



# Setting the Record Straight

*about changes in*

## Mathematics Education

### Commonsense Facts about the NCTM Standards

In April 1989, the National Council of Teachers of Mathematics (NCTM) released its Curriculum and Evaluation Standards for School Mathematics, thereby launching a decade of renewed interest in educational standards. These 1989 Standards have been updated in NCTM's Principles and Standards for School Mathematics (to be released 12 April 2000). Overall, the NCTM Standards documents advocate a broader and more meaningful mathematics curriculum that is responsive to changing societal priorities and to changes in instructional practice that meet the needs of a far greater proportion of the student population than has been true in the past.

The Standards call for a mathematics curriculum that emphasizes finding and justifying solutions to problems, in addition to performing calculations. Furthermore, they encourage teaching in ways that help students make sense of important concepts through representing, communicating, reasoning about, and making connections among mathematical ideas.

In the decade since the original set of standards was released, two important changes have occurred:

***There has been broad implementation of elements of the Standards in classrooms across the United States and Canada.***

- New instructional materials that embrace the vision of the Standards have been developed.

- An increased emphasis at all grade levels on problem solving and realistic applications of mathematics has occurred.

- Technology, in the form of powerful calculators and computers, has become an important tool for students to use in learning mathematics.

***There has been a clear and consistent pattern of higher student achievement.***

- Student proficiency on the National Assessment of Educational Progress (NAEP) mathematics assessments has significantly increased at grades 4, 8, and 12 between 1990 and 1996, representing approximately one grade level of growth at each grade level.

- Average SAT-Math scores have increased from 500 in 1991 to 512 in 1998.

- Some of the greatest student gains in mathematics between 1990 and 1996 have occurred in states like Connecticut, Michigan, Texas, and North Carolina—four states that have made strong and consistent investments in state standards and assessments that reflect the vision of the NCTM Standards.

The facts are simple:

**The NCTM Standards Make Sense!  
The NCTM Standards Are Working for Our Students!  
The NCTM Standards Are Working for Our Future!**

*Brought to you by the 100,000 members of the National Council of Teachers of Mathematics in the interest of common sense, moving forward, and helping all children learn mathematics. This fact sheet on mathematics education has been approved by the NCTM Board of Directors. Permission is granted to quote or reproduce these statements or portions of them.*