

Alabama Math, Science, and Technology Initiative (AMSTI)

The Alabama Math, Science, and Technology Initiative, commonly referred to as AMSTI, is the Alabama Department of Education's initiative to improve math and science teaching statewide. AMSTI was designed by a Blue-Ribbon committee comprised of K-12 educators, higher education representatives, and business leaders. The committee pursued every step possible to design the most effective statewide initiative for improving math and science teaching. AMSTI is research-based and incorporates best practices for math and science teaching.

The initiative provides three basic services: professional development, equipment and materials, and on-site support. Schools become official AMSTI Schools by sending all of their math and science teachers, and administrators to two week Summer Institutes for two summers. At the Summer Institutes teachers receive grade and subject specific professional development that is highly applicable to their own classrooms. Instruction is delivered at the Summer Institutes by “master” teachers who have been certified as AMSTI trainers after successfully completing AMSTI trainer workshops.

AMSTI sites provide AMSTI School teachers with essentially all of the equipment, supplies, and resources needed to effectively engage students with hands-on, inquiry-based learning. Examples of equipment include labware, chemicals, global positioning devices, plants with growth containers, and many other items. The resources arrive packaged in “kits” ready for immediate use. Each kit is customized for the specific activities that will be taught. Once students complete the activities from a kit, it is returned to a materials center where it is refurbished to “like new” condition. Another kit targeting the next activities to be undertaken is delivered to the teacher and the newly refurbished kit is sent to another teacher.

AMSTI sites also provide extensive, on-site support and mentoring. Once teachers complete the Summer Institute, math and science specialists from the site regularly visit the schools where they serve as mentors, helping teachers implement what was learned during the summer. Such support is vital for teachers to become comfortable and skilled at inquiry-based, hands-on learning.

Each region of the state must have an AMSTI site to support schools within the region. The AMSTI site conducts the Summer Institutes for teachers within the region, under the supervision of the Alabama Department of Education. The site also operates a materials center that refurbishes kits and rotates them among teachers. In addition, it provides the math and science specialists that deliver on-site mentoring.

Evaluation results, provided by the initiative's external evaluator, indicate that AMSTI is highly successful in improving student achievement. Students in AMSTI Schools scored dramatically higher on the Stanford Achievement Test in math, science, and reading, and on the Alabama High School Graduation Exam, as compared to schools with similar demographics that had not participated in AMSTI.

AMSTI currently has three AMSTI sites serving 72 schools, 1800 teachers, and 42,000 students on a daily basis. Eleven AMSTI sites are required for the program to reach all students in Alabama .

The Alabama Department of Education is currently requesting funding of \$15 MY for Fiscal Year (FY) 2006. If approved, the funds will allow the three existing AMSTI sites to bring new schools in their regions into the initiative while continuing to provide services to all of the schools that have previously received training. Such funding will also allow three new AMSTI sites to begin serving schools in three of the remaining eight regions of the state that are now without AMSTI services. In addition, funding will allow the high school science component of the initiative, ASIM, to add the third discipline to the 10 regions of the state that are currently missing such a discipline.

AMSTI has a proven track record for helping students develop the math and science skills and knowledge necessary for success in the workforce and postsecondary studies. The initiative provides equity and adequacy for all students in Alabama , regardless of their location or background. The goal is to have AMSTI available to all schools statewide. Currently, the growth of AMSTI is limited only by funding.

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