



Explore, Imagine, and Build

The Stars Challenge at Monmouth University 2010

Wow, that was a fast 10 weeks but you know the old saying “times flies when you’re having phun”! I had phun and I know that you did too.

To start the course, we used the Scientific Method to determine the patterns hidden from view inside plastic disks learning that if it’s science it’s testable. We then moved on to mechanics studying torque by constructing balancing toys and circular motion by building a centripetal force challenge to see who could swing the most pennies on a hanger for the longest time.

We investigated inertia by trying to knock a hoop out of the way causing the most pennies to fall straight down into a bottle. The winning team enjoyed “the victory of success” by the sweet taste of donuts! Continuing with our study of inertia, we glided around the room on a hovercraft powered by a leaf blower. Such phun!

Concluding the course, we focused on electricity and magnetism. We constructed a toy to demonstrate series circuits, similar to the game operation and had a contest to see who could maneuver a probe without the buzzer sounding. As our last project, we made a paper cup speaker, enabling us to look really cool while listening to music.

It is my wish that you continue to learn how to “see” the physics that surrounds you thereby gaining a better appreciation of the universe that you live in.

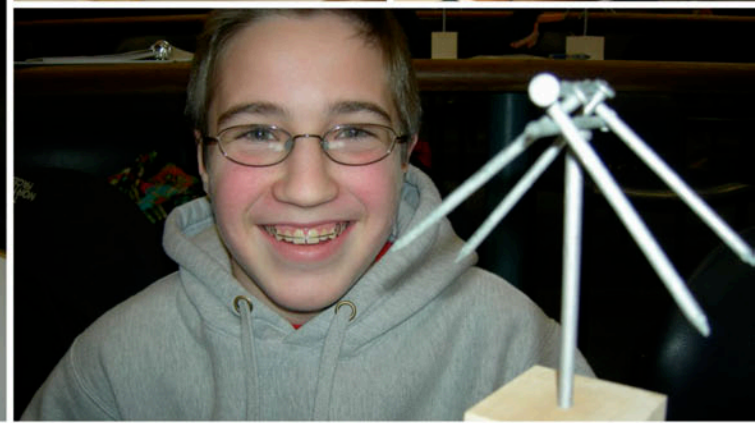
Mr. Valente



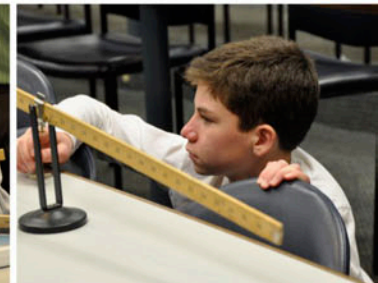
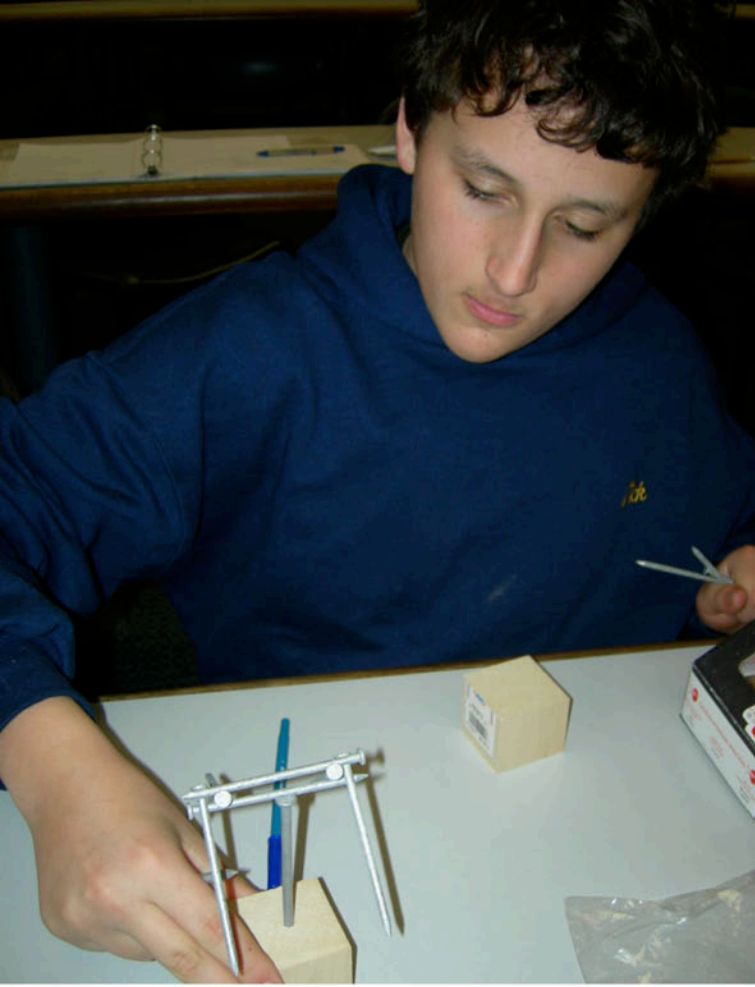
The eminent physicists of Explore, Imagine, and Build



Samantha, Andrew and Connor are trying their best to determine what is inside the disk.



