
the stars
challenge
Olympics of the Mind
Fall 2013

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

To start the course, we studied Bernoulli's Principle by building slow descent paper helicopters and guiding a Ping-Pong ball through hoops using the airflow from a hair dryer.

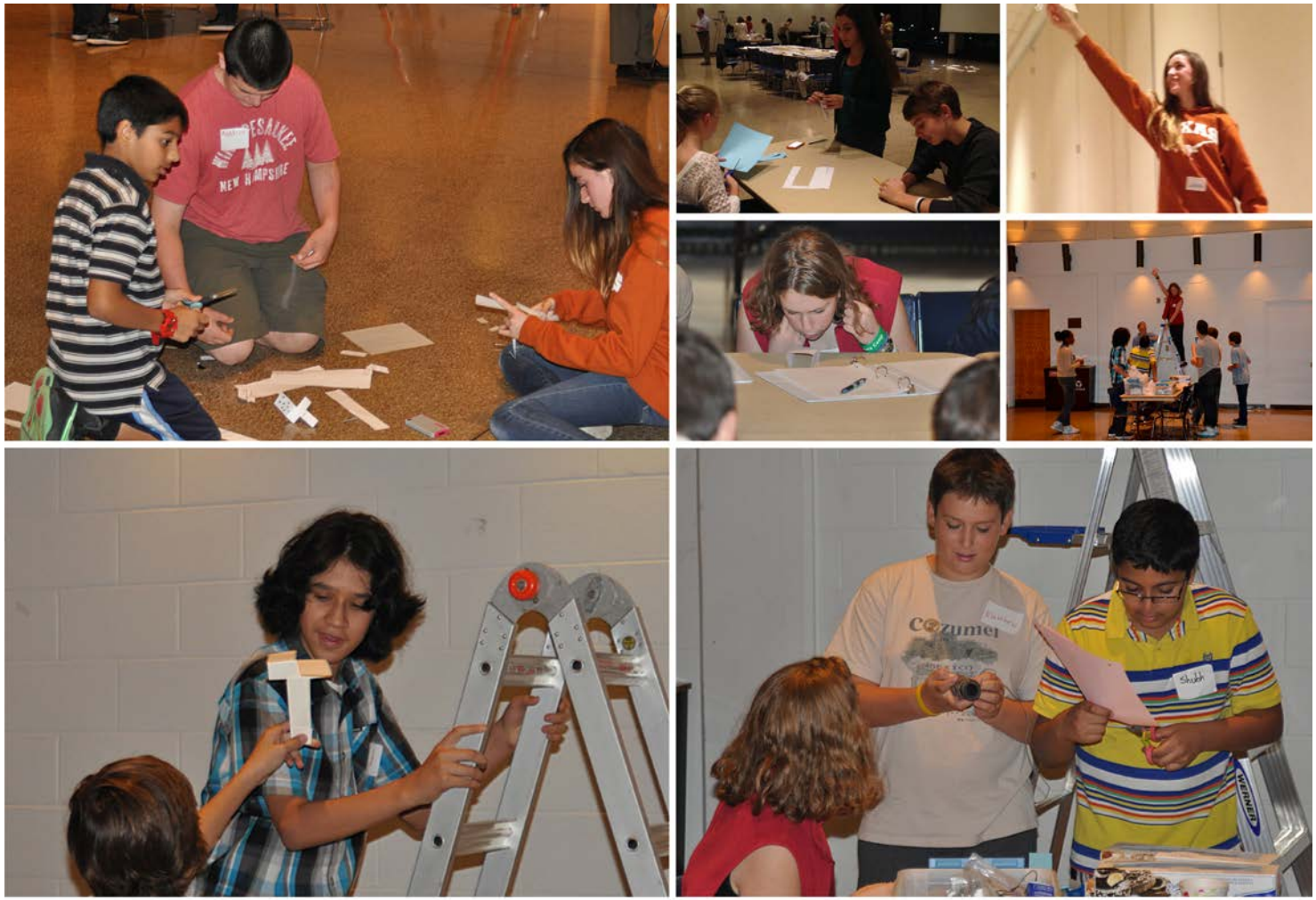
We investigated inertia by trying to knock a hoop out of the way letting the most pennies fall straight down into a bottle. The winning team enjoyed "the victory of success" with the sweet taste of donuts! Continuing our study of inertia, we used a hovercraft powered by a leaf blower to glide around the room and used a broom to guide a bowling ball through a course. Such phun!

We studied structures by building a human truss. Then applying what we learned about trusses, tubes and triangles we had a contest to build the tallest paper tower, the tallest spaghetti tower, the slowest descent marble roller coaster, and the longest cantilever arm.

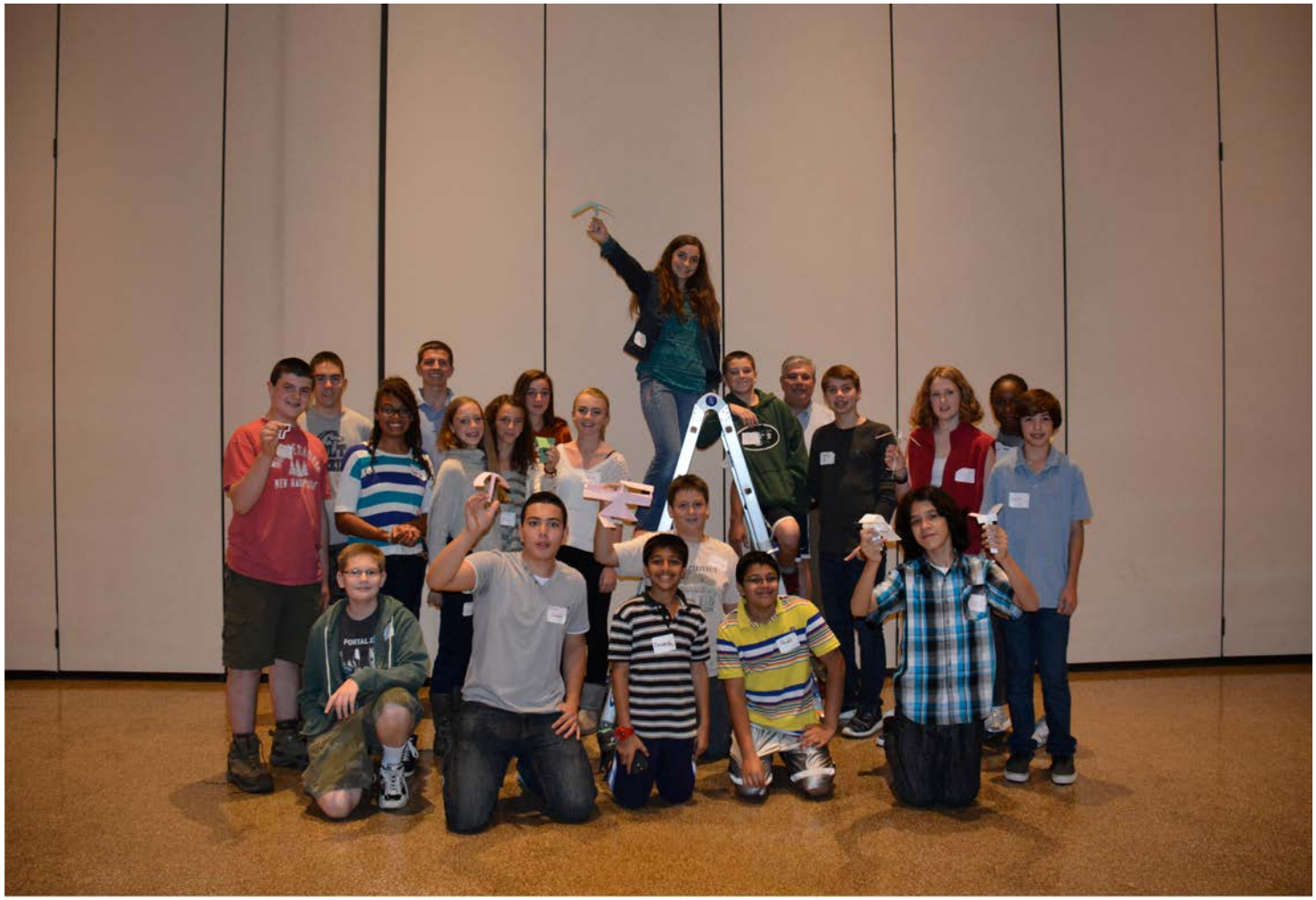
We combined our studies of structures and Bernoulli's principle by building an air powered penny lifter.

