Forest Activity: Interpreting a Graph

Museumlink Web sites:
Ancient Forests. http://www.museum.state.il.us/muslink/forest/htmls/an.html

Behind the Scenes Module section on Palynology. http://www.museum.state.il.us/muslink/behind/htmls/cr_bot_pal.html#

Print out (the enlarged) version of the *Nelson Lake, Kane County, Illinois, pollen diagram.* http://www.museum.state.il.us/muslink/forest/htmls/an_nelson.html

Objective: Students will be able to describe the information contained in a graph after analyzing the parts and contents of the graph.
Time Required: 15-30 minutes

Discussion Questions:
Form of the Graph:

What information does the vertical axis of the graph show?

What information does the horizontal axis of the graph show?

For any one date (e.g., 17,000 years ago), what per centage will the sum of all tree types be?

What do the labels at the top of the graph tell us?

To what do the colors in the graph relate? (Need a key?)

Reading the Graph:

What types of information does this graph show?

From where did this data come?

Practice questions finding forest makeup at various times in the past - according to the needs of the students to master the format of the graph.

Is there a time period when a large change took place?

What is this time period?

What change does the pollen data show? Describe the main differences between the vegetation of the forest around Nelson Lake recently and the same forest before the change took place.

Summarizing the Graph:

What makes this graph a good way to show the types of information (change over time)provided by this research?

What are the skills involved in interpreting graphs such as this one?

Assessment: Students will summarize the data in the graph that they interpreted in discussion, perhaps on a page that has the graph printed at the top and space for writing below. They should identify the parts of the graph and the types of information one can acquire by reading the graph.
(If the extension activity is done, students will graph their own data in a method similar to this graph.)

Extension of the Activity (another 50 minute class period plus preparation time): What big question does this graph NOT answer? (Why the changes may have occurred.) Where can you go for information about conditions for growth of types of trees? (Tree lists in Present Day Forests) or use student pages printouts of the following activity: http://www.museum.state.il.us/exhibits/midewin/coreact.html

Illinois Goals and Standards addressed: Mathematics

- **Middle School/Junior High Standard 8B:** - Interpret and describe numerical relationships using tables, graphs, and symbols.
- **Early High School Standard 10.A.3a:** construct, read and interpret tables, graphs, and charts to organize and represent data.

Nelson Lake, Kane County, Illinois
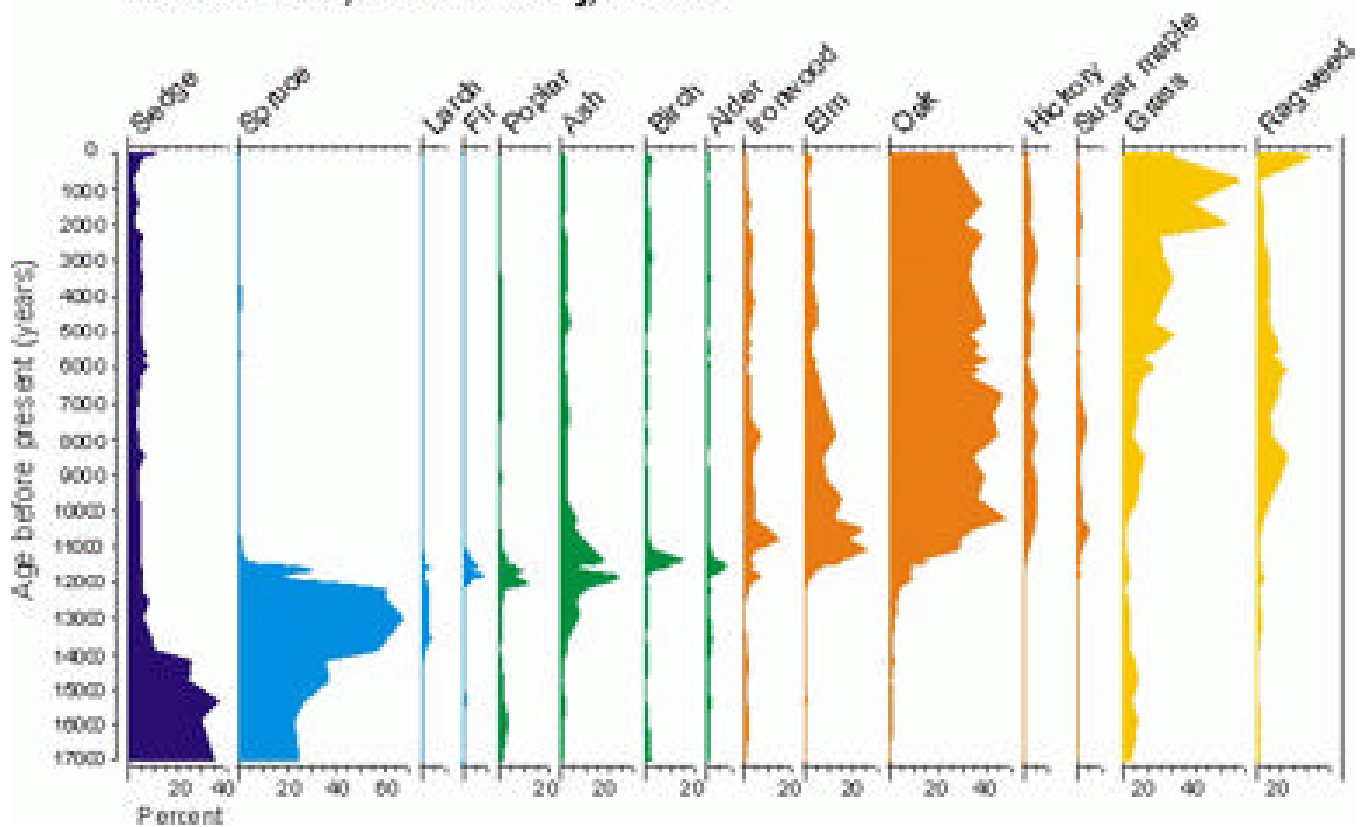
Summarize in narrative form what you learned about the changes in forest over time from this graph.

What Kinds of information do you also need to find out to explain why these changes may have occured?