



Center for the Enhancement
of Engineering Diversity



VirginiaTech
Invent the Future



Would you like Virginia Tech students to come to your classroom and lead **hands—on activities** to introduce your students to the wide variety of **engineering** disciplines? We have a team of engineering students ready to come to your school or you can schedule a visit to our campus! To request a visit, please fill out this **survey** (<http://tinyurl.com/qfbjfn4>). If you have any additional questions, please contact Galipatia-Outreach at outreach.galipatia@gmail.com.



◆ **K-2**

Marshmallow Challenge
Civil Engineering

While building marshmallow towers, students will learn how to create the most stable structure while maximizing efficiency

Pinwheel

Environmental Engineering
Explore the concept of wind by encouraging students to experiment with different forms of motion as well as discuss real-world examples of wind energy

Penny Boats
Ocean Engineering

Explore why ships are shaped the way they are when considering surface area and displacement

◆ **3-5**

Floating Ping-Pong Balls

Aerospace Engineering

Students will explore some principles of air flow and pressure using simple household items



Radioactive Golf Balls

Nuclear Engineering
Students design a transport system for “radioactive” golf balls and compete to design the most efficient method

Egg Bungee Jump

Material Science Engineering
Demonstrate to students the use of engineering design when it is associated with kinetic and potential energy

◆ **Middle School**

Gummy Bear Launch

Engineering Science and Mechanics

Students will learn the concepts behind launch angles and projectile motion while working through the engineering design process



Food Packaging

Mechanical/Industrial Engineering
Students explore the engineering design process and the materials used in packaging by designing and testing a package that can protect a snack from heat and water

Mentos

Chemical Engineering
Students will observe the principles of a chemical reaction relating to surface area

◆ **High School**

Harmless Holder

Environmental/Industrial Engineering

Learn the difference between product design and process design while trying to create an environment-friendly can holder



Newton Car

Engineering Science and Mechanics
Investigate the relationship between mass, acceleration, and force as described in Newton’s second law of motion

Lego Cargo Drop

Engineering Science and Mechanics
Students will learn about impact absorption by constructing a structure to catch a LEGO cube from increasing heights