



THE GEARING TOWARDS ENGINEERING FOUNDATION

Working Towards a Brighter Future in Education

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<https://www.gearingtowardsengineering.org/>

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Tier 2 School STEM Program

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Organization Background

The Gearing Towards Engineering Foundation, further referred to as The Foundation, was formed with the intention of bridging the gap between children and STEM careers. During a research study at New Jersey Institute of Technology measuring children's knowledge of civil engineering, The Foundation's founder, Joseph A. Vitale, and his team concluded that children without first hand interactions with individuals in the field knew nothing about it. This applies not only for engineers, but across many other STEM professions as well. The Foundation's goal is to introduce the future of our society to STEM professionals. The establishment of The Foundation is to help educate and inform society's youth on the principles of STEM education and creating both immediate and long term opportunities for those in need.

These opportunities are outlined in a three tier system which would focus on the age ranges of K-12.

Tier 2 Program Details

The Foundation's Tier 2 targets middle school aged children and this organization provides the following event opportunities:

1. Career Days
 - a. The Foundation's Volunteers come in and give presentations on different STEM careers. These presentations are followed by an open forum where students can ask questions and learn more about these career opportunities and how they can become one if they wish.
 - b. Career days vary in time depending on the scale of the event and can be performed during the school day, an after school event, or a weekend event.
2. STEM Classes
 - a. The Foundation's Volunteers come in and give technical presentations on different STEM topics, including but not limited to CAD Software, engineering basics, and more.
 - b. STEM classes are customized to the class lengths if they are being performed during the school day and are taught by volunteer mentors in the industry or students studying the industry at University level.

Please note that all event times are flexible depending on the school needs and will be discussed prior to scheduling events.

School Requirements

The Foundation is a volunteer organization and provides these events free of charge for interested schools. However, for schools with the means to support, The Foundation does appreciate donations or the optional purchases of our sponsored books either for elementary classrooms, for school libraries, and/or personal copies for students to take home. All proceeds from books sponsored by The Foundation go back into the organization and help us continue to do what we do free of charge for schools in need. The Foundation also accepts monetary donations.

The Foundation requires notice of three weeks prior to scheduling events in order to guarantee Volunteer's availability.

STEM Topics

Our STEM library is always growing. The following STEM topics the foundation currently covers include but are not limited to:

- Engineering
- Mathematics
- Physics
- Computer Science
- And many more!



Foundation Sponsored Books

The following books have been sponsored by The Foundation:

I. **Roxy the Fox and the Tree Truss Bridge**

Woodland animals seek food across the river but they cannot reach it alone. They look to Roxy the Fox, the forest engineering expert, for help. Working together, the animals utilize civil engineering to overcome their difficulties.

II. **Mechanical Engineering Book Currently in Development**

This book is currently being sponsored during the 2022-2023 school year.