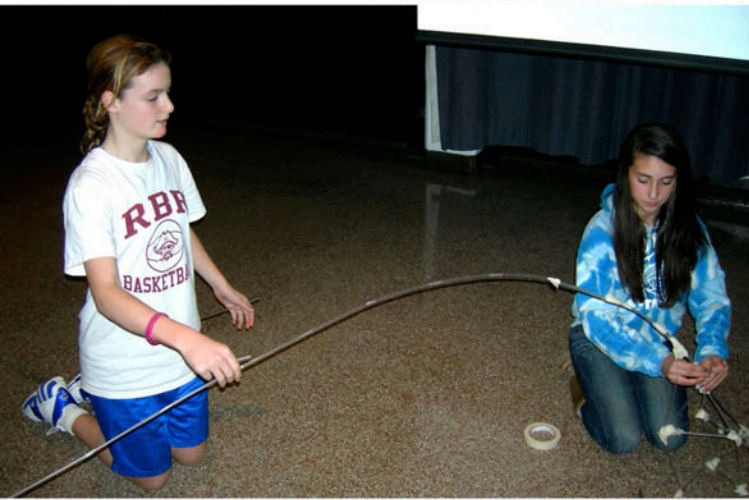
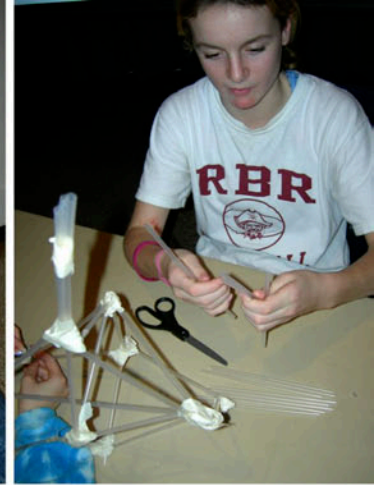
Connor and Francis are amazed that the nails balance. Try as they might, Connor and Nicholas can't knock over the box but Jazz and Maritess accomplish the task with ease. Woman power!!



Nick is also surprised that the nails balance. The class uses Torque to determine the mass of a clamp.



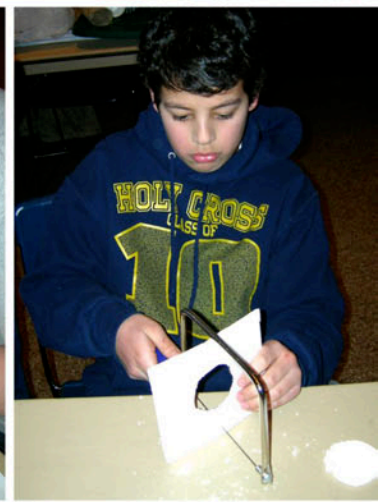
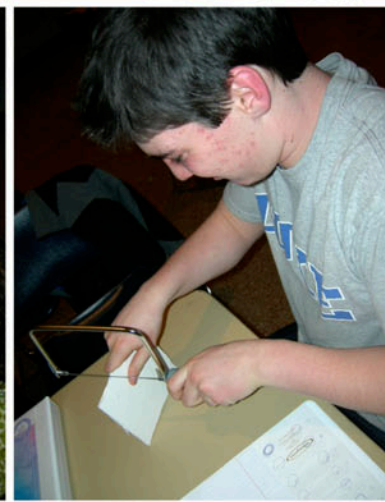
Nicholas and Jack plan their longest cantilever structure while Samantha and Jazz show theirs off. Ryan is planning to win the competition and get the 1st prize: Donuts!



Andrew, Connor, Francis and Nick are sure their design will win but Mr. V shows them Jazz's and Samantha's design. Connor is worried!



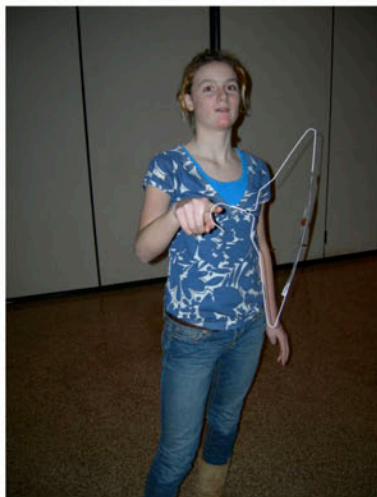
The class constructs and displays their balancing bottle device. How does the bottle balance?



