

Grades 3-8

# My STEM Projects

with an MIT engineer from academia & industry

## Found a problem?

Solve it like a real engineer and scientist!

Experience the practical life of scientists and engineers. From identifying problems, doing research, finding solutions, to presenting the results, students collaborate to complete long-term STEM projects of *their choice*.

### Overall Program

Depending on the project, each step may take up to a month. We will:

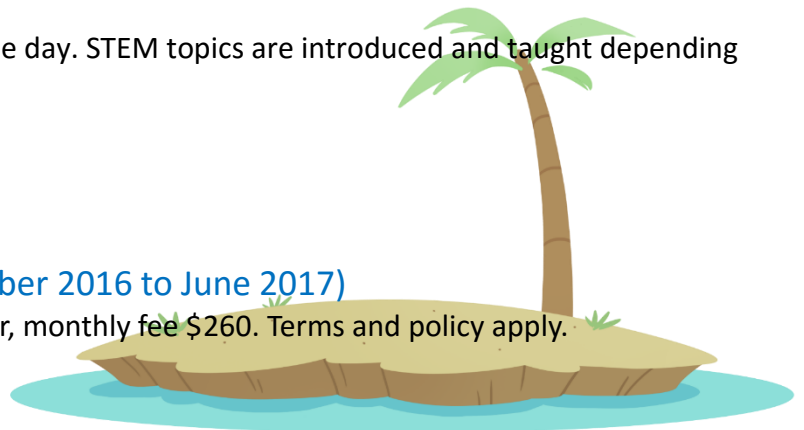
- Identify problems to solve. Brainstorm ways to “improve people’s lives”.
- Research the different problems. What’s doable and impactful?
- Narrow down to one problem to solve.
- Define the problem and requirements.
- Explore and research solution options.
- Build the solution and/or design testing experiment.
- Conduct testing experiment. Collect Data.
- Organize and analyze data using computer software.
- Present the experience and results.
- Brainstorm what we can do next with the product, e.g. submit the idea to a tech company.

### Session Breakdown

- Knowledge boot camp on focus of the day. STEM topics are introduced and taught depending on the project’s need.
- Project & collaboration.
- Student knowledge sharing

**WHEN:** Monday 10:00-12:00 (September 2016 to June 2017)

The curriculum is throughout the school year, monthly fee \$260. Terms and policy apply.





## **My STEM Projects Focus**

Upon completion, the students will achieve the following. Level of depth is customized towards the students' needs and experience.

### **Mathematics – Application | Problem Solving | Analytical Skills**

- Excel in and apply all math necessary for the projects.
- Develop skills in data analysis and statistics.

### **Science | Technology | Engineering**

- Develop and apply the concepts from physical, computer, and life sciences.
- Understand the critical role of mathematics in various STEM disciplines.
- Utilize tools, technology, and software to facilitate the projects.

### **Soft Skill – Computational Thinking | Communications | Team Work**

- Experience work style of an engineer or scientist.
- Develop and demonstrate computational thinking (breaking down a problem into smaller chunks to solve) as an interdisciplinary problem solver.
- Collaborate with peers throughout the projects and receive feedback.
- Demonstrate communication skills in a logical manner.
- Develop self-discipline and time management to complete assignments.
- Practice skills needed in scientific writing and presentation.

**Students will be issued a certificate of completion upon demonstrating the skills.**