Our reward for winning each competition was more that just the sweet taste of victory donuts. It was the joy of learning how to apply the laws of physics to solve a problem. Well done!

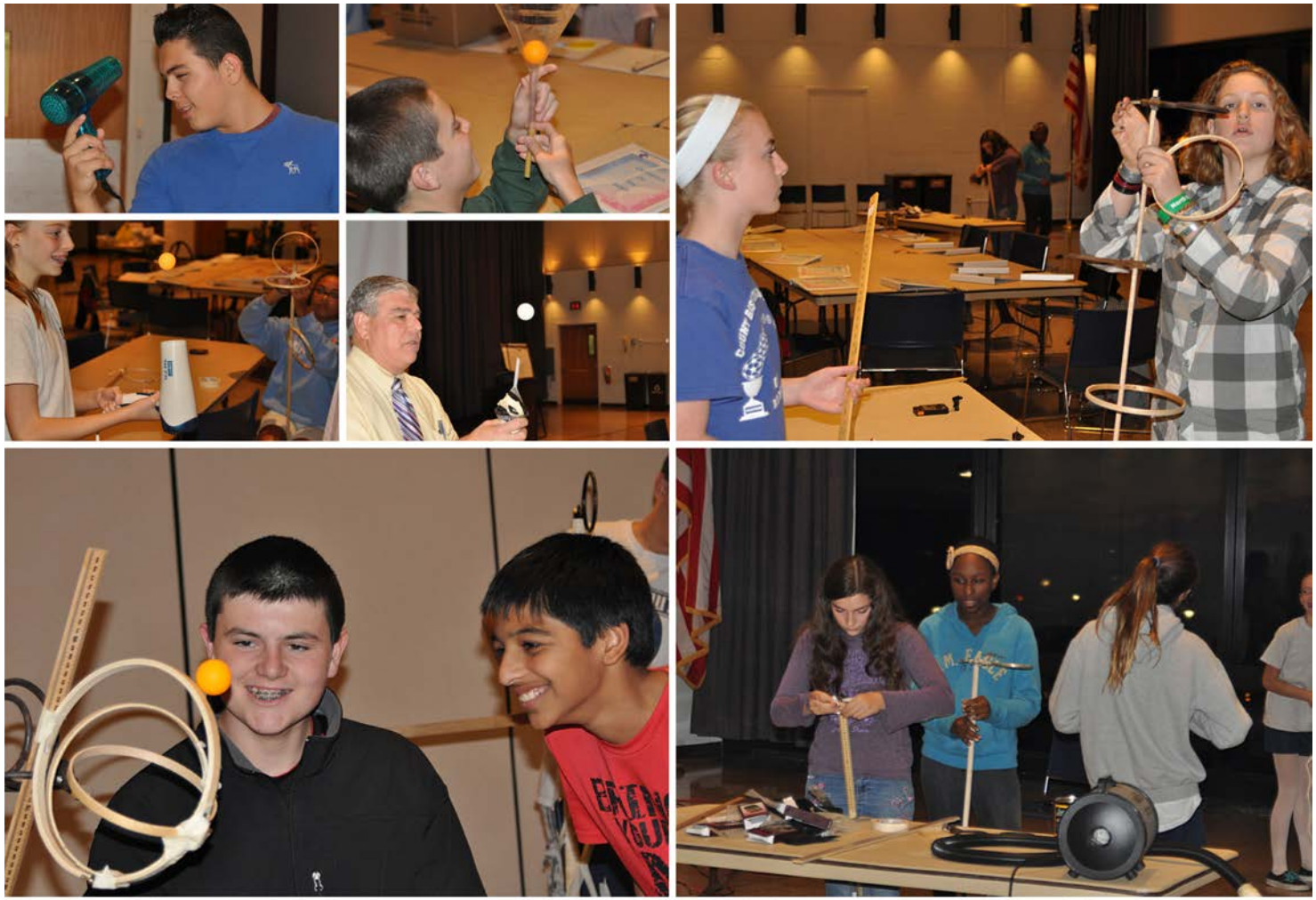
Mr. Valente



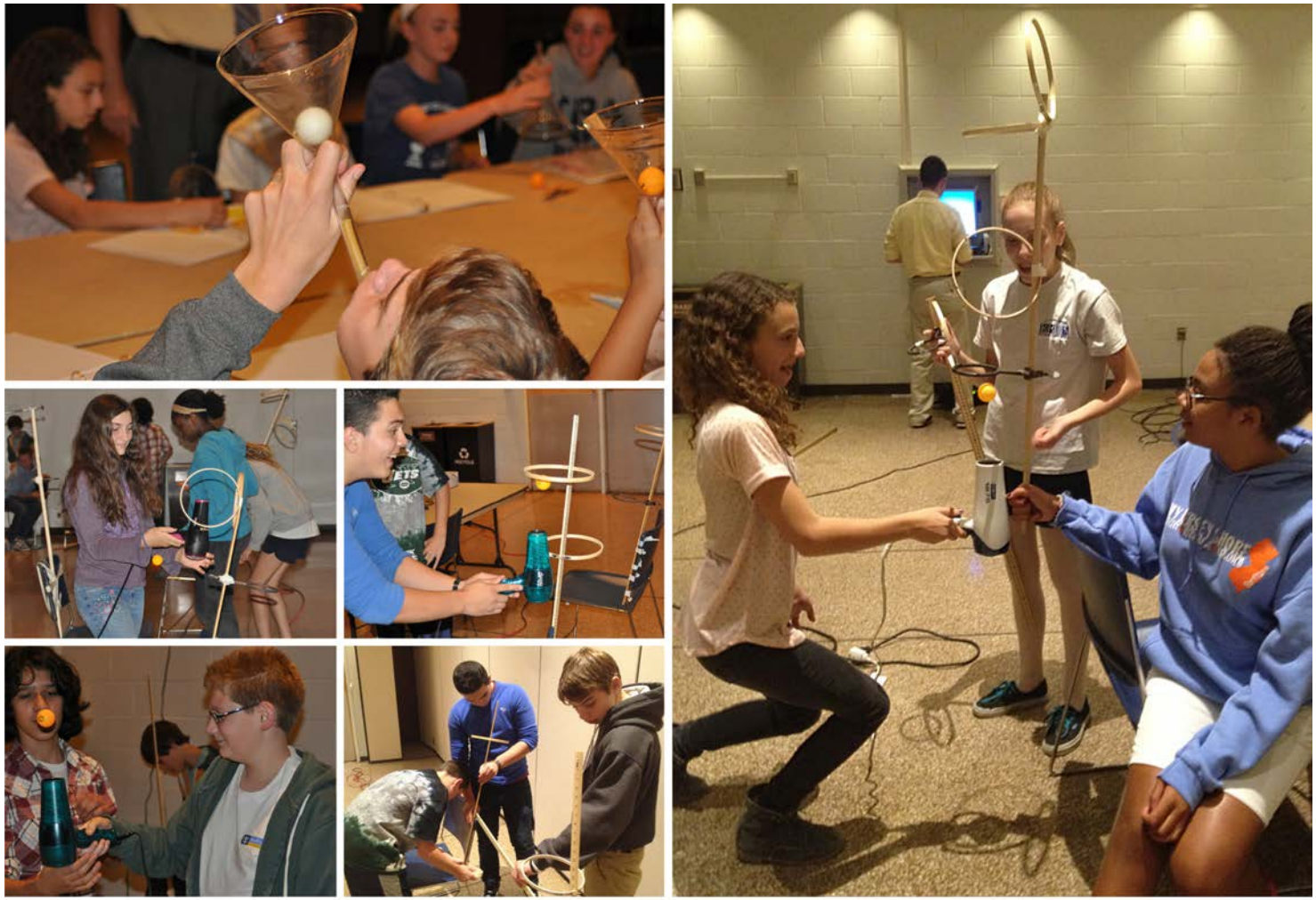
The first challenge was to construct a slow descent helicopter. Brad climbs the ladder to test his team's design. Cameo is ready to test her team's design.



