



Gateway to Technology

PLTW's Middle School STEM
Program

S Science

T Technology

E Engineering

M Mathematics

What is STEM?

- The integration of **S**cience, **T**echnology, **E**ngineering, and **M**ath
- Taught through a problem solving, hands-on methodology
- Through a constructivist, exploratory, discovery-based framework

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Gateway to Technology (GTT)

- A middle-school (6-8) STEM program
- Prepares students for PLTW STEM program at both Districts 211 & 214
- Prepares students to be High School, College, and Career Ready
- Supported by Research-based Curriculum and Professional Development
- Courses are appropriate for any and all students

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GTT's Units of Instruction

- **Design and Modeling**
- **Automation and Robotics**
- Energy and the Environment
- Flight and Space
- Green Architecture
- Magic of Electrons
- Science of Technology

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Quarter vs. Semester Courses

- Offering GTT courses on a semester basis will allow teachers deeper coverage of the curriculum, as well as affording more opportunities to incorporate technology skills commonly taught in a piecemeal fashion in other courses.

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Implementation Proposal

Year 1

- Year 1 – offer 1st foundation course **Design and Modeling** as a semester course to 7th and 8th graders.

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Implementation Proposal

Year 2

- Offer 1st foundation course
Design and Modeling to both 7th
and 8th graders
- Offer 2nd foundation course
Automation and Robotics to 8th
graders

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Implementation Proposal

Year 3

- Continue with year 2 course offerings, and
- Consider offering one additional GTT course to students that have completed both foundation courses

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Effects of Implementation

- GTT would replace Math/Science Tech enrichment classes
- Current Math/Science Tech teachers would be teach GTT courses.
- Limited adjustments to current science curriculum
- All students would have the option to participate

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Effects of Implementation

- Students would have a stronger STEM foundation entering high school and would have better chances of being accepted into PLTW courses.
- Greater collaboration opportunities between D15 and D211/214
- D15 better equipped to offer a world class education to all of its students

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GTT's Associated Costs

- Curriculum provided at no charge
- 211 & 214 to include their feeder junior highs in their site licenses.
- Minimal upgrade to technology in current Math/Science labs
- Equipment (current equipment to be inventoried to reduce new equipment purchases
- Kits & supplies for hands-on activities
- Teacher training

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Funding

- The District has applied for a separate \$20,000 GTT 2 year grant for each school (\$15,000 year one, \$5,000 year two)
- Additional grants and donations will continue to be pursued with the goal of minimizing the expenditure of board funds.

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