

An Introduction to Graphing: Online Activity

From Ms. Kato's web site (kato.metuchenhigh.org), follow the following links:

Modern Environmental Science > Environmental Science Links > An Introduction to Graphing Online Activity

Answer the following questions as you complete the activity.

Step 1: What is a Graph?

P. 2. Why do scientists graph data?

P. 3. What is the *range* on:

The x-axis?

The y-axis?

Step 2: What is a Line Plot?

P. 2. Dependent variable is placed on the (choose one):

a. x-axis b. y-axis c. origin d. title

Independent variable is placed on the (choose one):

a. x-axis b. y-axis c. origin d. title

P. 3. Describe the characteristics of a *logistic curve*.

Step 3: What is a Scatter Plot?

P. 2. How do you know when to use a scatter plot instead of a line plot?

Step 4: What is a Bar Chart?

P. 2. How do you know when to use a bar chart?

Step 6: Draw Your Own Graph

- For the graph of stem density and snowshoe hare density, which statement best summarizes the trend shown in the graph? (choose one)
 - Density of stems decrease as the hare density increases.
 - There appears to be no relationship between stem density and hare density.
 - The density of hares increases as the density of stems increases.
- As stem density increases from about 35 stems to about 55 stems per hectare, what is the increase in snowshoe hare density? (choose one)
 - 1000 hares per hectare
 - 10 hares per hectare
 - 1 hares per hectare
 - 0 hares per hectare
- Increasing density of tree and bush stems has a positive effect on the snowshoe hare abundance.
 - True
 - False

Name: _____ Date: _____ Period _____

4. Areas with more than 100 stems per hectare should have hare densities approaching 15 hares per hectare.
 - a. True
 - b. False
5. Greater abundance of tree and bush stems results in lower birth rates for snowshoe hare.
 - a. True
 - b. False

Step 7: Draw Your Own Graph 2

6. For the graph showing the fish body length and the percentage of tern diets that they comprise, which statement best summarizes the trend shown in the graph?
 - a. The blue-grey noddy tern and the sooty tern have identical diets with respect to fish size.
 - b. The sooty tern's diet is composed mostly of moderate sized fish and the blue-grey noddy's diet is composed mostly of small fish.
 - c. There is no overlap in the diets of the two species in respect to fish size.
7. For what size of fish is there the least amount of overlap in the diets of these two tern species?
 - a. 0-2 cm
 - b. 4-6 cm
 - c. Greater than 6cm
 - d. Less than 6cm
8. For the sooty tern, there is a steady decrease in the percent of diet as the fish length decreases from 6cm to 0cm.
 - a. True
 - b. False
9. The sooty tern consumes more fish than the blue-grey noddy tern.
 - a. True
 - b. False
10. Even though they live in the same location, these two species probably experience minimal competition for food.
 - a. True
 - b. False

Step 8: Graph Scaling

11. Since the points do not form a straight line, it would have been better to draw this as a scatter plot.
 - a. True
 - b. False
12. It would have been reasonable to place stream flow on the X axis instead of year.
 - a. True
 - b. False
13. Stream flow rates have apparently been decreasing world wide since 1966.
 - a. True
 - b. False
14. Between 1966 and 1995, what has been the approximate decrease in stream flow rates in Monteverde? (choose one)
 - a. $1.7 \text{ m}^3/\text{sec}$
 - b. $0.8 \text{ m}^3/\text{sec}$
 - c. There has been no observable change.