The whole class shows off their slow descent paper helicopter designs. Nice job!

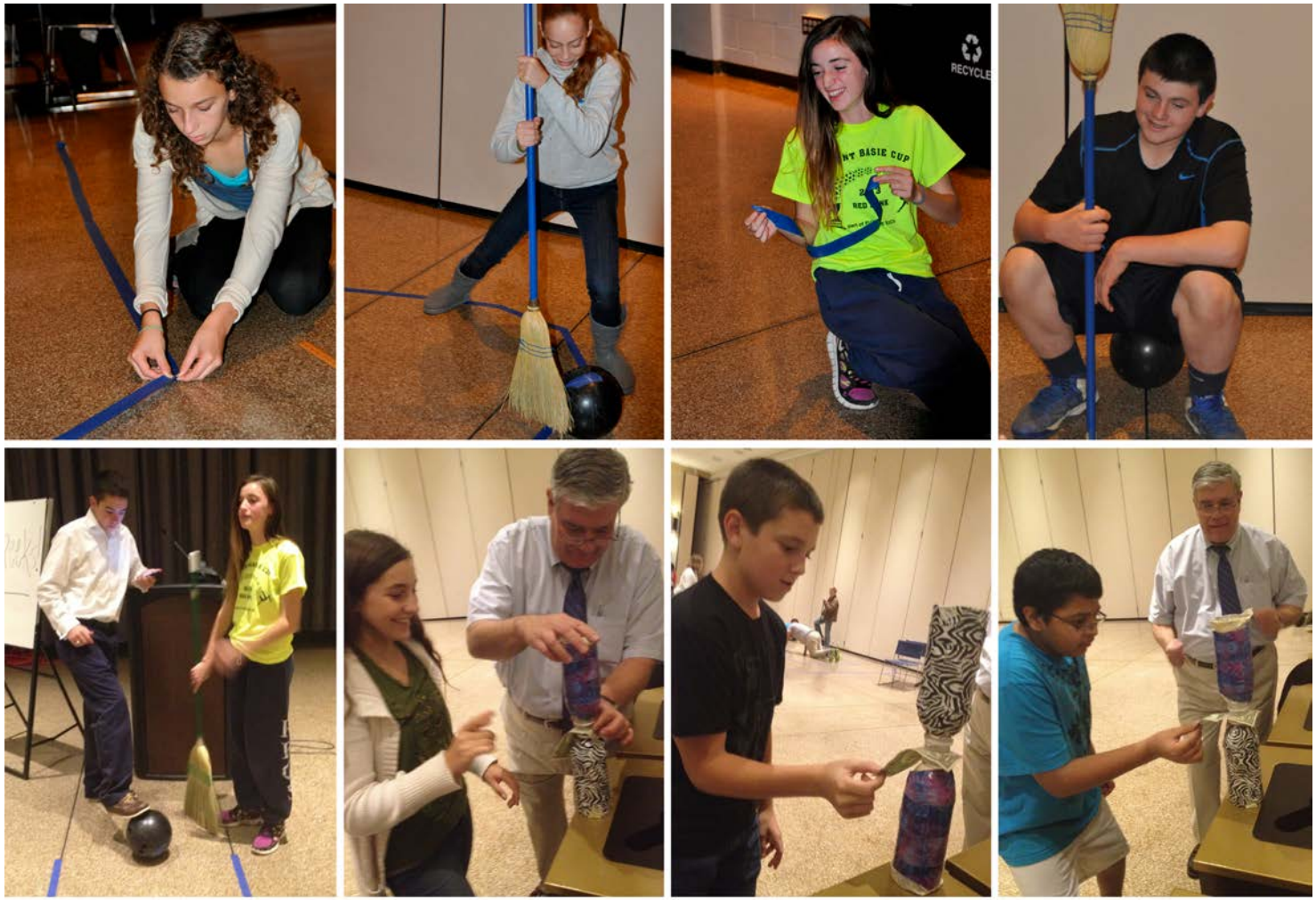


The second challenge was to guide a Ping-Pong ball through hoops using the airflow from a hairdryer. Both Austin and Devanshu are excited to complete this part of the challenge. Zoe and Kara plan their course to test their ability to guide a Ping-Pong ball through a series of hoops.

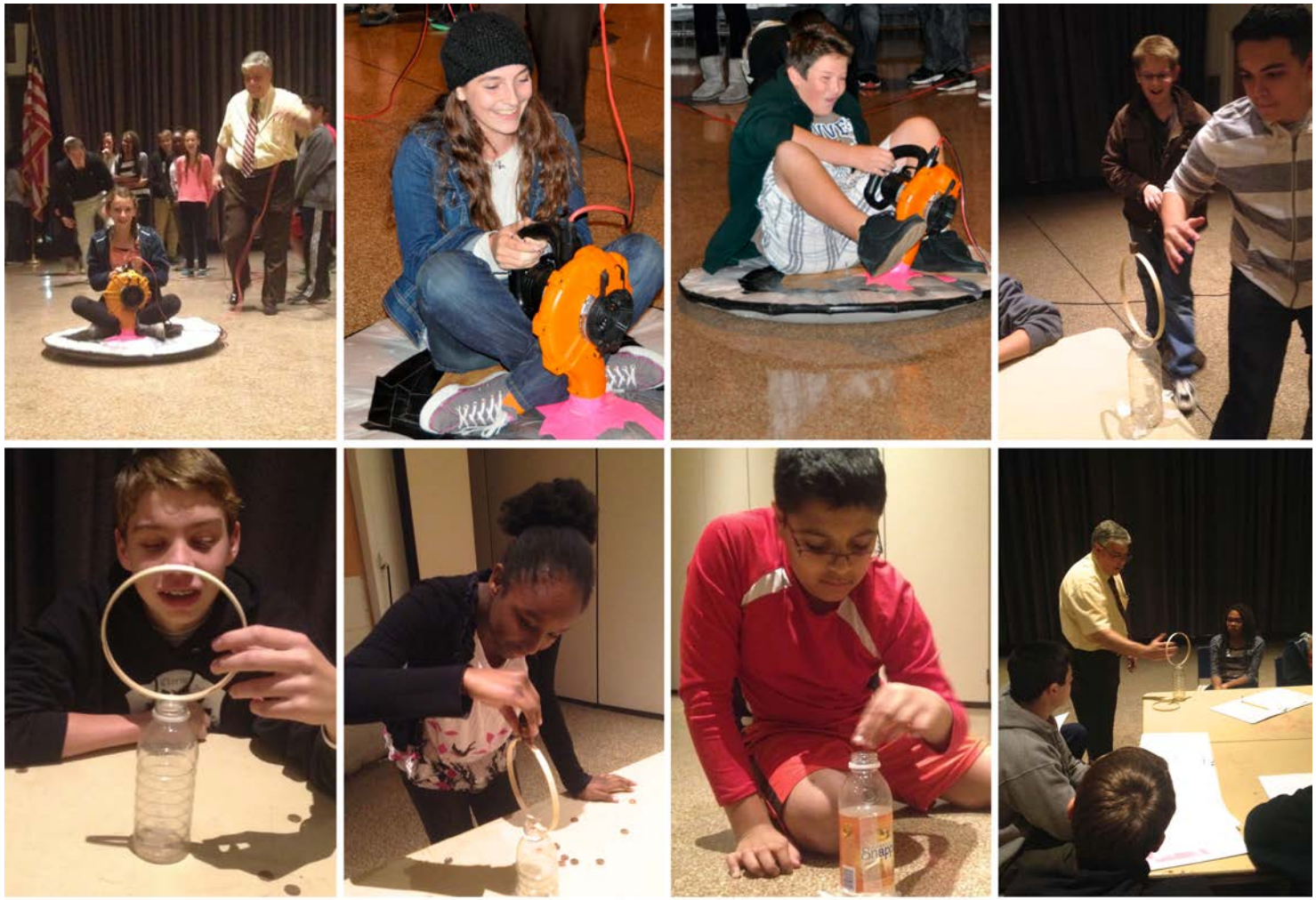


Julia, Isabel and Giulia are testing their technique. Will they succeed?

