

STEM ON THE GO

Mobile Digital Fabrication/Machining Van

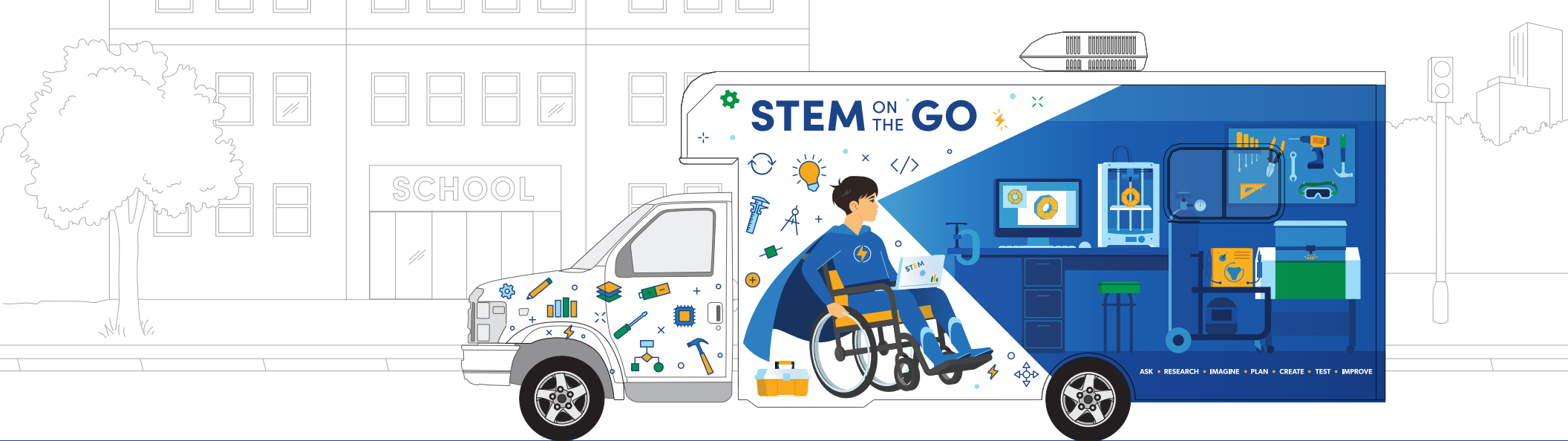
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In partnership with RTI and the Defense STEM Education Consortium, TIES operates the STEM-on-the-GO Mobile Digital Fabrication/Machining Van.

The van is available to visit schools and communities to provide hands-on STEM experiences to learners of all ages. During the van's visit to a school, the students will be engaged in solving real-world STEM challenges using the Engineering Design Process while learning how to use design software and the digital fabrication and machining equipment in the van. Pre-designed STEM experiences are grade-level appropriate, customized for students in grades K-12, and facilitated by the STEM-on-the-Go Mobile Fabrication Lab Manager who is a Marine Corps veteran with a B.A. in Middle School Education from the University of North Carolina. The STEM-on-the-Go Lab manager is also equipped to facilitate Professional Development sessions where educators will learn how to incorporate Digital Fabrication in PBL and transdisciplinary teaching and learning environments.

Costs associated with bringing these programs to a school district or to an informal learning environment will depend on the length of the engagement, choice of project/activities and travel expenses incurred. For more information, please contact Toby Bothel, TIES Director of Engineering, Design and Digital Fabrication at tobybothel@tiesteach.org or by phone at 301-448-2803.



Fact Sheet

The STEM-on-the-GO Mobile Digital Fabrication and Machining Van is a 26ft long, 16ft box 2008 E450 Ford Gasoline vehicle. The vehicle is equipped with an awning so that some machining/ fabricating can take place outside the vehicle. Other features of the vehicle include:

- Wheelchair lift (automatic, ADA approved, w/door);
- Roof mounted air conditioner;
- Sink, hot water heater,
- Air-cooled gasoline generator.

Equipment on Board the STEM-on-the-GO Van

Digital Fabrication Equipment

- Trotec Speedy 100 Laser Cutter
- Ultimaker 2+ Extended 3-D Printer
- Desktop Shopbot CNC Router
- Dell Inspiron 15 Laptops

Electronics Work Bench

- Soldering Stations
- Digital Multimeters
- Analog Circuit Components

Machining Equipment

- WEN 10" Band Saw Model # 3962
- Miller MIG Welder (Millermatic 141) Model # 907612 (on request)
- Vulcan Welding Cart (on request)
- Rigid Jig Saw Model #R8832B
- Grizzly Metal-Cutting Bandsaw Model # G0622
- Grizzly G0704 Mill/Drill with stand Model # G0704
- Grizzly Mini Metal Lathe Model G8688
- Grizzly Wood Lathe Model G0624Z
- DeWalt Benchtop Grinder Model DW758