

ENGINEERING - EXPLORATION for GRADES 3-5



Super Structures

OVERVIEW

Students will test the strength and stability of different shapes by building structures out of dowels and rubber bands. They'll be working in teams to meet building challenges based on height and weight capacity, and in order to make the most "super" of structures. During the process, they will also experience how collaborating with teammates can sometimes be the toughest challenge!

LOGISTICS

Program Length: 50 minutes

Audience Size: Up to 30 students

Preparation: Science Museum Instructor brings all needed equipment and materials.

This program requires at least 1 table for instruction materials and plenty of open floor space for building super. It is best to try to leave program in a designated space rather than moving from room to room.

Please allow 1 hour each for initial setup and final teardown.

Please allow for at least 10 minutes to reset between classes.

SCIENCE EXPERIENCE GOALS

- Engineers are people who often work on teams, and who solve problems creatively using their knowledge and understanding of math and science.
- Engineers use a design process to develop and refine multiple solution options to a problem.
- Students experience the relative strengths of different geometric shapes and how well they respond to a heavy weight.

VOCABULARY INTRODUCED

- Engineering
- Technology

STANDARDS

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.