

Soda Fountain

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RET Summer Module Conference

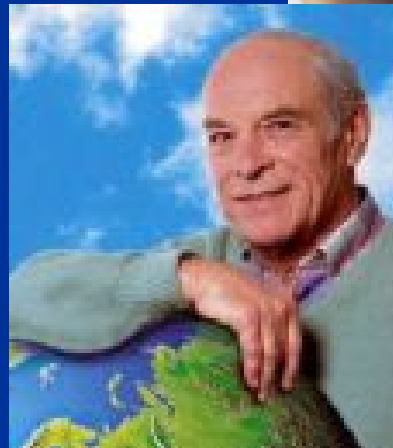
July 31st, 2008



UIC

Goals of Teaching Module

- No more cookie cutter lab
- Practice “real” science
- Gain first hand knowledge of science research
- Perhaps become a science wizard?



Alignment with Illinois State Learning Goals

■ EARLY HIGH SCHOOL

- 11.A.4a Formulate hypotheses referencing prior research and knowledge.
- 11.A.4b Conduct controlled experiments or simulations to test hypotheses.
- 11.A.4c Collect, organize and analyze data accurately and precisely.
- 11.A.4d Apply statistical methods to the data to reach and support conclusions.
- 11.A.4e Formulate alternative hypotheses to explain unexpected results.
- 11.A.4f Using available technology, report, display and defend to an audience conclusions drawn from investigations.

So What is This Module About Anyway?



What happens?

- Nucleation sites
 - Tiny divots
 - Imagine a golf ball
- Surface tension broken
 - Pasta boil over
 - Root beer float



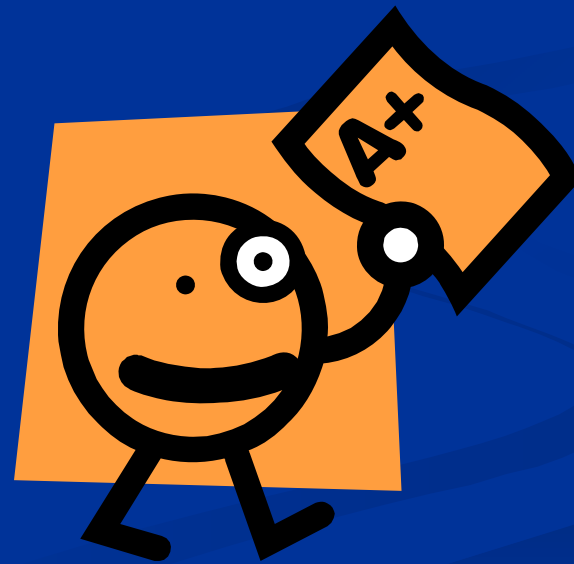
Students Will Do “Real” Science

- No instructions except the highest wins
- Pre-lab, in-lab, and post-lab write ups
- 3 bottles in 3 days



Pride in Ownership

- Video verification
- Put it on the fridge!



Assessment

- Graded on knowledge of scientific method

Pre-lab: hypothesis, controls, variables, etc...

In-lab: are insights being made

Post-lab: verification of hypothesis, any room for improvement

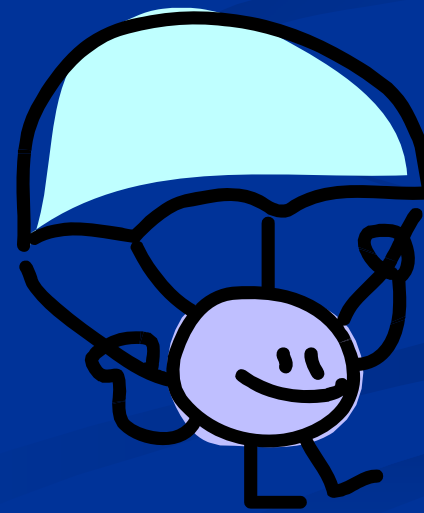
Teaching Module 2008

- All school science fair
- Learn and use scientific method
- Test, design, research



The Plan

- Students will be given choices to do
 - Build a bridge
 - Science quiz down
 - Clay boats
 - Egg drop
 - Soda fountain
 - Parachute distance



- Competition between 1st year students, 2nd year and upperclass students respectively
- Prizes will be given for 1st, 2nd, and third for each category and grade level



Acknowledgements

- NSF CMS 0731734 PI: CG Takoudis and NSF EEC 0703958:PI:CG Takoudis
- Chicago Science Teacher Research (CSTR) program