



the stars
challenge

Explore, Imagine,
and Build
Winter 2015



Wow, that was a fast ten weeks but you know the old saying, “times flies when you’re having fun”! I had fun and I know that you did too.

To start our journey, we investigated inertia by making an inertial hat and constructing the dollar bill challenge device. We then made the magical appearing ball trick device. Remember, a good magician never reveals their secrets but it’s all based on inertia! To further our understanding of inertia, we glided around our classroom on a hovercraft powered by a leaf blower.

We then studied centripetal force by trapping a tornado in a bottle...don’t let it out! We also made a device that enabled you to swing a cup of water over your head. Why didn’t you get wet?

Investigating density, we constructed the hook and retriever flotation toy challenge. Challenging your friends is easy when you know the physics underlining the winning technique.

Mechanics was our next topic. We studied torque by constructing a balancing soldier toy, a balancing nail challenge, and the balancing fork and spoon device, to amaze your friends and family.

We investigated energy by constructing a slow descent roller coaster from straws and paper. The winning team enjoyed “the victory of success” with the sweet taste of donuts! We also “fooled” our friends and family with the happy and sad ball magic trick.

Sound and light were investigated as wave motion in our next topic. To demonstrate sound we constructed a singing cup device that sounded like a chicken and viewed light through rainbow glasses.

Concluding the course, we focused on electricity and series circuits by constructing a challenge similar to the game operation. Have fun challenging your friends to maneuver the probe without the buzzer sounding.

It is my wish that you continue to “see” the physics that surrounds you in your daily life.

Mr. Valente



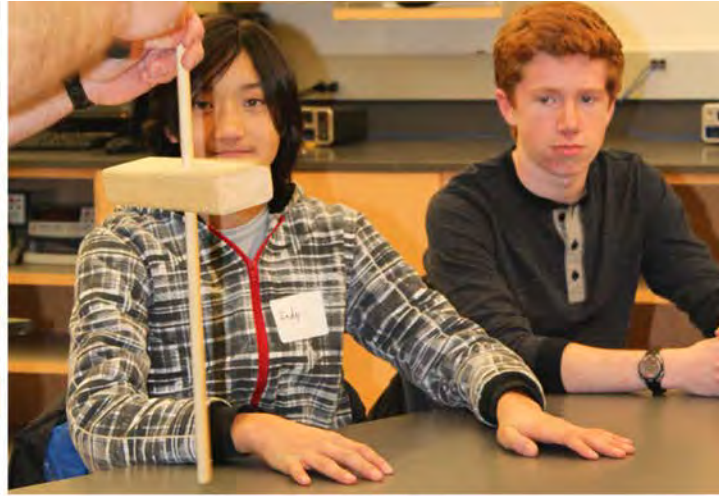
The class constructs their inertial hat and dollar bill challenge.



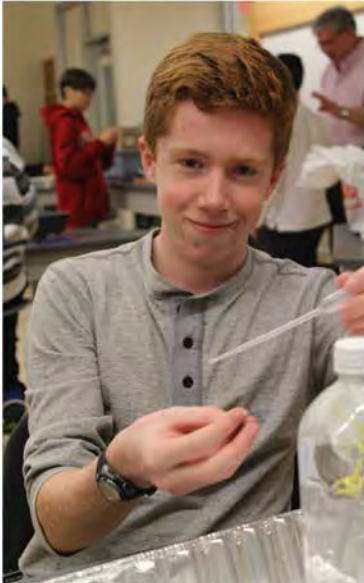
The students proudly show off their inertial hats.



Gliding with inertia for physics.



Mr. Valente tries to fool the class with the magical appearing ball trick!





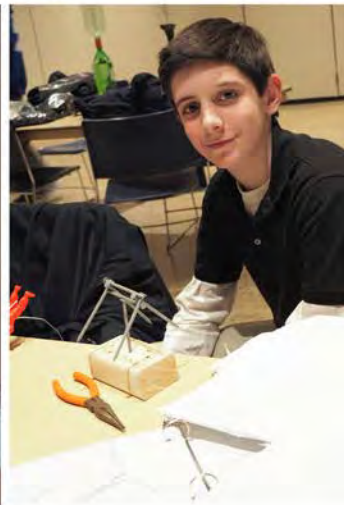
The class constructs the density challenge.



The students trap a tornado in a bottle as well and create the whirling water cup device.



The class constructs the balancing soldier toy...



