

# Science Curriculum and Instruction for 21<sup>st</sup> Century Skills

Center for Education Board Meeting  
May 3, 2005



# Caveat

- Nothing new - reality
- However - recognition - problem exists!  
ex. evolution/creation controversy  
(even the President)



How might efforts to develop problem-solving and complex communication skills intersect with current efforts to reform science education?

- National Science Education Standards/related documents
- State/local standards (ex. VT)
- Benchmarks/Atlas for Science Literacy
- NCLB (reform?)



# Obstacles and challenges to developing complex communication and problem-solving skills within the context of science education?



- Time (to teach, to collaborate)
- Resources
- Lack of quality PD
  - 1 size fits all, trendy



- Class size (OR and MA ex.)
- AP push/grades (parent, admin. pressure)



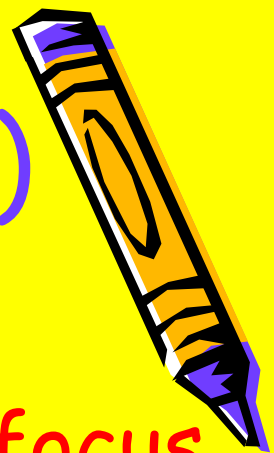
# Obstacles/Challenges (cont.)



- Lack of qualified teachers
  - pre-service
  - research experience
  - content background
  - elementary - unique problems
- Text/test driven
  - acquisition of more and more content
  - demands of accountability



# Obstacles/Challenges (cont.)

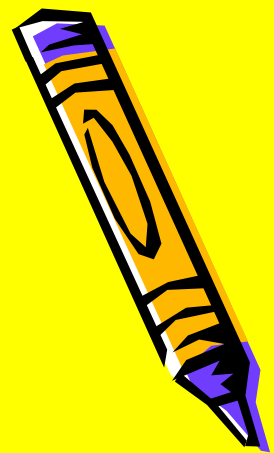


- Lack of K-12, cross disciplinary focus on problem solving, reading and writing skills, thinking skills
- Parents - lack of understanding, pressure for grades, resistant to change
- Administrators - lack of consistent approach, concerns of accountability, failure to support teachers



# What kinds of promising approaches can address these obstacles and challenges?

- Changes in pre-service programs
- Respect for teachers as professionals
- Problem solving/complex communication skills across the curriculum



# Promising approaches (cont.)

- Better PD -  
targeted  
teacher driven (ex. SDI),  
differentiated (ex. VT)
- Recognition of teacher leaders
- Some state/local assessments (VT  
GE's and PASS)
- New approaches utilizing the  
internet (ex. Sci-Pi)
- PBL - real world and interdisciplinary

