Harvard LTER Schoolyard Program

Teacher Developed Lessons and Documents that integrate Harvard Forest Schoolyard Ecology Themes into curriculum.

- **Presentation Title:** Graphing Student Data
- **Description of Presentation:** Elaine provided concise directions for students to manipulate their data with Excel to prepare for graphing and their progress with scientific posters.
- **Teacher/Author:** Elaine Senechal
- **School:** Tewksbury High School
- **Level:** 12th Grade- Environmental Studies
- **Date:** April 13, 2011
Tewksbury Memorial H.S. Phenology Study Tree: Sugar Maple, 2006-2010

Summary (1 paragraph)

Methods (1 paragraph)

Data Graph: Leaf Fall for years of study

Data Graph: Length of Growing Season for years of study

Conclusion:

Data Graph: Color Change over time for years of study

Branch Map A

Branch Map B
TMHS Phenology Study Tree #3 Small Maple

Amy DeFrancesco and Nicole Dunaway
Tewksbury Memorial High School Phenology Study Tree #1, Sugar Maple, 2006-2010
Mark Ayles, Nate Macdonald

Summary

Methods

Introduction

The study area is located in the forest behind Tewksbury Memorial High School in Tewksbury, Massachusetts. The site is a deciduous forest with a mix of hardwoods and conifers. The site is located on a north-facing slope with a gently undulating terrain. The soil is a sandy loam with a pH of 6.5. The site is surrounded by a mixture of deciduous and coniferous trees, including sugar maple, oak, beech, and pine.

Leaf Percent Fallen

Leaf Color Data

Conclusion

The goal of this study was to monitor the phenology of sugar maple trees in the Tewksbury Memorial High School forest. The study was conducted from 2006 to 2010. The data collected included the number of leaves falling per week, the percentage of leaves remaining on the tree, and the color of the leaves. The data was analyzed using statistical methods, and the results were used to determine the timing of leaf fall and the color of the leaves.

The study found that the leaves began falling in early October and continued until late November. The percentage of leaves remaining on the tree decreased dramatically during this period. The color of the leaves changed from green to yellow, orange, and red. The study also found that the leaf color was influenced by the temperature and humidity of the environment.

The results of this study will be used to inform future research on the phenology of sugar maple trees. The findings will be useful for understanding the effects of climate change on forest ecosystems.
Tewksbury Memorial High School Phenology Study

Tree #7 Oak
2006 - 2010
Tewksbury Memorial H.S. Phenology Study Tree #13, Red Oak, 2006-2010
Derek Tarpey  Chris Bettano