



# Science Fare

Celebrating Independent Learning

# Mission



Nova Scotia Youth Experiences in Science [NS **YES**] is a charitable, not-for-profit organization that initiates, promotes and supports science experiences for Nova Scotia youth and celebrates the accomplishments of our young scientists.

# Project-based Learning



- ✓ long-term, student-centered, and integrated with real world issues and practices
- ✓ motivates students by engaging them in their own learning
- ✓ provides opportunities for interdisciplinary learning
- ✓ skills learned are those desired by today's employer, including the ability to work well with others, make thoughtful decisions, take initiative, and solve complex problems
- ✓ teachers may fill the varied roles of coach, facilitator, and co-learner
- ✓ provides the opportunity for students who do not excel at tests to demonstrate learning (alternate assessment)

# Real Science



- ✓ Cookbook science
  - ✓ Repeats someone else's work
  - ✓ Confirms a known result
  - ✓ Is exercise rather than research
- ✓ Real Science
  - ✓ Starts with a question or problem
  - ✓ Requires the student to plan the investigation
  - ✓ Requires the student to evaluate the result

# Challenges



- ✓ semestering
- ✓ time
- ✓ curriculum too long
- ✓ resources
- ✓ teacher background
- ✓ dad did the project

# Picking a Topic



- ✓ personally interesting
- ✓ information available
- ✓ equipment available
- ✓ meets YSF content and safety guidelines

# Finding Help



- ✓ <http://ysf.ca/>
- ✓ <http://sciencefairinfo.ns.ca/>
- ✓ <http://hste.ednet.ns.ca/>

# Interpreting Results



- ✓ How many trials is enough?
- ✓ How will the data be analyzed?
  - ✓ **Descriptive:** standard deviation, central tendency mean, mode and median
  - ✓ **Inferential:** T-test, Chi-squared (goodness of fit) correlational statistics



# Team Nova Scotia 2008

