

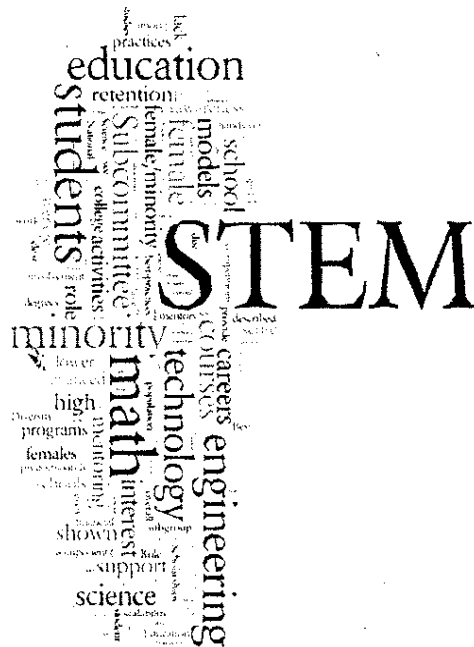
HENDERSON MIDDLE SCHOOL IS GOING STEM

What is STEM Education?

STEM education occurs when students are engaged in problem-based units of study that incorporate scientific topics using mathematics and technology based on an engineering design thought process.

Henderson Middle STEM Committee

Tiffany Brown, Co-Chair
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Megan Dunn, Language Arts
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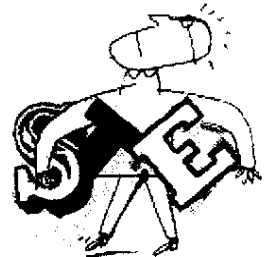


Why implement STEM education... and now?

- STEM education is an economic imperative for Georgia and America.
- The demand for workers in STEM occupations is increasing at every education level.
- By 2018, America will be short one million nurses, 200,000 doctors and 400,000 engineers.
- STEM education prepares students for college and careers effectively.
- STEM education provides students with the critical thinking skills to solve current and future, unknown problems of the world.
- STEM education aligns with the expectations of critical thinking skills outlined in the Common Core Standards.
- The new Teacher Evaluation Model requests evidence of this type of instruction in order to receive higher

Upcoming STEM Initiatives for the 2013-2014 School Year

1. All sixth grade teachers will be trained on the Engineering Design Process, 21st century technologies, project based instruction, and interdisciplinary unit planning. Sixth grade math and science teachers will also master teaching with 2go kits.
2. The Henderson Middle School STEM Foundation will be created. This foundation will raise funds to support STEM initiatives at HMS.



What does STEM Look Like?

A STEM Student	<ul style="list-style-type: none">• Uses skills obtained in math to solve conceptual problems.• Views math as the language of science.• Explores concepts through problem based units.• Is an active participant in his/her learning rather than step-by-step process by the teacher.• Uses the engineering design process to guide him/her through a problem.• Can explain "why" and "how" a conclusion is reached.• Uses writing to express explanations to solve problems instead of just providing an answer.
A STEM Teacher	<ul style="list-style-type: none">• Does not give explicit instructions on how to solve a problem.• Guides students with effective probing and questioning techniques.• Places emphasis on allowing the students to analyze and think about a problem.• Is able to take the students' thoughts and explanations and link them to the mathematical skills or scientific information that is in the curriculum.• Uses conceptual problems daily to demonstrate the skills being taught.• Teaches math and science together• Moves away from the stereotypical textbook-driven plan towards a plan which is spiraled and in line with how people think.

Becoming a STEM Certified School

- 100% of STEM teachers are certified in their subject area.
 - Curriculum characteristics that a sustainable.
- Teacher professional learning is on-going and in content area.
- Time is allocated for STEM teachers to collaborate and plan together.
 - Students complete a STEM pathway.
- Math and science courses will need to prepare students for the next grade band.
- Business and Post Secondary Partnerships are involved in the instructional program.