**Using Graphs to Understand Data**

Go to the class website, Unit 2, and find the chart that plots mouse and kestrel sightings.

What is a kestrel? Have you ever seen one? (Do a Google search if you don’t know)

What do kestrels eat?

**Look at the chart and use it to answer the following questions:**

What information is listed on the X-axis?

What information is listed on the Y-axis?

What does the blue line indicate?

What does the green line indicate?

Describe what the information on this graph tells you.

**Reading and Understanding Important Numbers:**

What is important to notice when trying to understand a graph? Highest points, lowest points, places where lines change direction, and places where lines cross are all important to note and keep track of.

Examine the green line. In what year was the population of field mice the biggest?

About how many field mice were seen in that year?

Examine the blue line. In what year was the population of field mice the biggest?

About how many kestrels were seen in that year?

In what year was the number of kestrel sightings and mouse sightings the same? About how many mice were seen in that year?

Why is the year 1962 important? What do you notice about that year?

**Trends:**

Trends are important to look for and identify on graphs. A graph trend is a pattern, a tendency of a series of data points to move in a certain direction.

What is the trend in kestrel sightings between 1950 and 1952?

What is the trend in kestrel sightings between 1952 and 1962?

What is the trend in mouse sightings between 1952 and 1962?

What are the trends in kestrel and field mouse sightings after 1962?

**Comparing Trends:**

It is important to look for patterns to see if relationships exist between trends in one data set and trends in a different data set.

What do you notice when you compare trends in kestrel and field mouse sightings between 1952 and 1962?

What is the trend in mouse sightings during years when kestrel sightings trend downwards?

**Analyze Trends:**

After identifying trends, and then comparing trends, look to see if it is possible that the trends are related to, or caused by, each other.

What are two different explanations for the trends that are observed in kestrel/mouse sightings between 1952 and 1962?

Examine the two possible explanations that you recorded above. In either explanation, is there a possibility that the trend in kestrel sightings explains the trend in mouse sightings? Explain.

Predictions:

Once a graph’s trends have been identified and interpreted, it is possible to use the graph to make predictions about future changes in the data.

Based on your examination of the kestrel/field mouse graph, what prediction can you make about the sightings of field mice and kestrels in 1970? Explain.