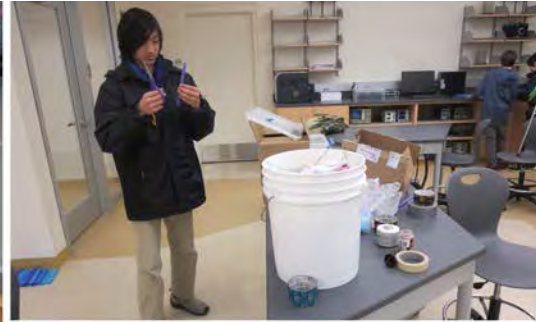
...and the balancing nail challenge.



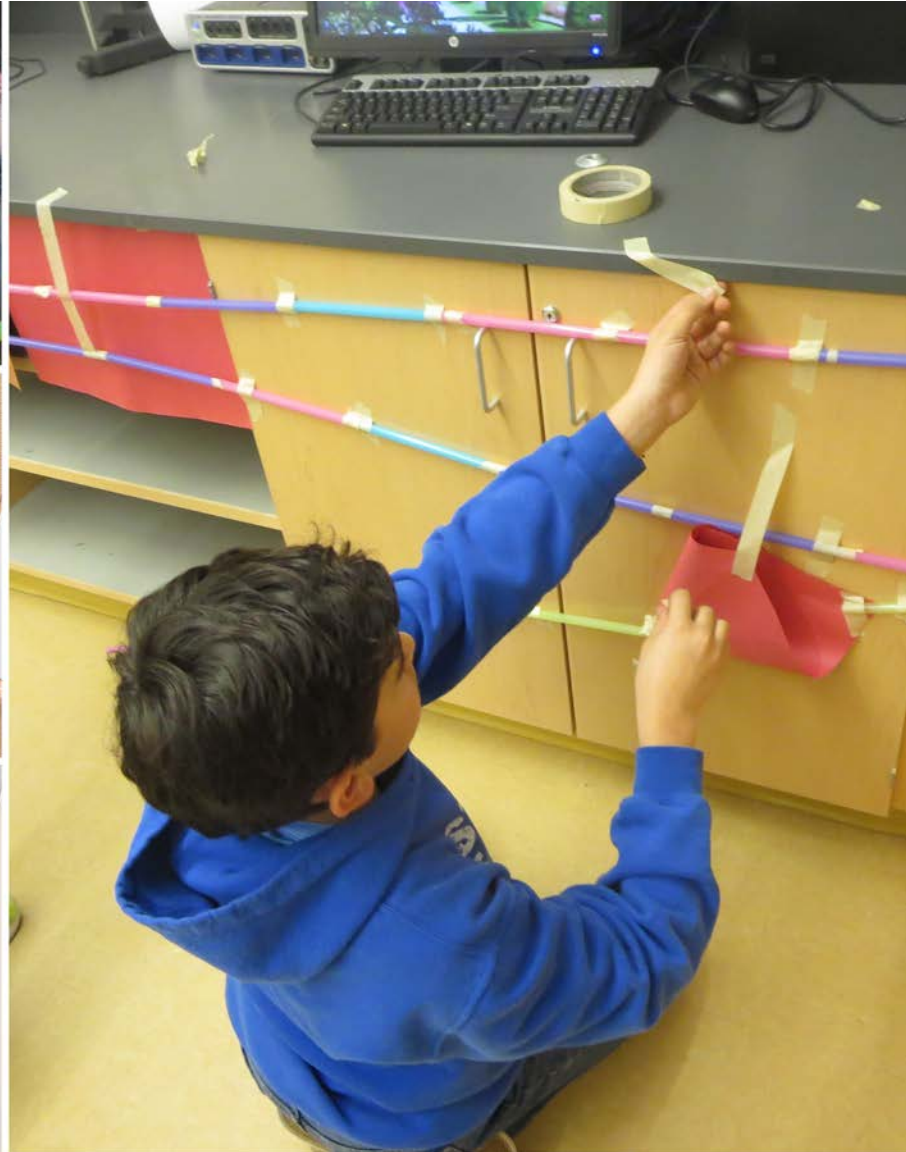
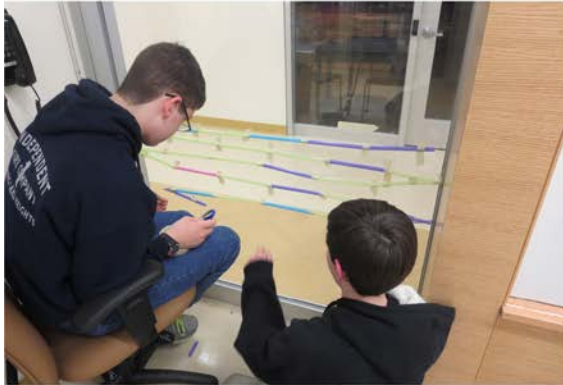