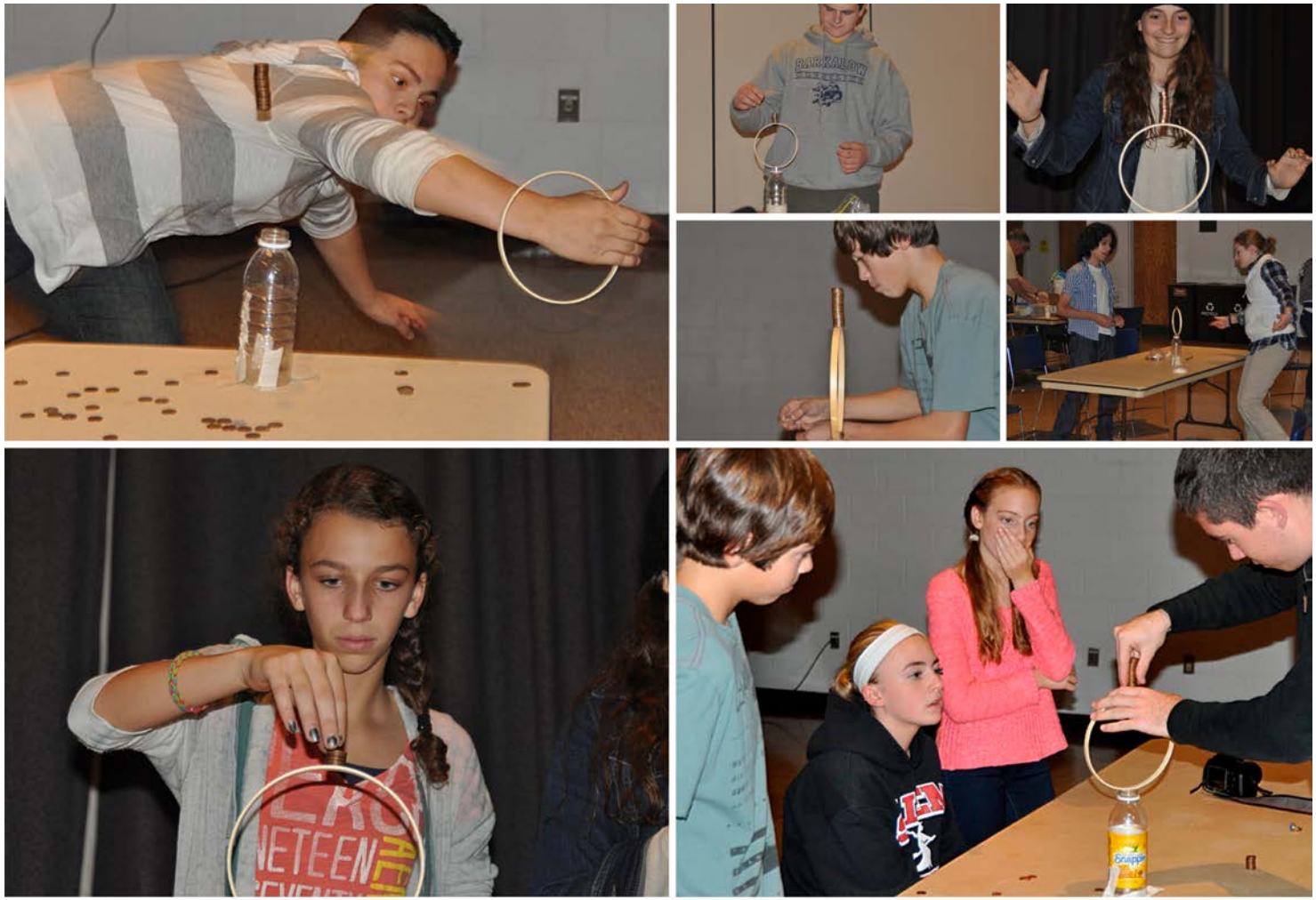
The next challenge concerned inertia. Isabel watches Mr. Valente explain how to pull a dollar bill from between the bottles without the bottles falling. I think she wants to win this event. Matthew guides the bowling ball through a course using the principle of inertia.



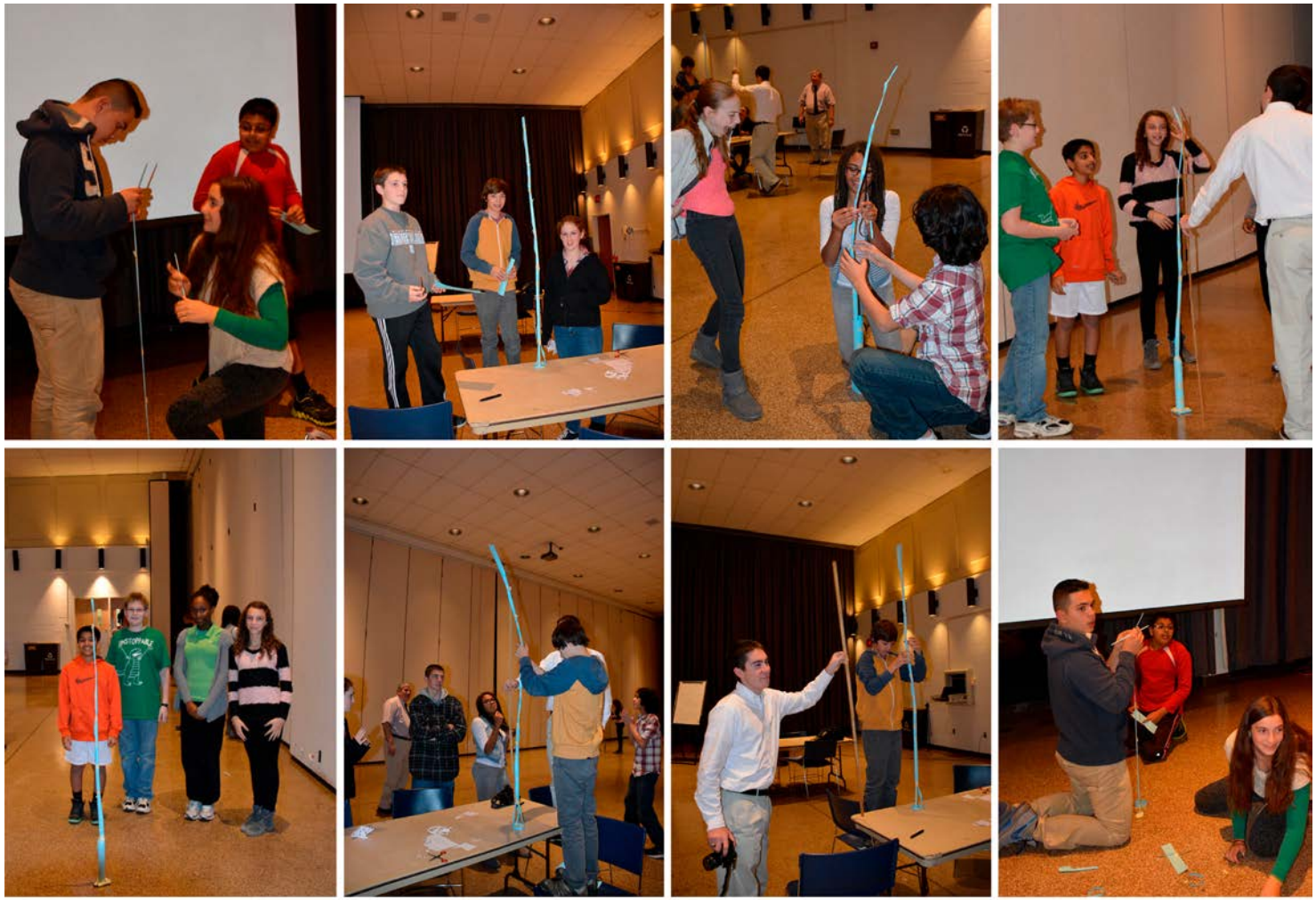
Giulia tries her hand at the bowling ball inertia challenge. Nick, teaching assistant, gives Cameo some pointers on how to win this challenge. Madeline, Dan and Shubh try the dollar bill challenge.



