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Fruit Fly Population Growth using TI Calculator

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Name: Samuel Ibezim

Grade Level: 9-12

Subject Taught: Biology

Learning Standard: Standard 6. Formulate a conclusion, analyze results, and organize data in tables / graphs.

Objective: In this activity, students will enter experimental data from the Fruit Fly Population Growth into TI – 83 Plus calculator and use the information from the data to develop a graph. Draw some conclusions based on the data and the graph.

Materials: TI- 83 Plus calculator.

Mini Lesson: The teacher will provide experimental data from fruit fly population growth table of contents. Using the overhead TI- model, he will enter the data list into the TI – 83 Plus.

1.

Fruit Fly Population Growth

<u>Days</u>	<u>Number of Fruit Flies</u>
5	10
10	50
15	100
20	200
25	300
30	310
35	320
40	320

Fig. 1.

2. The teacher explains to the students how to graph data with [STAT PLOT]
Explain how to enter the number of days in the data into list L1, and the Population growth rate into L2.

L1	L2	L3	2
5	10	-----	
10	50		
15	100		
20	200		
25	300		
30	310		
35	320		
L2(1)=10			

The overhead data table will look like
Fig 2.

3. Show the students how to use access the options for plot 1. Do this by Press [2nd]
[STAT PLOT] to define the plot.

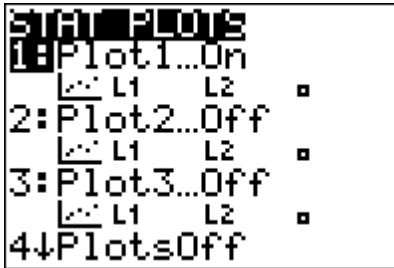


Fig. 3

The teacher Overhead screen will look like fig 3
Use STAT PLOT to set up the graph.

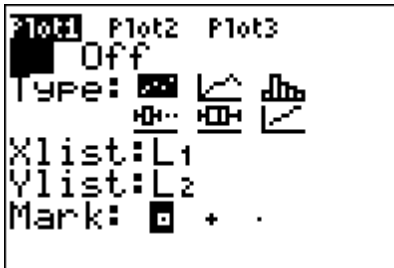


Fig. 4

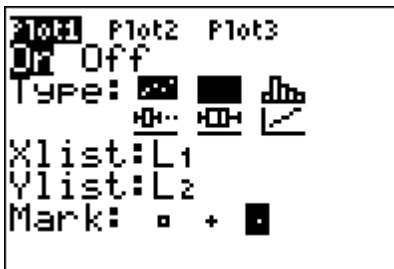
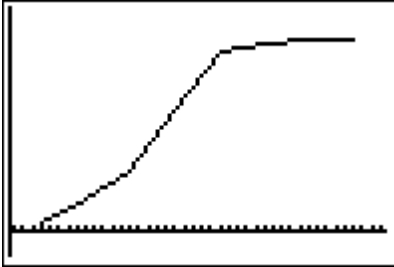


Fig 5

The teacher presses [2nd] [FORMAT] and make sure the defaults are set.

Press [WINDOW] and set an appropriate window for the data. Indicate the variables and set Xmin. and Xmax. according to the data. Do the same for the Ymin and Ymax.

4. In fig. 6, Press Zoom 9 to display a graph of Fruit fly Population growth.



Class work.

In groups of four, encourage students to use their class text book to answer questions using Tables and Graphs. Prentice Hall Biology. Page 123.

Analysis.

1. What type of growth pattern is exhibited by the fruit fly population?
2. Does the graph indicate that there is a carrying capacity for the population?
3. What is the maximum number of individuals that can be supported at that time?
4. What factors might cause the carrying capacity of a population to change?

Conclusion:

Closure: Have each group of students share out their findings.

Rubric.:

1. The teacher will grade the students based on their abilities to input data in the TI-83 PLUS calculator on L1 and L2. = 20
2. Successful completion of using the [STAT PLOT] to set up the graph using the data provided. = 20
3. Completion and sharing out the information gathered from the Analysis of the graph. = 40.