Balloon Car

Grades 3+ | Students Served: 50

ELEMENTARY

Essential Questions

What variables affect maximum distance?

How could you modify your balloon car to travel farther?

How can balloon inflation be used to predict the distance the vehicle will travel?

Career Connections:

- Farm Equipment Mechanic
- Truck Driver
- Bicycle Repair Technician
- Automotive Designer

STEM Connections

Science

- Newton's third law
- Potential/kinetic energy
- Thrust

Technology

- Systems
- Friction reduction
- Problem solving

Engineering

- Engineering design process
- Iterative design

Math

- Measurement (time and distance)
- Derived measurement (velocity)
- Averages

Sample Activity

Balloon Cars Away!

Challenge

After selecting and constructing the car of choice, students make modifications to the car and test the distance it can travel.

- After building the vehicle, students inflate the balloon and send the car down the Pitsco Fold & Race Ramp or a ramp made of classroom materials. They record the distance traveled by each car.
- Provide a weighted washer for each student to add to their car, test the car's distance again, and record the results.
- Repeat the previous step with additional washers.

Discussion

Does the car travel farther with the weight than it did without? Would the car travel differently if the weight were placed in the front, middle, or rear of the car? How would it travel if the weight were distributed evenly?