

DRAFT

Georgia Performance Standards

7th Grade-Life Science

Students were given this question as part of the Spring of 2000 *Massachusetts Comprehensive Assessment System* administration. The question, rubric and student response are below.

What the Work Shows:

Characteristics of Science-Habits of Mind

SCSm5. Students will be able to communicate scientific ideas and activities clearly.

- Understand and describe writing for scientific purposes that incorporates circle charts, bar and line graphs, two-way data tables, diagrams, and symbols.
- Organize scientific information in simple tables and graphs, and identify relationships they reveal.

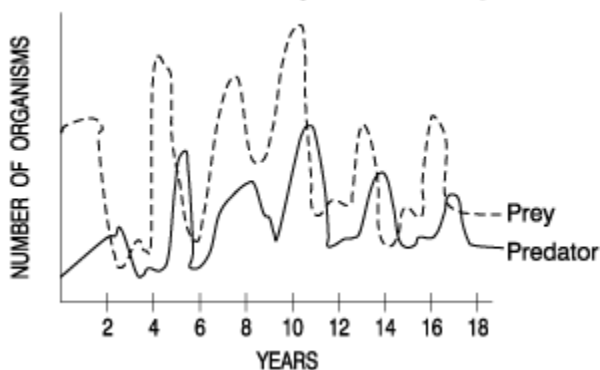
Life Science Curriculum

S7L4. Students will be aware of the dependence of all organisms on one another and their environments.

- Students will generate data that supports the fact that changes in environmental conditions can affect the survival of both individuals and entire species.
- Students will distinguish and model the characteristics of the ecosystems of Georgia.
- Students will categorize organisms that have relationships which are mutually beneficial or competitive.

Question

Predator and Prey Relationship



The graph shows fluctuations in the numbers of predators and their prey. Explain in detail why these fluctuations occur and how they are related.

Scoring Guide

Score	Description
4	The response demonstrates in-depth understanding of interactions between living things. The response includes a strong explanation for the fluctuations in the number of predator and prey and explicitly addresses how these fluctuations are related.
3	The response demonstrates general understanding of interactions between living things. The response includes an adequate explanation for the fluctuations in the number of predator and prey and addresses how these fluctuations are related.
2	The response demonstrates simplistic understanding of interactions between living things. The response includes a limited explanation for the fluctuations in the number of predator and prey and how these fluctuations are related.

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1	The response demonstrates minimal understanding of interactions between living things. The response includes a weak explanation for the fluctuations in the number of predator and prey.
0	The response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

The graph of the fluctuations in the no of predator and their prey shows a relationship between each other.

A

The graph shows that when there is large no of prey, the no. of predators increase. This is so because the predator has more prey to consume. Through the years 2-4, the no of prey was very little, so the no. of predators also were very little because of the decreasing of prey. The predators have to move away to find other food. In the 10th and 11th year there was a very large no. of prey, so now the predators are back because of the increase on they prey. The predators have more to eat now that the prey has boomed. Throughout the years, when the no. of prey were increasing, so was the no. of predators. The ^{number} line of the prey goes up and down, so the no. line of the predators go up and down but in a smaller number than the prey.

B

In conclusion, the no. of prey & no. of predators are in a pattern, whatever the other does the other line follows along. Therefore the no. of prey affects the no. of predators.

The student scored a 3 on this test item.

A

Characteristics of Science-5. Students will be able to communicate scientific ideas and activities clearly.

B

L5. Life Science Content-4. Students will be aware of the dependence of all organisms on one another and their environments.