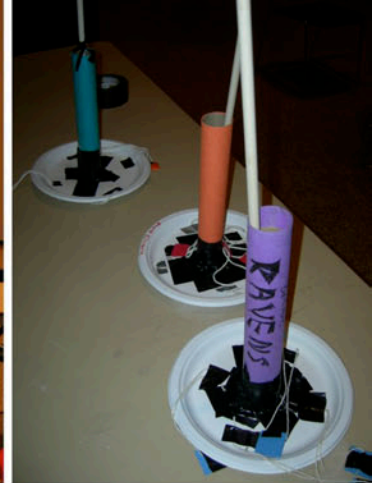
The class constructs their centripetal force device. Arturo and Francis are looking forward to constructing theirs.



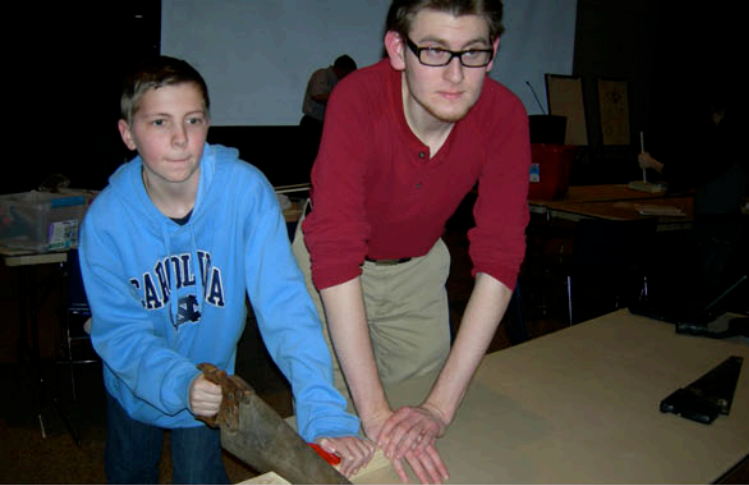
The class demonstrates their centripetal force device. Arturo and Francis! The cup is upside down. What is keeping the water inside the cup?



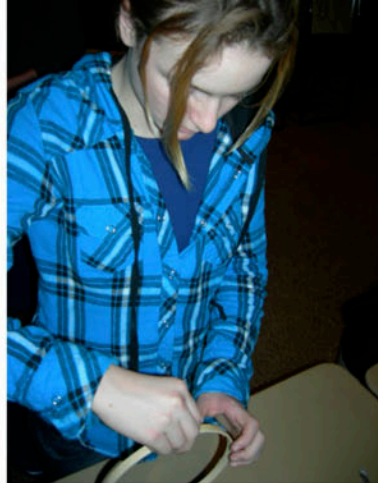
Nick goes for the record for swinging the most pennies balanced on a hanger. Teacher assistant, Matthew helps Maritess and Ryan construct their swing ride model.



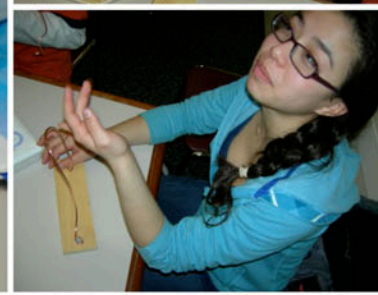
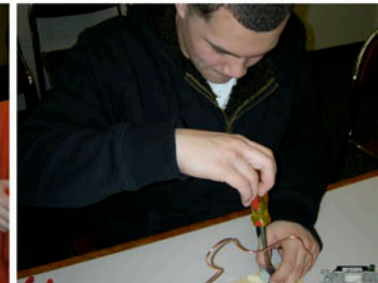
Check out the cool design that Ryan used on his swing ride model.



