SCIENCE MUSEUM OF MINNESOTA ENGINEERING ASSEMBLY, GRADES K-2

Concepts, Learning Goals, & Logistics

GENERAL OUTLINE:

Discover Engineering
What do everyday objects have to do with engineering? As student volunteers examine the contents of mystery bags, the audience determines that these ordinary looking objects are designed by people to solve a problem, perform a process, or meet a need. That makes them technology, and engineers design technology.

Put it to the test
The young engineers in the audience test and explore multiple solutions to sledding down a hill with various "snow" conditions by using a toy bear and models of sleds, sometimes with surprising and humorous results!

Build it Tall, Build it Sturdy
Experience the process engineers use to solve problems by building tall and sturdy towers. Be amazed by how an unexpected tool helps hold the building blocks together.

Science Learning Goals

- Engineers use math, science, and creative thinking to design solutions to problems.
- Engineers test and observe solutions to see how well they solve a given problem.
- Engineers ask, imagine, plan, create, and improve again and again until they reach a solution to the problem.

Vocabulary Introduced:

- Engineering
- Technology,
- Observation

Program Length: 40 minutes
Audience Size: Up to 150 students
Preparation: Science Museum instructor brings all needed equipment and materials. School provides two tables for demonstrations and access to electricity. Allow 45 minutes before and after program for set-up and take-down.

MN Academic Standard Strand: The Nature of Science and Engineering (0.1.1.2.1, 1.1.1.1.1, 1.1.1.1.2)
NGSS Science and Engineering Practices: Analyzing and Interpreting Data (1-ESS1-1), Constructing Explanations and Designing Solutions (1-LS3-1)
NGSS Crosscutting Concepts: Structure and Function (2-LS2-2)

If you have further questions on bringing programming to your school, please contact our Outreach Registration Coordinator at (651) 221-4748 or schooloutreach@smm.org.