



## Math Takes Time

A Position of the National Council of Teachers of Mathematics

### Question

How much time should schools allocate for teaching mathematics?

### NCTM Position

To learn the mathematics required for today's world, students need adequate time to study and learn mathematics in school. Every student should study mathematics every year through high school, progressing to a more advanced level each year. All students need to be engaged in learning challenging mathematics for at least one hour a day at the elementary, middle school, and high school levels.

Today's world demands a mathematically literate citizenry, well prepared for ever-changing technology and growing global competition, and led by a new generation of mathematics and science professionals. More challenging mathematical content is required at every grade level. Class time should be planned effectively to engage all students. However, learning important mathematics cannot be rushed; students need time to process what they are learning (Pezdek and Micheli 1982).

At every grade level, students must have time to become engaged in mathematics that promotes reasoning and fosters communication between teachers and students and among students. Students need time to develop and practice skills and procedures for solving a wide range of problems. Most important, developing the concepts and skills that ensure success in school and beyond requires a substantial investment of time. *Students at every level should have at least one hour of mathematics instruction each day.*

An hour of mathematics instruction each day gives students 50 percent more time with mathematics than 40-minute periods do. Students who have an hour of mathematics instruction each day receive nearly 180 hours of instruction a year.

It is essential that middle school not be a time of short-duration mathematics classes. What was once considered high school mathematics content is increasingly found in middle school, where courses in algebra and geometry are now commonplace. In addition, any version of semester block scheduling at the middle school or high school level should be implemented with great care. Students who go without studying mathematics for a semester or more may lose ground and be at a disadvantage in high school or college study.

Evidence supports the enrollment of high school students in a mathematics course every year, continuing beyond the equivalent of a second year of algebra and a year of geometry. Classes designed solely to help students pass state assessments or remediate deficiencies should supplement students' primary mathematics classes, not replace them. Finally, at all levels of instruction, interruptions to classes should be held to a minimum. Most important, learning experiences should be carefully planned to engage students in meaningful mathematics learning each day of the school year.