

## Launch, shoot, fling, fly and learn!

Engage students with unique activities that bring STEM concepts learned in the classroom to life.

- Activities and lessons available for ages 7 to 17 provide hands-on engagement with concepts such as force, motion, energy, acceleration, velocity, mechanical advantage, aerodynamics, simple machines, engineering skills. Worksheet and answer key provided to teachers post-visit.
- 3.5 to 4 hours and four to five activity stations depending on group size.
- Up to 65 students at \$20 per student and an \$800 minimum; no charge for chaperones. Smaller groups can be combined or may reduce number of activities to reduce cost.
- Groups of 10-15 students rotate through activity stations that include the Ballista, G-Force, SPINtron, and a rocket making station.
- School-year field trips include the Engineering Process Presentation with Victor the Candy Shooting Robot. Summer field trips are outdoors, do not include this presentation, are limited to 50 students and to Tues-Fri between 8:45 to 11:45 a.m. and 1:15 to 4:15 p.m., or evenings and weekends.
- Bring a sack lunch. Lunchtime is built into the rotations for school-year groups. Our dining area includes a kitchenette, water fountain, snacks for sale and a gift shop.
- While we offer field trips year-round, spring and fall trips increase access to outdoor activities.
- Students (and chaperones) should wear indoor/outdoor clothes and closed toed shoes.
- Contact Dawn Cloyd at [Office@NewtonsAttic.com](mailto:Office@NewtonsAttic.com) or 859-368-7334 to schedule a date.



## Engineering Process Presentation

Concepts covered: engineering process, need, idea/concept, design, build, test, and use.

Hear the story of Victor the Candy Shooting robot from idea to reality and learn the ins and outs of the Engineering process.



## SPINtron

Concepts covered: space program history, three vector acceleration.

The NASA-inspired SPINtron simulates the experience astronauts endured when training to recover a capsule from a spin or tumble.



## The Ballista (The Pumpkin Chunker)

Concepts covered: mechanical advantage, energy transfer, stored energy, projectile motion, force and acceleration.

Designed in the form of a medieval siege engine, the Ballista can shoot a pumpkin over 400 feet.

## G-Force

Concepts covered: speed, acceleration, force, energy transfer, simple machines, mechanical advantage.

Sling shot down a 125' long track. A mini-roller coaster on our front lawn.

## Rocket Build and Launch

Concepts covered: force, aerodynamics, speed, design, build, test, and use.

Design and build an air-powered model rocket and then 3-2-1 launch and watch it soar.