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Engineering Mathematics: National Importance

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TIES

TEACHING INSTITUTE FOR EXCELLENCE IN STEM



TIES The Teaching Institute for Excellence in STEM

TIES was founded in 1999 as a firm devoted to support the teaching of science, technology, engineering and mathematics.

Through work with the Bill and Melinda Gates Foundation, the National Science Foundation, Johns Hopkins University and others, TIES has evolved into a national consulting group focusing on STEM education throughout the country.



TIES The Teaching Institute for Excellence in STEM...Today

TIES understands the importance of developing a national imperative in STEM education.

TIES is driving the design and construction of networks in all STEM communities.

TIES works with regional and state economic development organizations to fuel STEM education curriculum and instructional program development for the benefit of all.



TIES The Teaching Institute for Excellence in STEM...Today

- TIES is part of STEM education development in Texas, Ohio, North Carolina, New York, California, New Mexico, Pennsylvania and Washington.
- TIES teams also work with the National Governors Association Innovation America STEM Centers.
- TIES serves as STEM technical assistance management for the Ohio STEM Learning Network operated by the Battelle Memorial Institute as well as other Gates STEM Networks.




TIES The Teaching Institute for Excellence in STEM STEM Education

- TIES understands the need to shift the teaching of STEM education to focus less on fragmented and isolated bits of discrete information and more on scientific understanding and reasoning.
- Education is still in silos throughout our schools
- STEM education is trans-disciplinary in nature, offering students the ability to use project-based learning to address real-world issues that effect their family, their community and their world.




TIES The Teaching Institute for Excellence in STEM Growing Importance

- Economic viability predicated on an innovative workforce.
- Innovation ensured as P-20 STEM education is aligned with economic clusters and growth industries in America as well as abroad
- Grow a STEM literate citizenry who is able to make informed life decisions



National Implications of Chantilly High School's Engineering Mathematics Effort

- Breaking the mold: STEM in non-STEM magnet schools.
- 'Engineering Mathematics' challenges stereotypes about what children can and should do in STEM in K-12.
- Chantilly High School as an incubator for STEM education

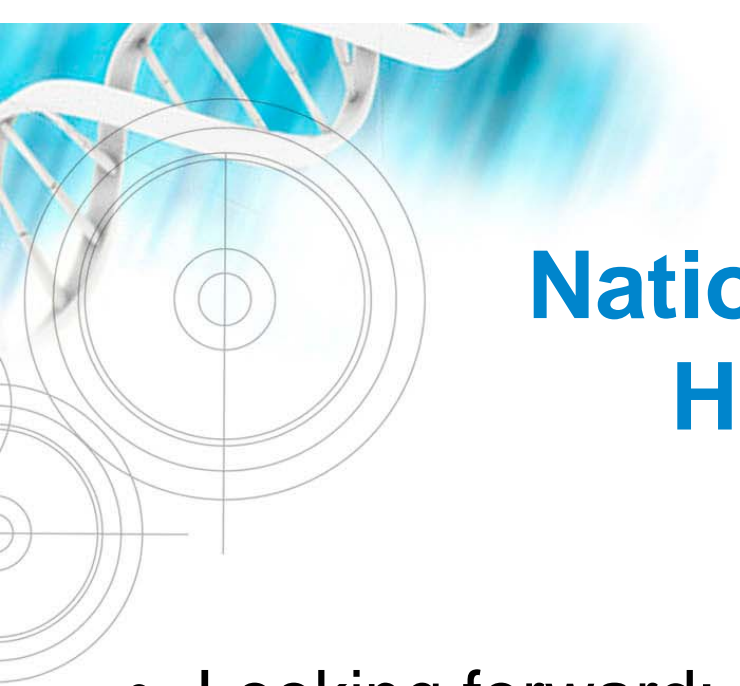


National Implications of Chantilly High School's Engineering Mathematics Effort

- Implementing strategies for effective teaching and STEM sustainability
- Incorporating STEM into the Common Core State Standards Initiative
- Student's vision in STEM world relevant to mathematical literacy demanded by Common Core State Standards Initiative

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National Implications of Chantilly High School's Engineering Mathematics Effort

- Looking forward:
- Using the 'T' and 'E' from STEM to inform the 'S' and 'M' key to relevancy
- Informing the network, impacting states throughout the nation

