After the NRC: Developing New Science Education Standards

NRC Informational Meeting

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Why a New Set of Science Standards?

- Focus on most important concepts to manage the overwhelming amount of content
- Permit a coherent story to be told helping students to understand connections within and across fields
- Help sort out differences among three related levels of science proficiency: science literacy; college and career readiness; preparation for STEM careers
- Calibrate standards to what high-performing countries expect of their students so U.S. students can function in a global economy
- Increase emphasis on analytical and research skills
- Point the way to high quality, aligned assessments, curriculum and instructional materials

What Are Some of the Challenges that Standards Developers of Science Face?

- Characterizing the levels of rigor necessary for science literacy, college and career readiness and STEM careers
- Deciding how best to incorporate mathematics
- Deciding how to treat engineering and technology
- Integrating content and skills
- Attending to international expectations
- Grade spans or grade levels; Integrated high school standards and/or course-specific standards
- Securing time for authentic research experiences where scientific habits of mind tend to be acquired without becoming content-light
- Striking a balance between “break the mold” standards and a bridge too far

Understandings

- Project will be conducted with 4 partner organizations: NRC, Achieve, AAAS and NSTA
- NRC will take the lead in building the intellectual framework for the standards
- Achieve will take the lead in developing science standards based on the framework

Proposed Project Goals:

- Impart a coherent and sharpened focus on the core ideas of the major fields, including the applied sciences in technology and engineering, and the over-arching interdisciplinary ideas that characterize science

- Take into consideration the knowledge and skills required for science literacy, for college readiness, and for pursuing further study in STEM fields, defining what it means to be STEM-capable

- Integrate content knowledge and skills

Proposed Project Goals:

- Base decisions on the content included on evidence–to the degree possible– as well as on professional judgment
- Reflect the expectations that high performing countries hold for their students
- Provide a platform for the development of aligned, high quality assessments, curricula and instructional materials

§ Establish a foundation to facilitate states coming to agreement on “common core standards” should that desire take hold

Achieve's Approach to Developing Science Standards

- Use the NRC framework as the architecture and basis for developing new science standards.
- Collaborate closely with partners by implementing an organizational structure and schedule of regular meetings that facilitate communication and trouble-shooting
- Engage states early on in the project
- Initiate a communications and outreach strategy
- Develop a vetting process to obtain feedback from the larger science community and the public