Rationale

Studies
- Second International Science Study
- Third International Mathematics and Science Study
- National Assessment of Educational Progress

Development of National Standards

Science for All Americans (AAAS, 1989)

National Science Education Standards (NRC, 1996)

Emphases:
- process skills, inquiry and constructivism in science teaching and learning.
Problem Solving Model*

- Plan
- Obtain data
- Organize data
- Analyze data
- Generalize from the data
- Make decisions based upon the data


Process Skills Models

Lunetta and Tamir (1979) - four foci:
- Planning
- Performing
- Analyzing and interpreting
- Application

Development of NYS Standards

- NYS Learning Standards in Mathematics, Science and Technology (NYSED, 1996)
- Developed from the NSES and SFAA
### NYS Assessments

- **Multifaceted** – Multiple Choice, Constructed Response, Extended Constructed Response
- **Performance Assessment Component** – Part “D”
- **Various organizations**
  - □ Integrated (Physics, Chemistry)
  - □ Independent (Earth Science)
  - □ Surrogate (Biology)
Dimensions of Performance Assessment

Doran and Reynolds (1996):
- Novelty
- Structure
- Sequence
- Level

Proposed:
Organization

The Independent Model -- Features
- Usually several stations
- Separate foci (within general area/topic)
- Several skills are tested
- Less time per task (station)
- Less “double jeopardy”

The Surrogate Model -- Features
- Assessment is a follow-up to a (prior) hands-on, in-class activity
- Assessment calls for students to critique evidence (data/conclusions/plans) from other students
- Assessment requires students to extend conclusions stated/predict to new investigation
- Students use their prior experiences
- No demand for equipment and materials
- No safety concerns
The Integrated Model – Features

- Usually single location (lab site)
- A single overarching focus (context)
- A family of skills assessed
- Often a complete investigation

Today’s Agenda

- Overview of Performance Assessment formats
- Examples from
  - NORC Performance Assessment Task Collection
  - Sample task following current thinking for NYS Physical Setting: Physics
- Questions/Concerns/Comments

Thank you for your time and patience! Please feel free to contact me with questions, concerns or comments:

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