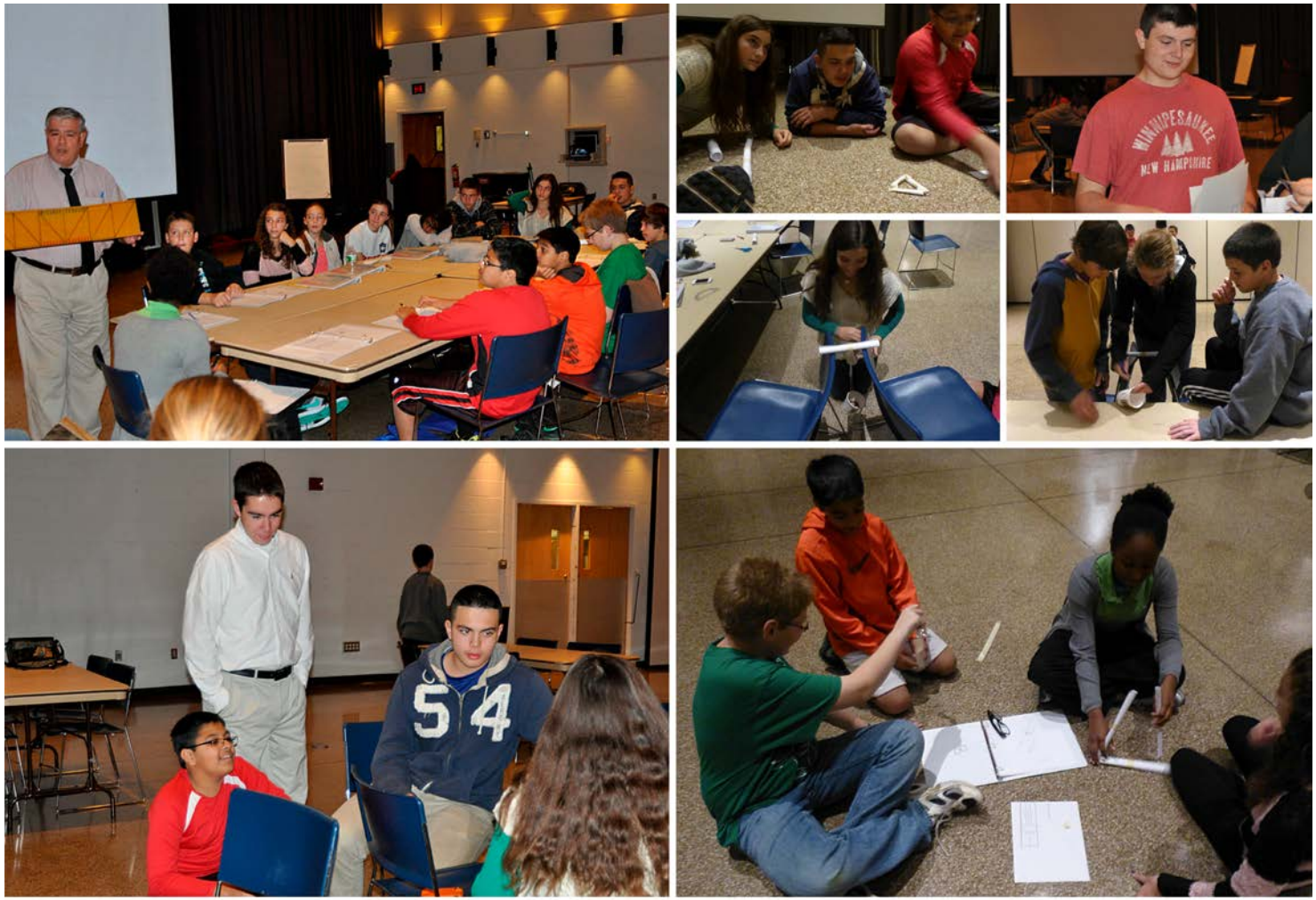
Mr. V demonstrates how to remove the hoop so that the penny falls into the bottle. Edison, Jake and Giselle give this challenge a try. Isabel, Madeline and Matthew go for a ride on the human hockey puck.



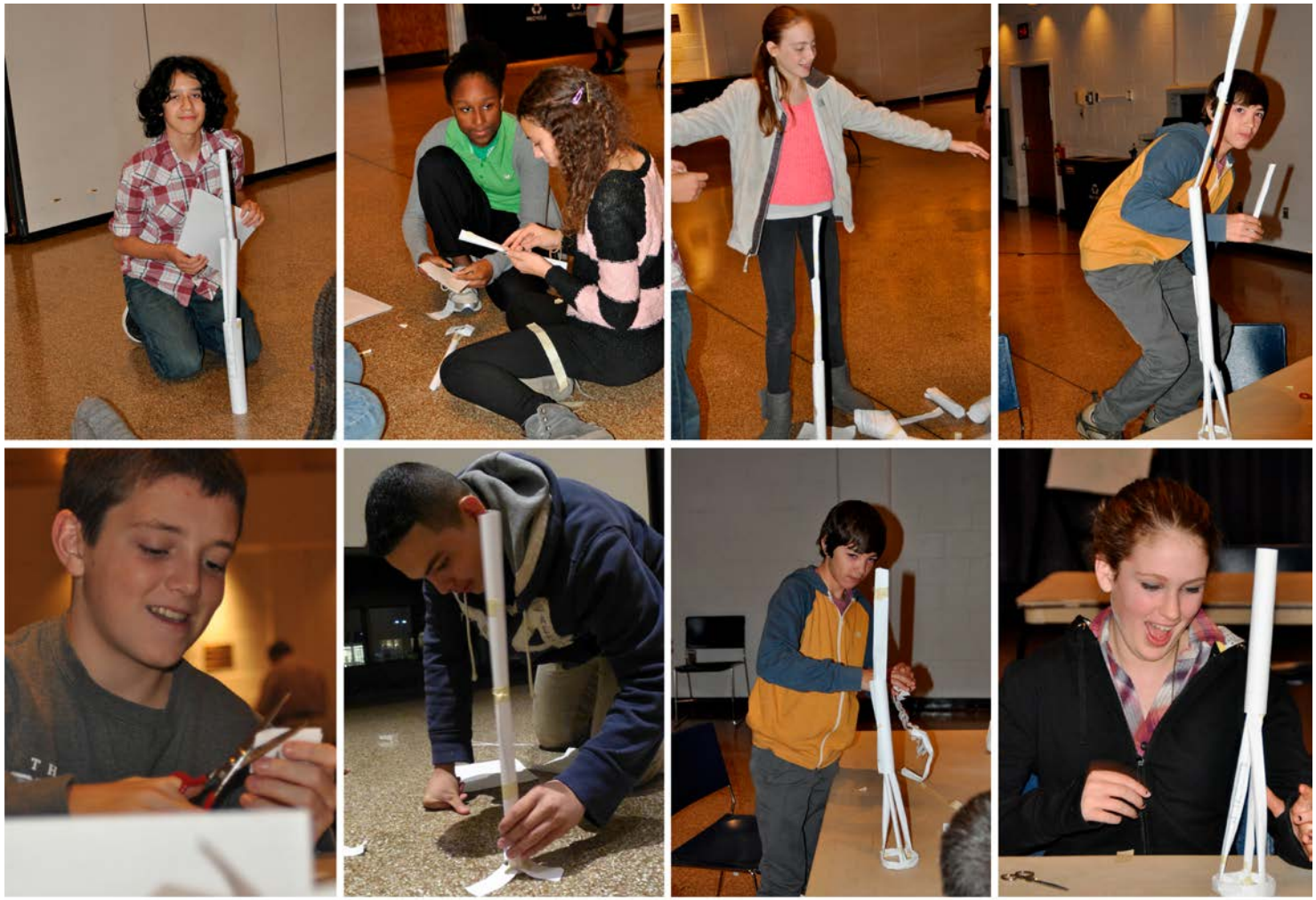
Wow!! Edison gets 15 pennies into the bottle. Nice photograph Nick! Madeline, Matthew, Isabel and Kara are trying to beat Edison's record. Giulia knows that this is not going to be easy.



