Activity: Graphing a Population

Name:_____ **Date:**_____

A biologist obtained a sample of pond water from a pond in the Experimental Farm and took the sample back to school. She kept the sample of pond water in a small jar with the top screwed on securely so that no other organisms could get into the jar. Each day for 10 days she looked at the sample of pond water and found that only two different organisms were present, one was Euglena and the other was Amoeba. She counted the number of organisms present in the sample each day. Her results are recorded in the Observations section of this activity.

Problem:

1. To draw population curves from given data.
2. To interpret and extract information from these curves.
3. To infer possible results from known data.

Materials:

Graph Paper and pencil

Procedure:

1. Using the information in the Observations section, plot the numbers of Amoeba and Euglena against time on the same graph.
2. Population numbers are plotted on the vertical axis and time (in days) is plotted on the horizontal axis.
3. Set both axes at 0 in the lower corner; label the vertical and horizontal axes.
4. Use a solid line for the Amoeba population line and a broken line for the Euglena graph.
5. Give the graph an appropriate title.

Observations:

Populations of Amoeba and Euglena

Day Number	Number of Organisms	
	Amoeba	Euglena
0	250	40
1	240	70
2	200	130
3	130	300
4	100	330
5	120	350
6	180	340
7	350	270
8	430	150
9	470	100
10	460	90

Discussion:
Referring to the graph, answer the following questions in the spaces provided.

1. a) How many Euglena are in the jar at 2 days? _____

   b) How many Euglena are in the jar at 2.5 days?_____

2. How many Amoeba are in the jar at 4.5 days? _____

3. What is happening to the number of Euglena on the sixth day?

4. What is happening to the population of Amoeba in the sixth day?

5. a) What is the maximum number of Euglena? Number:_____

   b) On which day is this maximum reached? Day:_____

6. a) What is the maximum number of Amoeba? Number:_____

   b) On which day is this maximum reached? Day:_____

7. If the biologist had counted the number of Euglena on the eleventh day, how many do you think she would have counted?
   _____

8. If the biologist had counted the number of Amoeba on the twelfth day, how many do you think she would have counted?
   _____

9. What kind scientific activity have you done in questions 7 & 8?

10. Using the graph, what possible relationship(s) can you suggest exist between the Euglena and the Amoeba populations?