major errors.	Most data is calculated and recorded thoroughly and accurately. There are few major errors.	Little data is calculated and recorded thoroughly and accurately. There are many major errors.
Graph	The graph clearly shows the relationship between both variables. The graph accurately includes all of the following: -a title -axes labels (with units of measure) -units following constant scale -bars/lines represent correct values -a key (or labels) identify all lines/bars	The graph shows the relationship between both variables. The graph accurately includes most of the following: -a title -axes labels (with units of measure) -units following constant scale -bars/lines represent correct values -a key (or labels) identify all lines/bars	The graph partially shows the relationship between both variables. The graph accurately includes few of the following: -a title -axes labels (with units of measure) -units following constant scale -bars/lines represent correct values -a key (or labels) identify all lines/bars
Conclusion	Conclusion is thorough. Specific data evidence and reasoning are included.	Conclusion is general. Specific data evidence/reasoning is limited.	Conclusion is incomplete. Specific data evidence/reasoning is not used.

Participation					
I often contributed good ideas that were relevant to the topic and task. I came to meetings prepared. I did my share of the work.	4	3	2	1	I seldom contributed good ideas. Sometimes I was talking off-task. I did not come to meetings prepared. I did not do my share of the work.
Working with Others					
I often compromised and cooperated. I did take initiative when needed and/or listened and respected the ideas of others.	4	3	2	1	I seldom compromised and cooperated. I did not take initiative when needed and/or did not listen and respect the ideas of others.
Product					
My part of the task is complete and accurate. My work was submitted on time.	4	3	2	1	I did not complete my part of the task. The information I presented was inaccurate and/or not done correctly. It was not completed on time.
Understanding Content					
I can speak about the topic and group work knowledgeably. I can sum-up the lesson.	4	3	2	1	I do not understand what I did in my group. I did not ask or answer questions. I cannot sum-up the lesson.