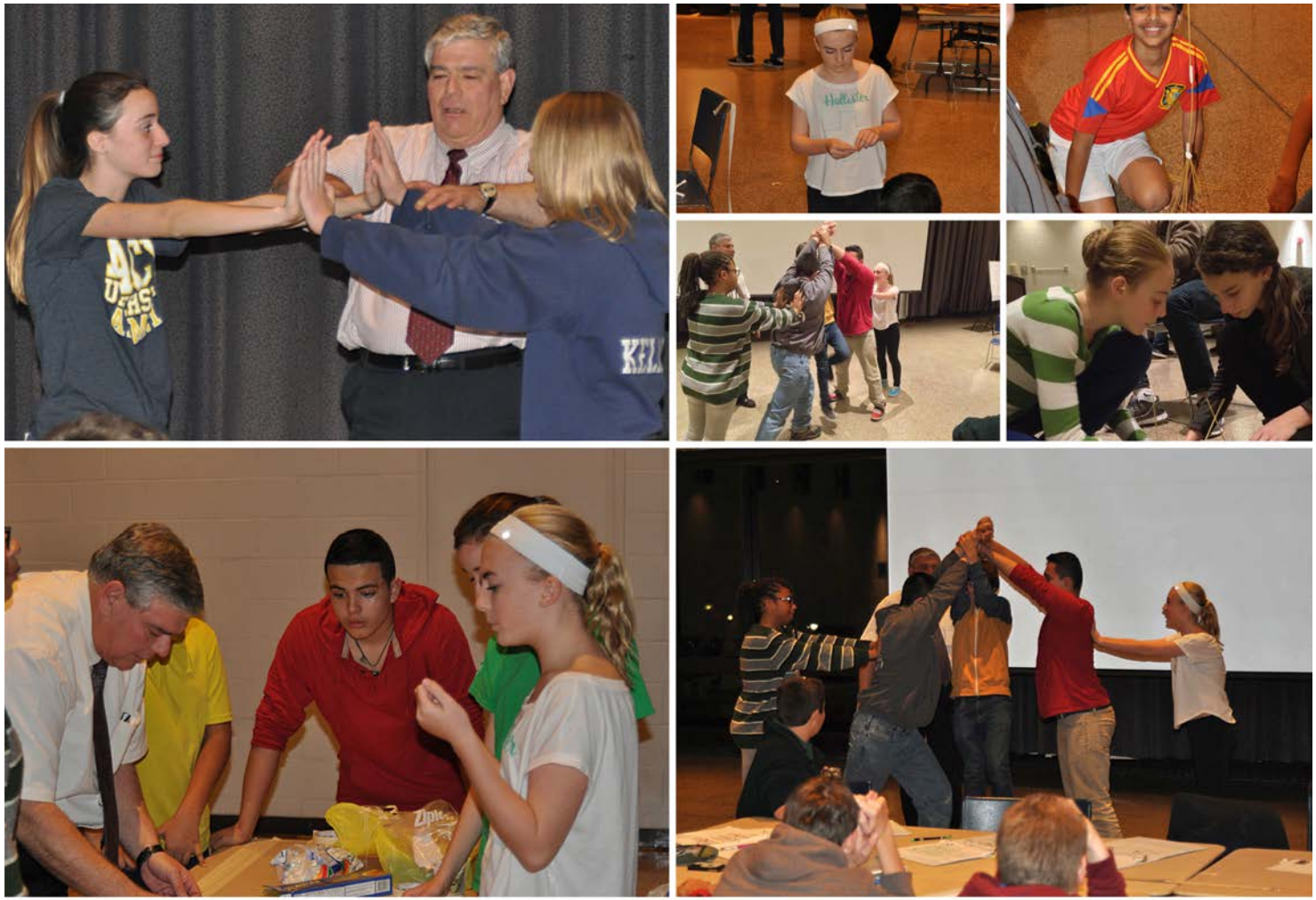
The next challenge was to build the tallest paper tower. Nick measures the tower height of the team of Daniel, Mathew and Kara and the team of Devanshu, Liam, Giselle and Isabel. Giulia thinks her team's tower is a winner.



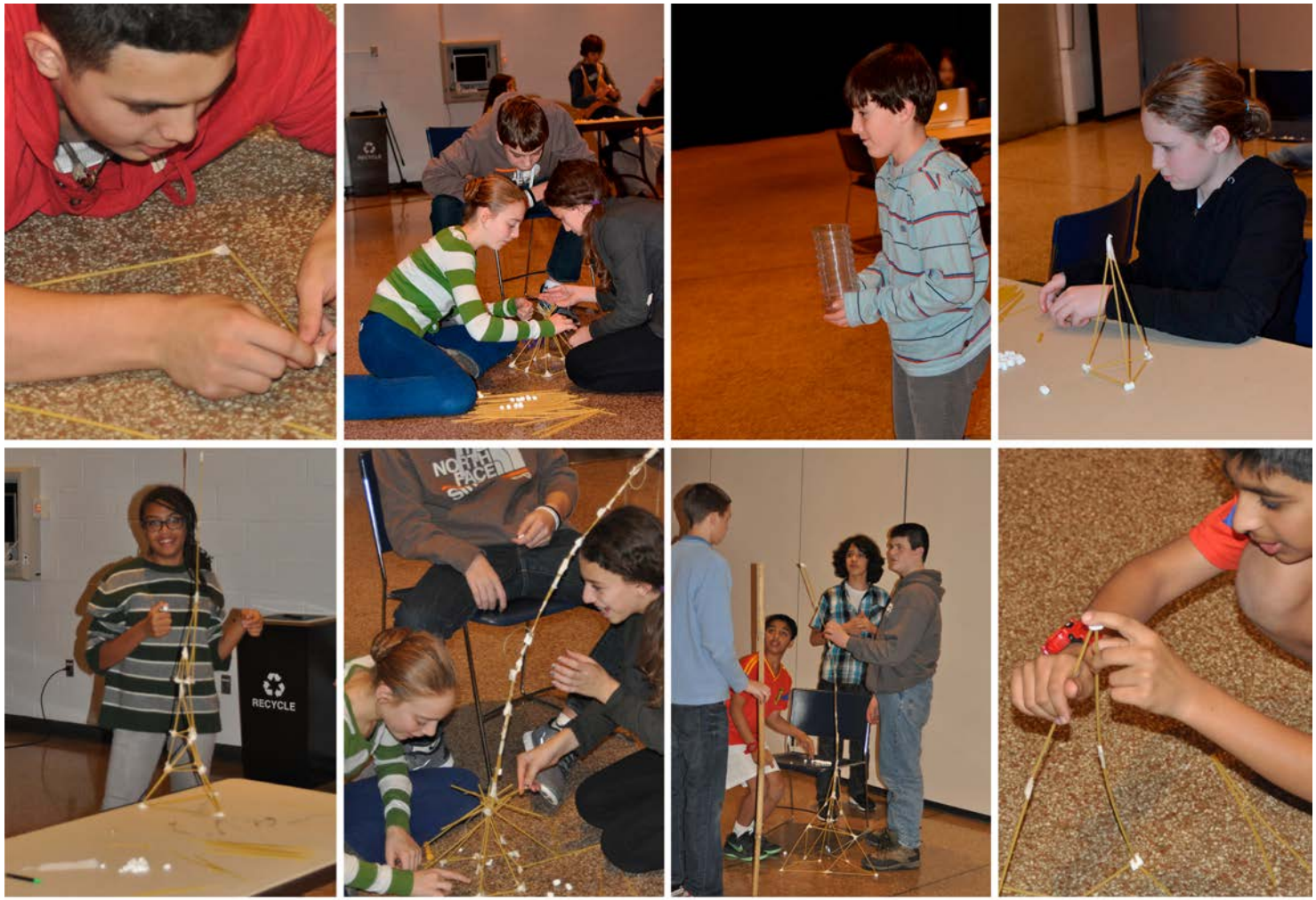
Mr. Valente demonstrates how trusses work. Liam, Devanshu, Giselle and Isabel plan how to construct their paper tower.