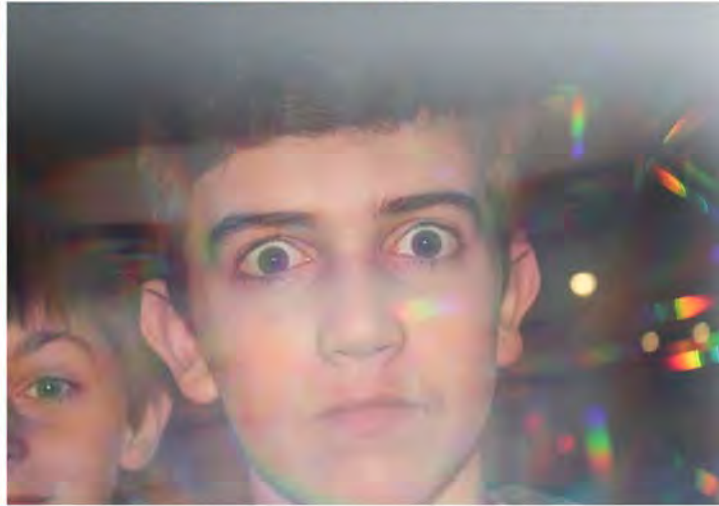
continuing with these make-n-takes.



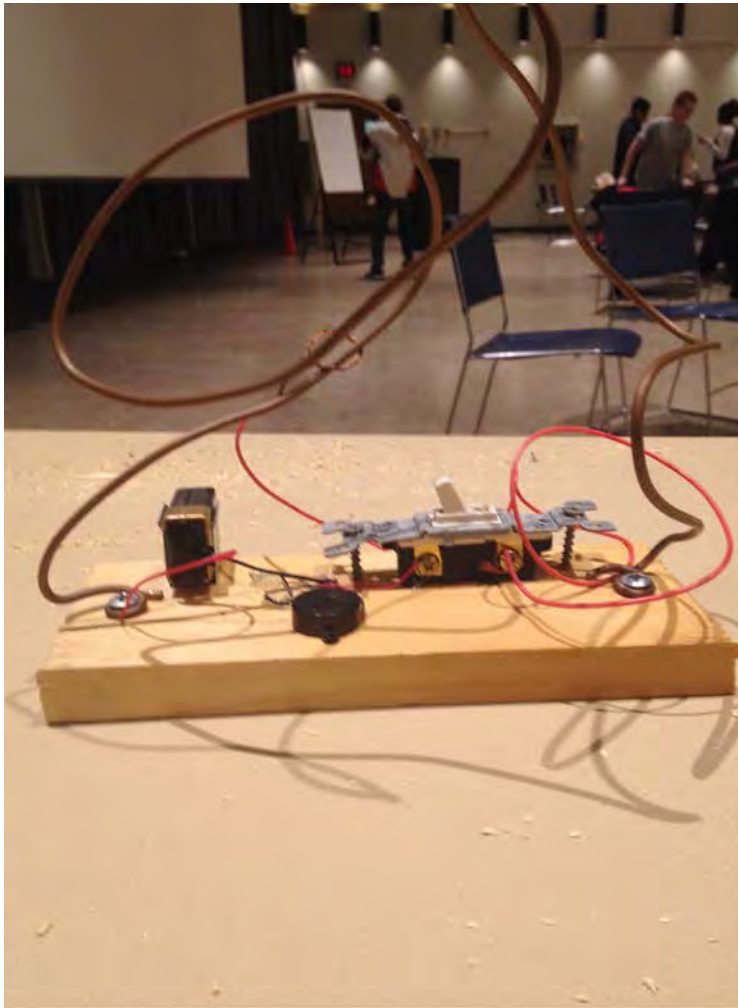


The class constructs their slow descent roller coaster device hoping to win their victory donuts!





Viewing light through rainbow glasses. Wow!



Making chicken sounds! The class constructs the final project. Can your friends and family complete the loop without the buzzer sounding?



