

Project Update: 2009 NAEP Science Framework and Specifications



Co-Project Directors

Senta Raizen, *Director NCISE*

Steve Schneider, *Program Director M.S.T. WestEd, PI CAESL*

NAEP Schedule of Assessments

YEAR	National Assessment (Grades 4, 8 & 12)	State Assessment (Grades 4 & 8)
2002	Reading Writing	Reading Writing
2003	Reading (Grades 4 & 8 only) Math (Grades 4 & 8 only)	Reading Math
2004	Long-Term Trend	
2005	Reading Math Science	Reading Math Science
2006	U.S. History Economics (Grade 12 only) Civics	
2007	Reading (Grades 4 & 8 only) Math (Grades 4 & 8 only) Writing (Grades 8 & 12 only)	Reading Math Writing (Grade 8 only)
2008	Arts (Grade 8 only) Long-Term Trend	
2009	Reading Math Science	Reading Math

NAEP Science Project

\$1.3M National Assessment Governing Board (NAGB) contract
Contractor: WestEd
 Promote excellence, achieve equity, & improve learning
Subcontractor: Council Chief State School Officers
 Leadership, advocacy, and technical assistance
Collaborators:
 American Association for the Advancement of Science (AAAS)
 Council of State Science Supervisors (CSSS)
 National Science Teachers Association (NSTA)

2-Tiered Development Process

Steering Committee: Oversight
Oversee
 Policies, goals, principles
Education, industry, & science organization representatives
Co-Chairs: Gerald Wheeler (NSTA), Mary Yakimowski (CCSSO)

Planning Committee: Production
Produce
 Recommended Framework
 Recommended Test and Item Specifications
 Recommendations for background variables
 Designs for small-scale studies
Educators, measurement experts, scientists
Co-chairs: Richard Shavelson (Stanford), Senta Raizen (WestEd)

Overview of Outreach Efforts

American Association for the Advancement of Science (AAAS)
 ✓ Section Q Meeting – February 2005
Council of State Science Supervisors (CSSS)
 ✓ 13 Regional Meetings – March to May 2005
 ✓ National Meeting – May 2005
National Science Teachers Association (NSTA)
 ✓ National Convention – March 2005
 ✓ Teacher Survey on Framework's Content Standards – May 2005
National Assessment Governing Board (NAGB)
 ✓ Invitational Business and Industry Forum – May 2005
Council of Chief State School Officers (CCSSO)
 ✓ Mega-SCASS Conference – January 2005
 □ Large-Scale Assessment Conference – June 2005

Summary

What We've Done:
 3 meetings held in Washington, DC
 Steering Committee (SC)'s Guidelines received
 Outreach

Where We Are Now:
 Planning Committee (PC) reviewing 3rd draft of Framework

Next Steps:
 Outreach reports to be shared with SC and PC (May – June)
 Two PC meetings to finalize Framework and begin Test and Item Specifications (May – June)
 Joint SC and PC meeting to wrap-up (August)
 Framework and Specifications to go through NAGB review process (September – December)

Schedule of Activities

✓ Contract Signed	September 20, 2004
✓ Final Planning Document to NAGB	November 3, 2004
✓ 1st Steering Committee Meeting	December, 2004
✓ 1st Planning Committee Meeting	December, 2004
✓ 2nd Planning Committee Meeting	January, 2005
✓ Develop Input and Draft Review Procedures	March, 2005
✓ 2nd Steering Committee Meeting	March, 2005
✓ 3rd Planning Committee Meeting	March, 2005
Conduct Review Activities	March-June, 2005
4th Planning Committee Meeting	May, 2005
5th Planning Committee Meeting	June, 2005
3rd Steering Committee Meeting	August, 2005
6th Planning Committee Meeting	August, 2005
Draft Assess. Framework Delivered to NAGB	September, 2005
NAGB Review of Assessment Framework	Returned by mid-Oct.
Revisions & Final Assess. Framework to NAGB	October, 2005
Draft Test & Item Specifications to NAGB	Mid-October, 2005
NAGB Action on Framework & Specifications	November, 2005
Revisions & Final Test & Item Specs to NAGB	December, 2005
Report on the Development Process to NAGB	December, 2005
Test Development, Item Reviews, Field Testing	2006 - 2008
Set Achievement Levels; Operational Testing	2009
Results Report: Preparation, Review, Release	2010

Proposed Table of Contents (May 2 Draft)

Chapter 1: Overview and Recommendations Introduction Need for a New Framework Context for Planning Key Limitations The Framework Development Process Achievement Levels Steering Committee Guidelines Overview of Recommendations	Chapter 4: The Cognitive Dimension Introduction Cognitive Demands Comments on Cognitive Demands Mapping Science Practices to the Cognitive Dimension Generating Performance Expectations
Chapter 2: Overview of the Assessment Framework Introduction Overview of Chapter Three Overview of Chapter Four Overview of Chapter Five	Chapter 5: Overview of Assessment and Item Specifications Introduction Overview of the Science Assessment Features of Science and Technology as Contexts for Assessment Items Types of Items Distribution of Items Other Technical Considerations Special Studies
Chapter 3: Practices and Constructs of the Science Content Domain Introduction Practices Science Constructs From Practices and Constructs to Performance Expectations	

Proposed Content Topics (May 2 Draft)

Earth and Space	Life	Physical
Earth in Space and Time	Organization and Development of Living Systems	Motion and Forces
Earth in Space and Time	Matter and Energy Transformations in Living Systems	Energy
Earth in Space and Time	Interdependence of Living Systems Heredity and Reproduction of Living Systems Evolution and Diversity of Living Systems	Matter

NAEP Science Project:
<http://www.sciencenaep2009.org>

NAEP:
<http://nces.ed.gov/nationsreportcard/>

National Center for Education Statistics:
<http://nces.ed.gov/>

National Assessment Governing Board:
<http://www.nagb.org/>

CAESL

PARTNERS

WESTED

UNIVERSITY OF CALIFORNIA, LOS ANGELES

UNIVERSITY OF CALIFORNIA, BERKELEY

STANFORD UNIVERSITY

LAWRENCE HALL OF SCIENCE