



# Mechanical Engineering

**Mechanical engineering deals with everything that moves or flows,** from nano-devices to roller coasters. They use their knowledge of materials to design and manufacture products and systems that advance the world around us. Mechanical engineers not only design these innovations, they also design the machines that produce and test these innovations.

## **Where do Mechanical Engineers Work?**

Mechanical engineers work in a variety of industries, including:

- Aerospace Industry
- Air Quality and Pollution Control
- Amusement Park Design
- Automotive Industry
- Power and Energy Generation and Storage
- Consumer Product Design

## **Explore Our Mechanical Curriculum**

### **Grades 3-5:**

The Claw: Gear Ratios & Power Using LEGO Cranes  
Get Your Motor Running  
The Power of Mechanical Advantage

### **Grades 6-8:**

Get in Gear  
Gears: Lift It Up!  
Design and Build a Rube Goldberg

### **Grades 9-12:**

Tug of War Battle Bots  
Splash, Pop, Fizz: Rube Goldberg Machines  
How to Pull Something Heavy

## **Mechanical engineering spans many disciplines, but is generally broken into a few subfields:**

properties of materials, solid and fluid mechanics, thermodynamics, heat transfer, control, instrumentation, design, and manufacturing to understand mechanical systems

## **What do Mechanical Engineers Study?**

Mechanical engineers work with a diverse group of engineers, scientists, users, and marketers to discuss the design, development and production timelines of new products. They combine their knowledge of materials, understanding of physics, engineering and computer models to improve on designs and ensure that products are suitable for manufacture at scale. Mechanical engineers work collaboratively across many disciplines, so they are adept at communicating ideas, results and challenges for a range of technical and non-technical audiences.