

# 1 Week Half-day Camp Featuring LEGO® Bricks

## DAY 1 STRUCTURES

### AEROSPACE

Discover the secrets of aerospace engineering – efficiency and compact design. Create a space station and connect it with others to assemble a massive modular spacecraft.

### TOWERS

Find out how structural engineers use physics to solve problems. Work together to build a structurally sound tower with a working elevator.



## DAY 2 WATER WORKS

### BOATS

Create a sea-worthy vessel as you set sail with nautical engineering! Build a test boat powered by potential and kinetic energy. Then try changing specific variables to improve speed, buoyancy, and stability.

### BRIDGES

Work together with your fellow civil engineers to build and test different bridge designs. Then use what you've learned to create the strongest bridge possible.



## DAY 4 TRANSPORTATION

### VEHICLES

Get in gear as an automotive engineer! Assemble a motorized vehicle and learn how to optimize it. Use wheels, axles and gears to reduce friction so your vehicle runs better. Then, shift into higher gear and work hands-on with transmissions and gear ratios.

### ENGINEERING CHALLENGE

Work in teams to design and build a transport vehicle that is strong enough to carry a heavy load.

## DAY 3 FUN FAIR

### CARNIVALS

Feel the thrill as you build a spinning swing ride! Learn about forces and the mechanical engineering concepts behind some of your favorite amusement park rides. Then improve and test the design to create an even wilder ride.

### CREATURES

Discover nature's engineering secrets as you investigate biomimicry! Build a walking insect machine and then test different ways to help it climb up the steepest branch.



## DAY 5 DESIGN

### MACHINES

Engineering is creative! Learn how gears, levers, and pulleys are useful tools for mechanical engineers. Combine your newfound knowledge with art and build a motorized drawing machine.

### ENGINEERING CHALLENGE

Work in teams to draw up blueprints and use plastic connectors to build a sculpture.

**BRIXOLOGY**

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SPARKING IMAGINATIVE LEARNING

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