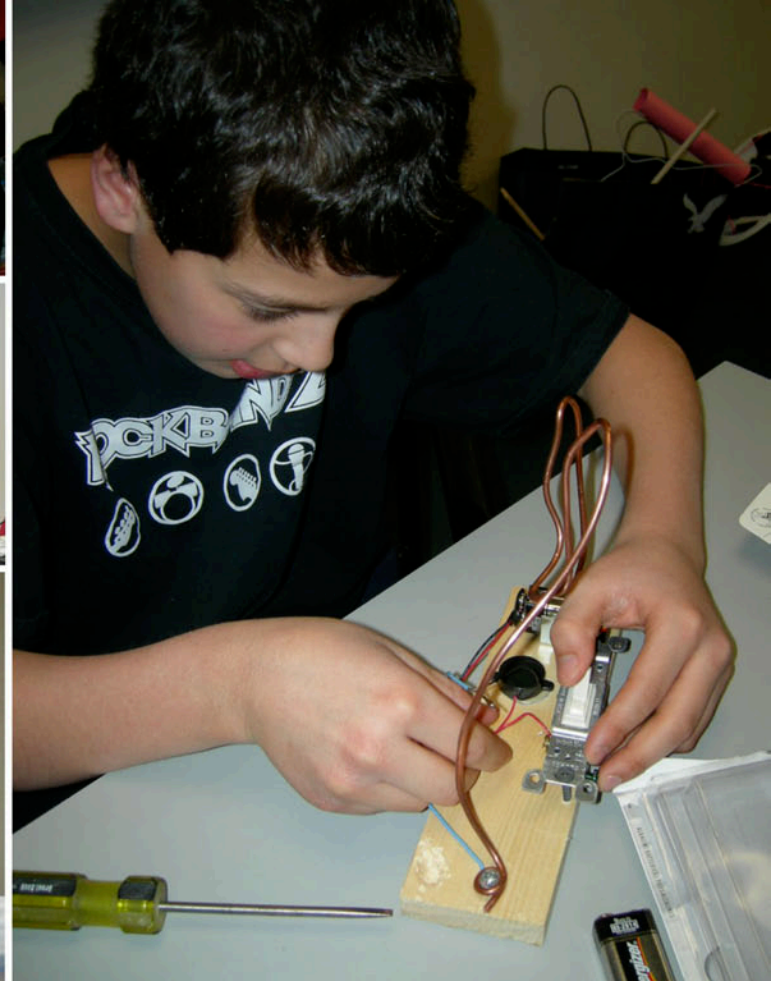
Matthew helps Ryan build his inertial demo device. While Mr. V helps Francis construct his. Maritess is very excited to have her very own inertia demo device!



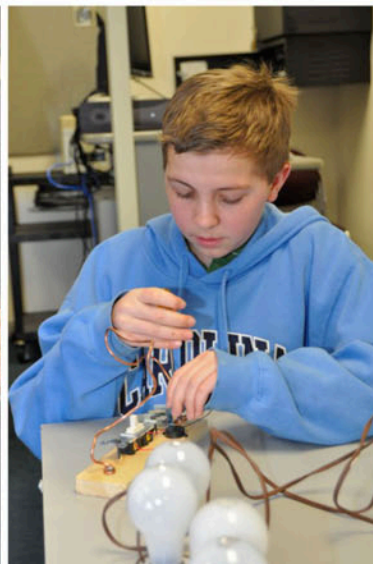
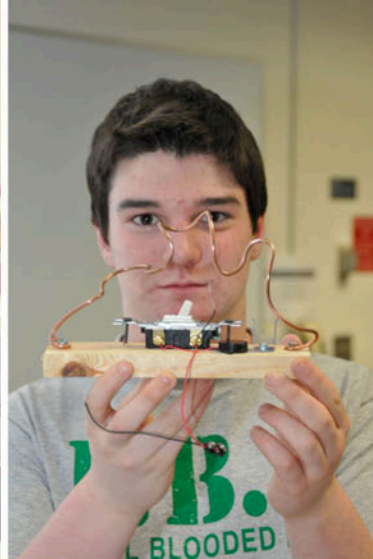
Jack tries to beat the record of getting the most pennies to fall into the bottle by knocking the hoop out of the way. Nick, Jazz, Arturo, Samantha, and Nicholas are also trying to beat the record.

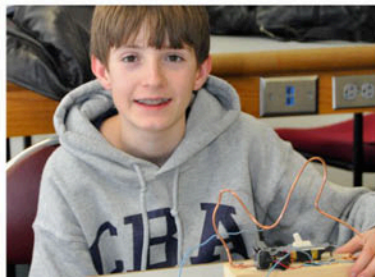
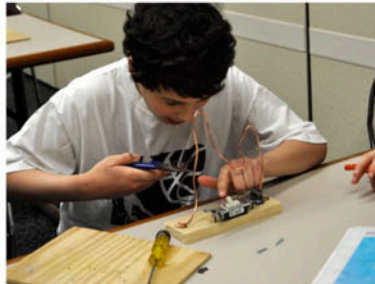


Mr. V explains to the class how to construct their electrical circuit device.



The students plan their next step to construct their electrical circuit device. Matthew helps Samantha cut the wood for her device.







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Made on a Mac