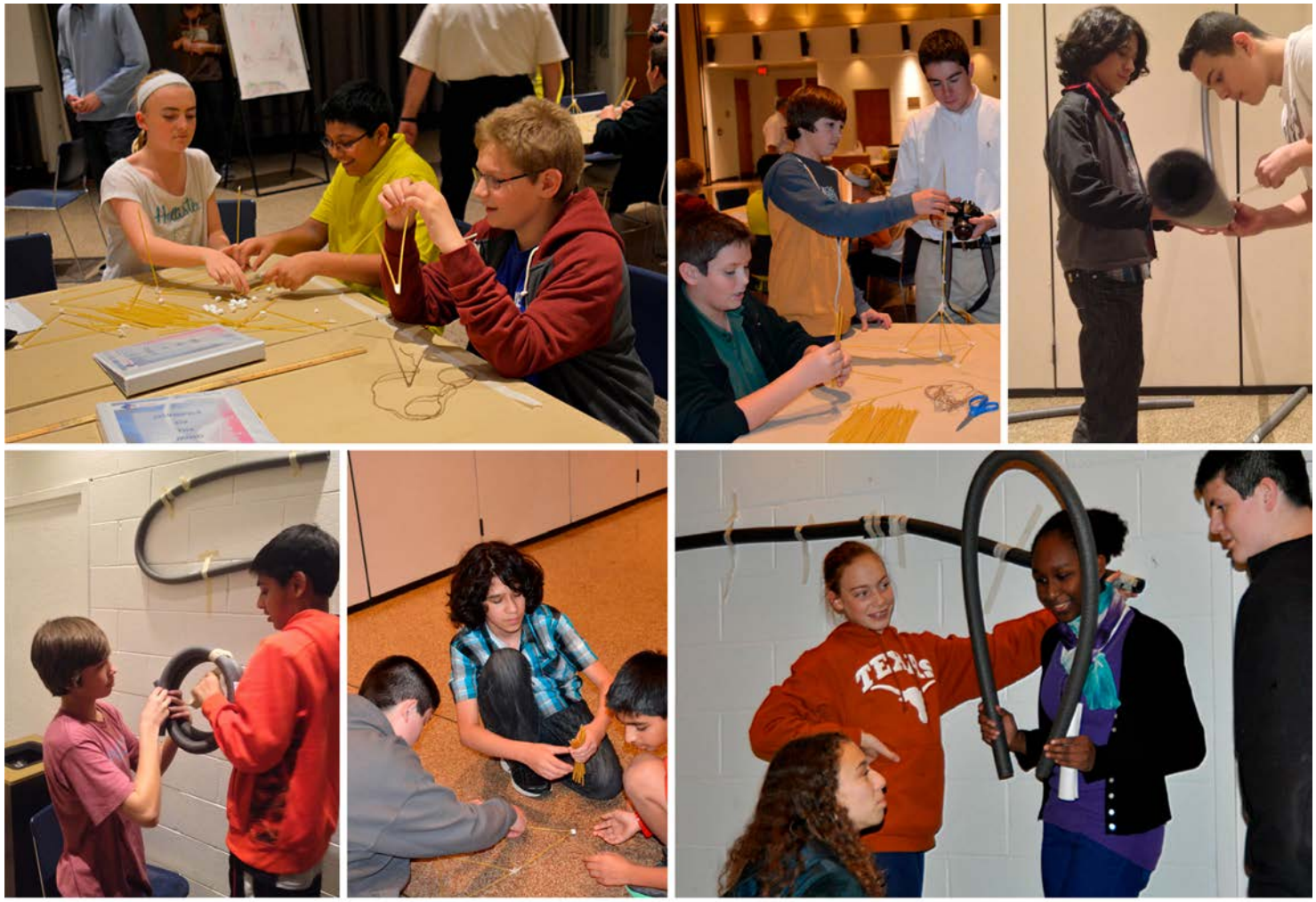
Watch out Matthew! Don't let the tower fall on you. Giulia and Kara are happy with their design.



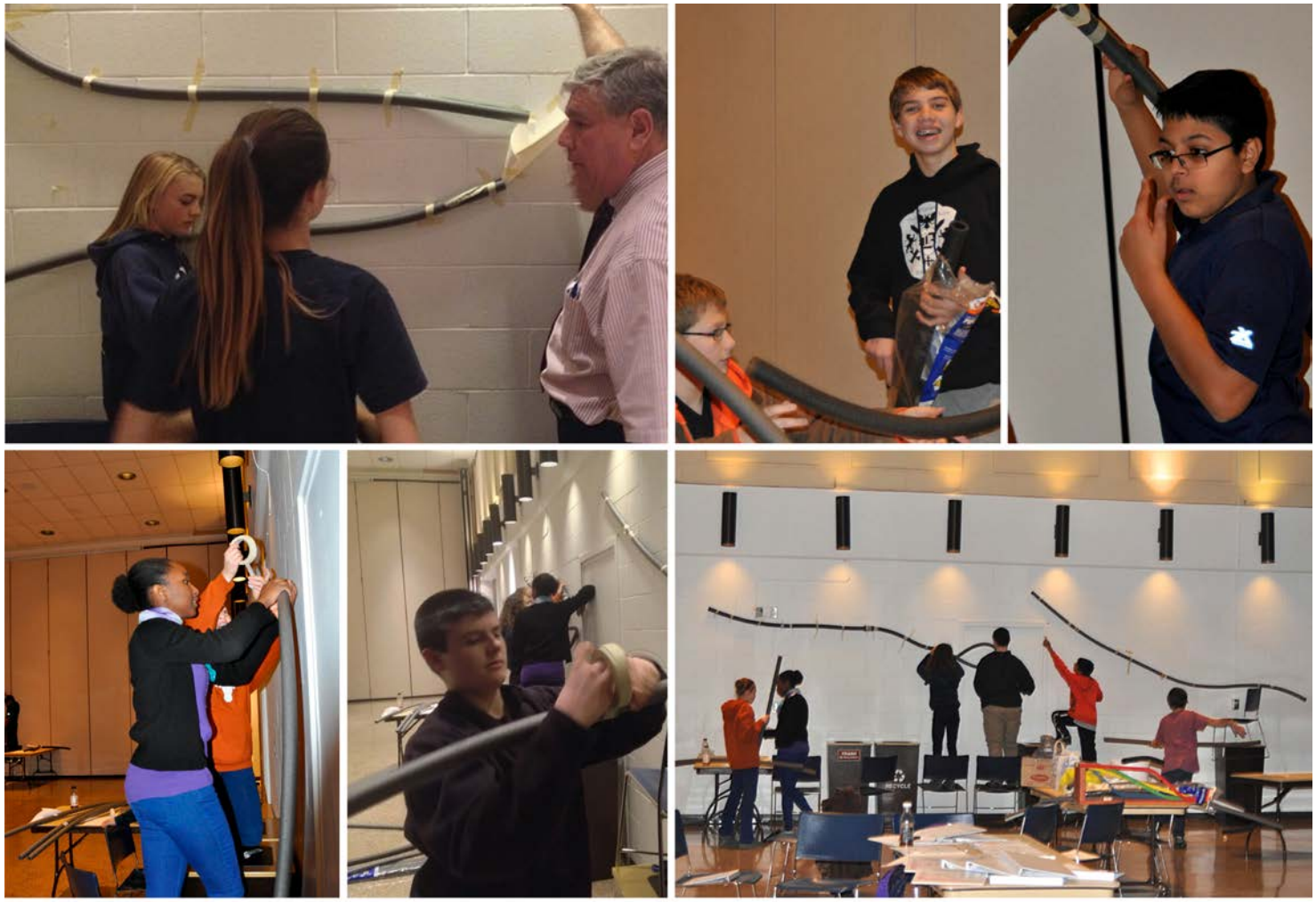
Julia, Austin, Edison and Zoe make a human truss that supports Mathew.
Mr. Valente shows Cameo and Zoe how to make a human truss.



