

Launch, shoot, fling, fly and learn!

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

- ▶ Activities and accompanying lessons available for ages 7 to 17 and customized to meet your curriculum needs. Our activities provide hands-on engagement with concepts such as force, motion, energy, acceleration, velocity, mechanical advantage, aerodynamics, simple machines, engineering skills and tool use.
- ▶ Field trips usually last 2.5 to 3.5 hours and include three to five activity stations depending on group size
- ▶ We can accommodate up to 60 students per visit at a price of \$15 to \$20 per student (price goes down as numbers go up) with a minimum of \$250 per visit.
- ▶ Typically students are broken into groups of 10 to 15 and rotated through stations, with one group in the shop working on an indoor project while the others are outside using the Ballista or G-Force (roller coaster).
- ▶ Our lunch area includes a fridge, freezer, microwave and toaster oven, and we have water fountains on site as well as drinks and snacks for sale.
- ▶ While we offer field trips year-round, Spring and Fall trips increase the chances of our ability to do some of our fun outdoor activities.
- ▶ Students (and chaperones) should wear indoor/ outdoor clothes so they can enjoy the outdoor activities even if it's cold or a little rainy. The shop requires close toed shoes and long hair and loose clothing to be tied back.
- ▶ Contact Dawn at NewtonsAttic@gmail.com or 859-368-7334 to schedule a date.

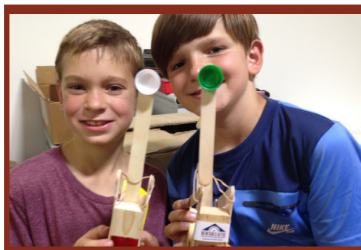


Have fun with physics! Popular activities include but are not limited to those listed below.

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.

Tennis Ball Cannons

Concepts covered: stored energy and projectile motion

Compressed air powered tennis ball cannons are great fun when shooting at targets in our outdoor shooting gallery.



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.

The Ballista (aka 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.



Catapults

Concepts covered: energy transfer, stored energy, projectile motion, simple machines, tool use

It's time for flying objects as this activity offers students the opportunity to design and build a table top size catapult.