

Taking Science to School

"After 15 years of focused standards-based reform, improvements in U.S. science education are modest at best." So states the Executive Summary of the most recent recommendation from the National Academies Press, *Taking Science to School: Learning and Teaching Science in K-8*. In addition to lamenting the gap in achievement of U.S. students and students elsewhere in the world, the report also laments "gaps in achievement . . . between majority group students and both economically disadvantaged and non-Asian minority students."

"Extensive rethinking of how teachers are prepared before they begin teaching and as they continue teaching -- and as science changes -- is critical to improving K-8 science education in the United States," the report goes on, in language that has been all too common in reports of this type. Yet, the recommendations of the report have some rather uncommon aspects. They call for addressing science education in the context of students' previous experience and for disregarding Piagetian stages of development as barriers to scientific understanding and reasoning. They call for students to "learn science by actively engaging in the practices of science" and for providing teacher training and professional development to teach science in this way. Moreover, the science curriculum should be structured around "a few core areas," thus eliminating the criticism of being "a mile wide and an inch deep."

Two "core ideas" considered in *Taking Science to School* are evolution and atomic-molecular theory. Included under the former are biodiversity, structure and function, ecology, variation, change, and geologic processes. Appendix A outlines the "learning progression for matter and the atomic-molecular theory." The full report is available at <http://newton.nap.edu/openbook/0309102057/html>. Whether it will have greater effect than its predecessor report remains to be seen.