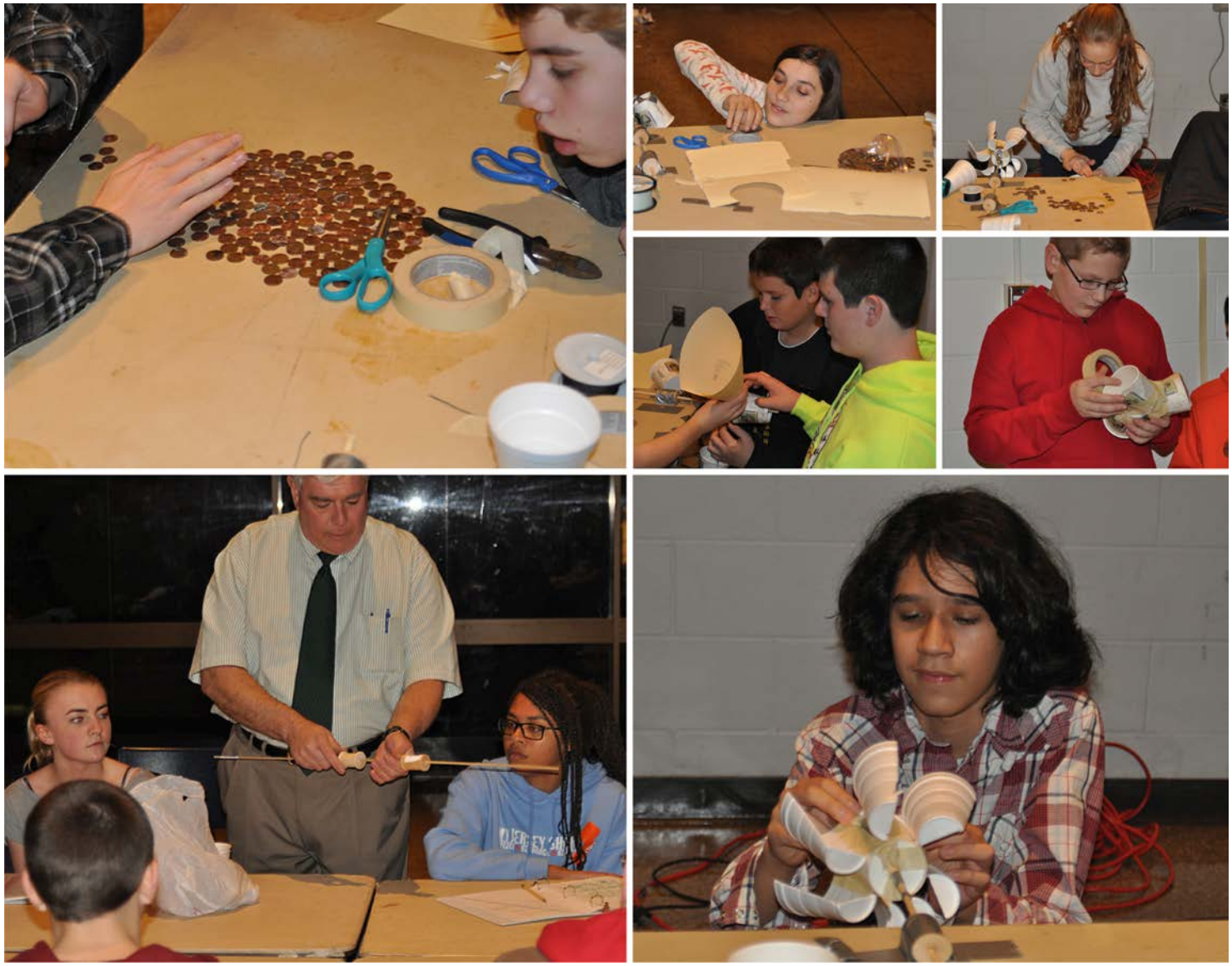
The next challenge was to build the tallest spaghetti tower. Ryan, teaching assistant, measures the spaghetti tower of Devanshu, Brad and Austin. Julia thinks she has a winner. Giulia, Isabel and Jake are having fun building their spaghetti tower. Do they have a winner?

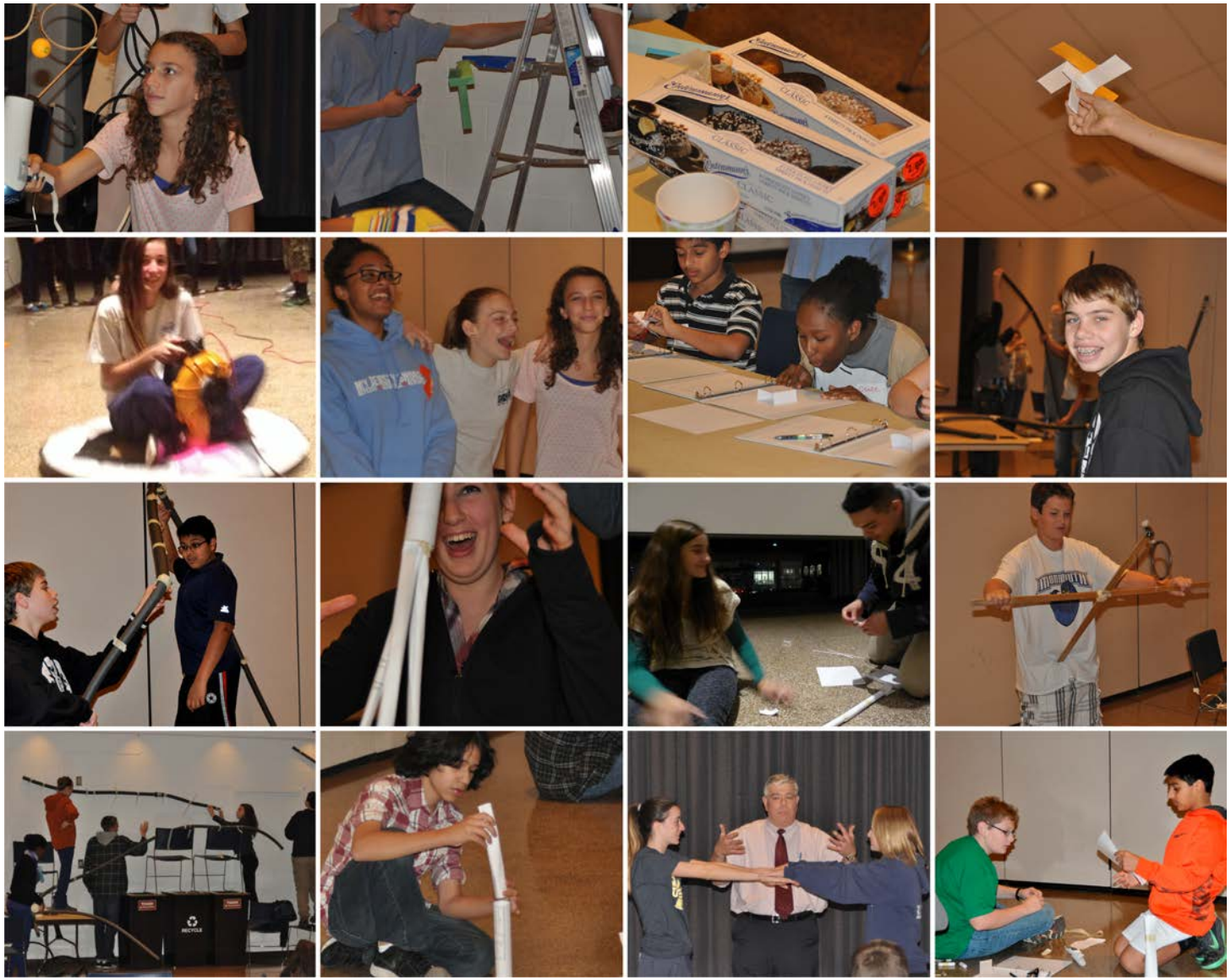


Zoe, Shubh and Liam plan their spaghetti tower. Austin, Giselle, Giulia and Isabel plan their design for the next challenge: the slow descent marble coaster. Brad and Edison build their marble coaster.



Jake likes this challenge. He can taste the victory donuts! However, the other teams are going to give Jake some competition.



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