

Boil, Boil, Toil, and Trouble:

The International Boiling Point Project

<http://www.k12science.org/curriculum/boilproj/index.html>

presented by the
CHEMISTRY GROUP



The Project

- Sponsored by Stevens Institute of Technology, Center for Improved Engineering and Science Education
- Purpose: to discover which factor in the experiment (room temperature, elevation, volume of water, or heating device) has the greatest influence on boiling point
- Schools register, follow a standard lab procedure, report data to the website, analyze data from all over the world, and submit a final report

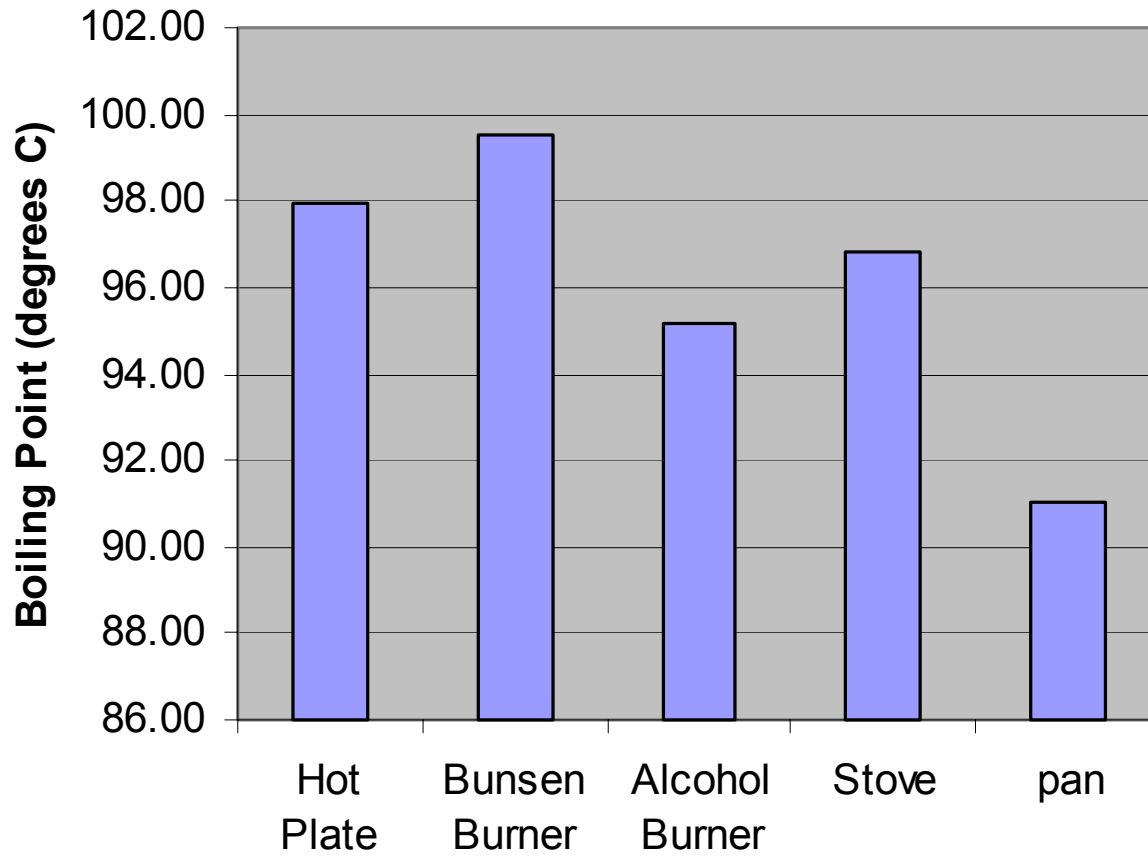
The Laboratory



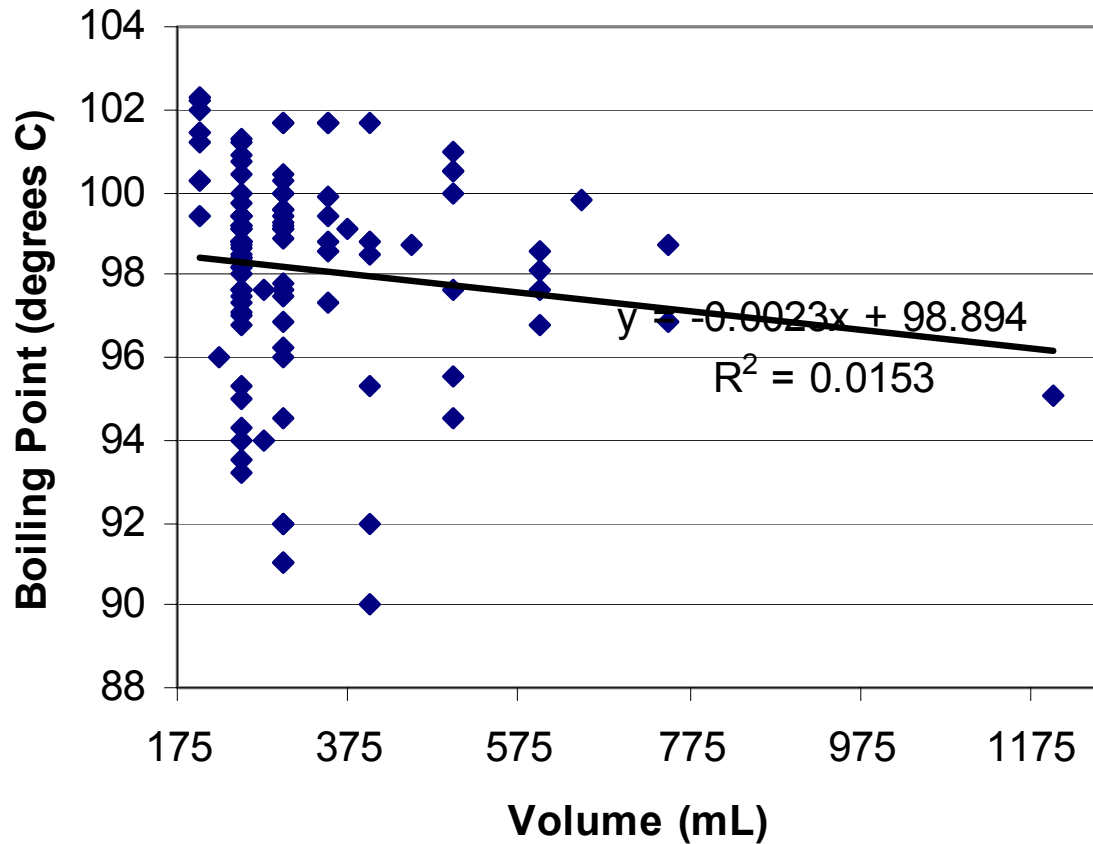
The Analysis



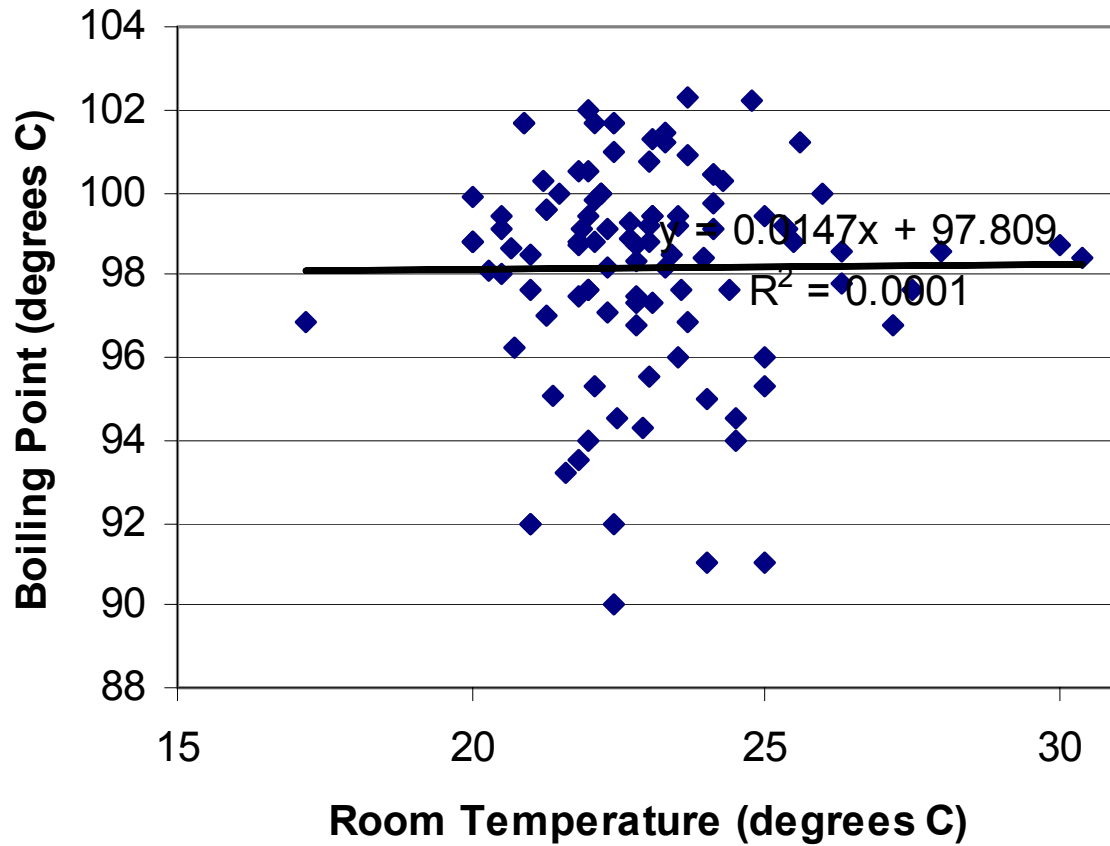
The Results



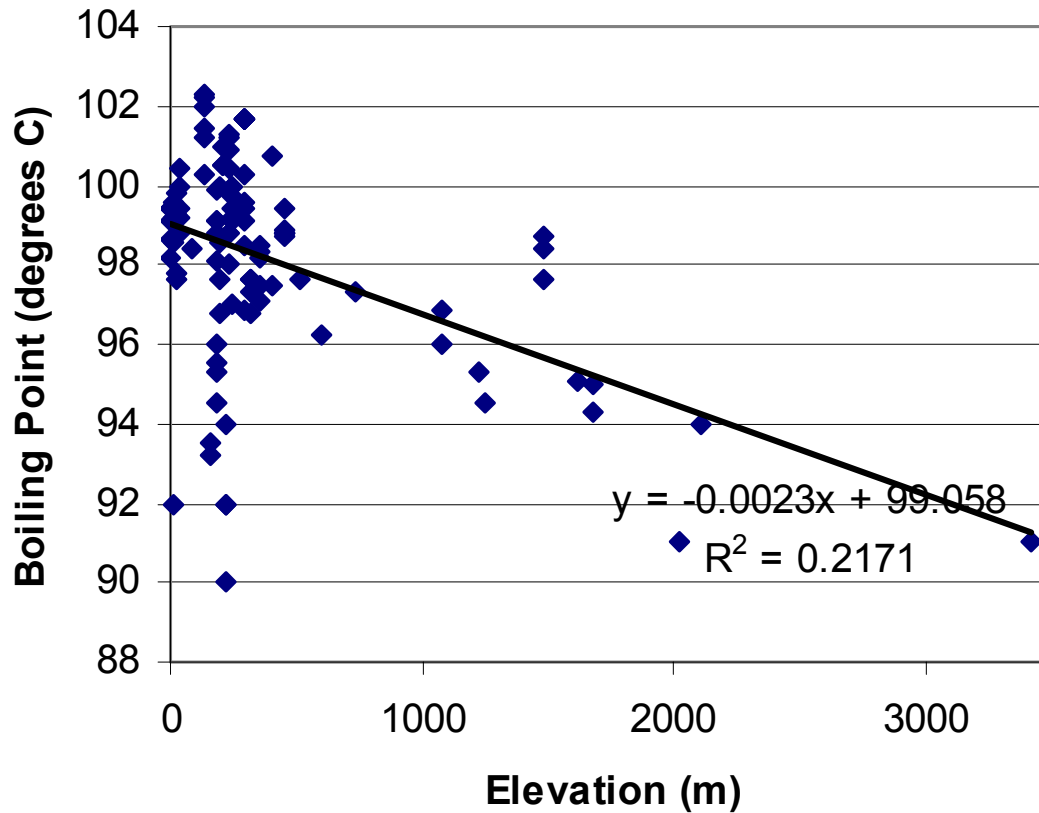
The Results



The Results



The Results



The Positives

- Inquiry based procedure
- Calibration of instruments
- Use of graphing calculators for analysis
- Science writing experience for students
- Connection with labs all over the world

The Negatives

- Time – doing the lab took 3 days of class and analyzing the data took another
- “Bad” data from other schools
- Lab procedure was more appropriate for a middle school laboratory

Student Feedback

- The best parts:
 - ‘Actually testing Boiling Point’
 - ‘looking at data from around the world’
 - ‘working with partners’

Student Feedback

- The worst part
 - ‘boiling water for three days’
 - ‘it took a long time’
 - ‘no variation in experiment’
 - ‘inputting all the data [into the calculator]’

Overall Student Satisfaction

- Handout format 8.1
- Help from teachers 8.2
- Lab 5.2
- Analysis 6.1
- Essay 6.5

The End

