Name _____ Class _____ Date _____

8.1 Data Graphing Activity

Two sets of data are given in tables A and B below. Use the axes given below to make line graphs of the data.

- Use a blue pen or pencil to graph the data from Table 8-A, using the left axis.
- Use a red pen or pencil to graph the data from Table 8-B, using the right axis.

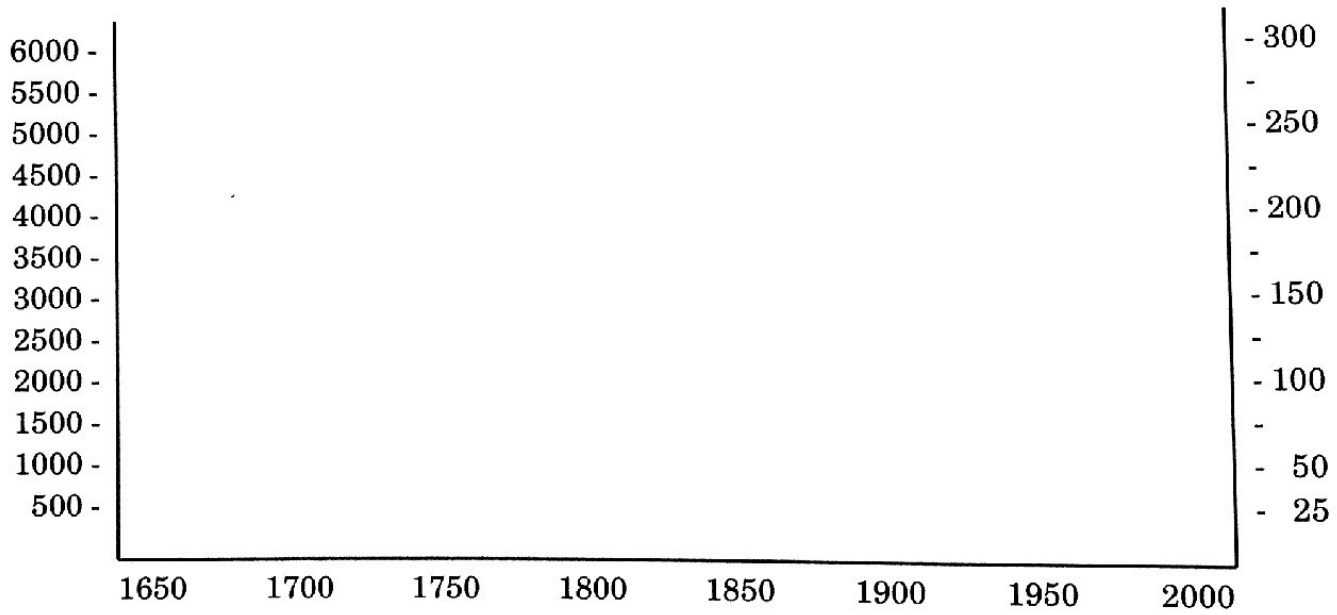
Table 8-A

1650	550
1700	610
1750	760
1800	950
1850	1210
1900	1630
1950	2520
2000	6000

Table 8-B

1650	5
1700	9
1750	7
1800	12
1850	27
1900	70
1950	124
2000	??

GRAPH OF ???



1. How are the two graphs similar? _____

_____

2. Can you guess what the data from tables A and B might represent?

   Table 8-A might represent: _____

   Table 8-B might represent: _____

3. If the trend continues, what will happen to each graph after 2000?

_____

8.2 Endangered Species I—What's Happening?: Information

The data in Table A represent the human population of the world, in millions. The data in Table B represent the numbers of birds and mammals that became **extinct** during each 50-year period. It is important to note that these are only the species known to have become extinct during that time. There may have been others that we do not know about. It is also very important to keep in mind that these are only the birds and mammals. Reptiles, fish, amphibians, insects, and plants are not included in the data. Loss of plants and insects can be especially important to ecosystems and, most likely, to mankind.

No doubt you noticed that the rate of species loss has accelerated along with the growth in human population. This makes sense, because as human populations grow they will have more and more impact on their environment.

Species have been becoming extinct for as long as organisms have been evolving on the earth. Some scientists estimate that the average rate of vertebrate extinctions over the last 200 million years has been about 90 species per century or less than 1 per year. The data in the table show that in the 50 years between 1900 and 1950, about 124 species of birds and mammals became extinct. When other vertebrates are included, it is easy to see that the rate of vertebrate extinctions has nearly tripled the historical average!

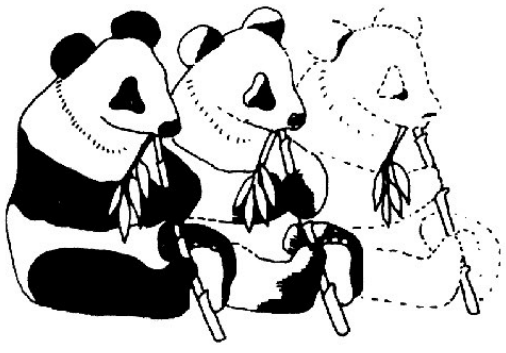
The data are even more alarming when one considers plants and invertebrates. Some scientists estimate that we are losing at least one species per day! The loss of plants is especially important partly because many animals are dependent on specific species of plants, so if the plant becomes extinct so will some species of animals. There are even estimates that the annual rate of loss may accelerate to 50,000 species per year by the year 2000. This would be a loss of about 130 species per day!

There are several reasons for this alarming loss of species. Even today, some species undoubtedly become extinct due to "natural causes," but most are due to human activities. The following table lists some of these human activities and the percentage of extinctions caused by each.

Table 8-C: Causes of Extinction

habitat alteration	30%	pest control	7%
commercial hunting	21%	subsistence food hunting	6%
competition with introduced species	16%	captured to serve as pets	5%
sport hunting	12%	superstitious beliefs	2%
		pollution	1%

It is important to realize that many extinctions are caused by combinations of these factors. Also, the percentages and causes may change with time. For example, extinctions caused by pollution may increase while those caused by superstitious beliefs may decrease.



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8.3 Endangered Species I—What's Happening?: Questions

1. Do the data provided in Tables 8A and 8B prove that the increase in extinctions is due to the increase in human population? Explain your answer.

2. Why do you think statistics were given for birds and mammals, rather than some other kind of organism?

3. Habitat alteration is a very important part of the species endangerment and extinction problem. List several ways that humans alter the natural habitat.

4. For each of the following causes of extinction, discuss how increases in human population make the problem worse.

   a. habitat alteration _____

   b. commercial hunting _____

   c. competition _____

   d. sport hunting _____

   e. pest control _____

   f. hunting for food _____

   g. pollution _____

5. List some ways that you as an individual can help protect endangered species.