



Engineering Discovery

EXCITE AND IGNITE

Through Engineering Discovery, students (ages 13 to 14) build awareness about and interest in engineering and what engineers do through a variety of short, exploratory sessions led by GE volunteers. Volunteers deliver creative, hands-on activities in the classroom or community to inspire young people and expand their and their parents'/guardians' understanding of what engineering is all about.

Overview

The purpose of Next Engineers is to increase the diversity of young people pursuing engineering career paths by implementing three discrete but complementary programs – Engineering Discovery, Engineering Camp, and Engineering Academy. This document describes **Next Engineers: Engineering Discovery**. It should be read in concert with *The Five Building Blocks of Next Engineers* which summarizes the essential theory of change.

Discovery objectives

The objectives of Engineering Discovery include to arouse and develop students' **awareness** of what engineering is by exposing them to the process of engineering, who engineers are and the different work they do.

Second, Engineering Discovery aims to ignite students' **interest** and curiosity in for engineering by providing short, fun experiences that promote a positive attitude towards engineering towards considering engineering as a future career.

Additionally, Engineering Discovery can also act as an outreach and recruitment tool for both Engineering Camp and Engineering Academy.

Discovery design

Engineering Discovery consists of a series of discrete public events with students (and parents/guardians and teachers) facilitated by GE volunteers acting as engineering ambassadors. These events can take place in schools, community spaces, and science fairs. Engineering Discovery aims for broad reach (as many students as possible reached) with minimum depth (same students reached at least twice).

Discovery events consist largely of one or more of the following three types of activities, although additional types of activities may be designed and implemented in each city.

THE 5 BUILDING BLOCKS OF NEXT ENGINEERS

- Awareness
- Interest
- Engineering Habits of Mind
- Engineering Identity
- Agency



Tell Your Story offers volunteers a 10-to-20-minute opportunity to share their personal story and experience of becoming an engineer, working as an engineer, or working with engineers. It can also be used to explain what engineering is and what different kinds of engineering fields exist, as well as showcase different engineering inventions.

Demonstrations allow volunteers to demonstrate, in fun and simple ways, important scientific concepts, their relationship to engineering and, hence, their application in solving real-world problems. Demonstrations require between 10 and 30 minutes.

Hands-on Activities allow students to engage with simple engineering design challenges, facilitated by GE volunteers and guided by the engineering design process, to experience first-hand the process of engineering. They require 60 to 90 minutes to complete.

Engineering Discovery events should be easy and rewarding opportunities for GE volunteers to engage with students.

Engineering Discovery also provides opportunities for parents/guardians, teachers, and other significant and influential adults to be reached regarding the value of engineering and the pursuit of an engineering career, and the various other Next Engineers opportunities available.

Student selection

Engineering Discovery does not require student selection. Engineering Discovery should be open to all students in a grade aligned with ages 13–14 years in as wide a geographical area as possible. There is no defined limit to the number of students who can participate in an Engineering Discovery event, although account should be given that demonstrations and hands-on activities are best done with groups of no more than about 30 students.

For more information about Next Engineers visit www.NextEngineers.org.

